Numeration Table.

C Millions	X Millions	Millions	C Thousands	X Thousands	Thousands	Hundreds	Tens	Units
9	8	7	6	5	4	3	2	1
	9	8	7	6	5	4	3	2
		9	8	7	6	5	4	3
			9	8	7	6	5	4
				9	8	7	6	5
					9	8	7	6
						9	8	7
							9	8
								9
								1

Multiplication Table.

Twice
are	4
	6
	8
	10
	12
	14
	16
	18
	20
	22
	24

3 Times
are	6
	9
	12
	15
	18
	21
	24
	27
	30
	33
	36

4 Times
7	28
8	32
9	36
10	40
11	44
12	48

5 Times
2	are	10
3		15
4		20
5		25
6		30
7		35
8		40
9		45
10		50
11		55
12		60

6 Times
2	are	12
3		18
4		24
5		30
6		36
7		42
8		48
9		54
10		60
11		66
12		72

7 Times
2	are	14
3		21
4		28
5		35
6		42
7		49
8		56
9		63
10		70
11		77
12		84

8 Times
2	are	16
3		24
4		32
5		40
6		48
7		56
8		64
9		72
10		80
11		88
12		96

9 Times
2	are	18
3		27
4		36
5		45
6		54
7		63
8		72
9		81
10		90
11		99
12		108

10 Times
2	are	20
3		30
4		40
5		50
6		60
7		70
8		80
9		90
10		100
11		110
12		120

11 Times
2	are	22
3		33
4		44
5		55
6		65
7		77
8		88
9		99
10		110
11		121
12		132

12 Times
2	are	24
3		36
4		48
5		60
6		72
7		84
8		96
9		108
10		120
11		132
12		144

TIME.

60 Seconds make 1 Minute
60 Minutes 1 Hour
24 Hours 1 Day
7 Days 1 Week
4 Weeks 1 Month
13 Months, 1 Day, 6 Hours, or 365 Days, 6 Hours, 1 Julian Year.
365 Days, 5 Hours, 40 Minutes, 57 Seconds, 39 Thirds, make a Solar Year.

Thirty Days hath September,
April, June, and November,
February Twenty eight alone,
And all the rest have Thirtyone,
Except Leap Year—at that Time,
February hath Twenty nine.

PENCE TABLE.

d.	s.	d.	d.	s.	d.
20	1	8	12	1	0
30	2	6	24	2	0
40	3	4	36	3	0
50	4	2	48	4	0
60	5	0	60	5	0
70	5	10	72	6	0
80	6	8	84	7	0
90	7	6	96	8	0
100	8	4	100	8	4
110	9	2	108	9	0
120	10	0	120	10	0

HAY.

A Load contains 36 Trusses,
A Truss weighs 56 Pounds.

Aliquot parts of a Pound.

10s	0d	the	half
6	8	—	third
5	0	—	fourth
4	0	—	fifth
3	4	—	sixth
2	6	—	eighth
2	0	—	tenth
1	8	—	twelfth

Aliquots parts of a Shilling.

6d	the	half
4	—	third
3	—	fourth
2	—	sixth
1 1-2	—	eighth
3-4	—	sixteenth

Parts of a pound in Pence.

8d	the	30th
6	—	40th
4	—	60th
3	—	80th
2	—	120th

Tenths of a Pound.

2s	the	10th
4	—	2-10ths
6	—	3-10ths
8	—	4-10ths
12	—	6-10ths
14	—	7-10ths
16	—	8-10ths
18	—	9-10ths

Money

10 mills 1 cent
10 cents 1 dime
10 dimes 1 dol'r.
10 dolls. 1 eagle
Which is the largest coin in the U. States.

American Mathematical Textbooks 1760–1850

Contents

The measurement expressed in mm is the height of the page.

Cover illustration:
Wrapper of an exercise book 'Printed for, and sold by, W.B. Gilley,
No.92 Broadway [New York]' (see Ms4, p.37)

Terms

The 511 American Mathematical Textbooks described in this catalogue
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Introduction

What little mathematics was studied in the American colonies before the Revolution was obtained from English sources.

The principal aim of arithmetical instruction in this period was the practical needs of trade and commerce and the books in use in America were those which treated arithmetic primarily as a commercial subject. Copies of those texts were imported and several were reprinted in the American colonies.

The first arithmetical work in English published in the New World was *The Young man's companion*, a compilation by William Bradford (1663–1752), in which part III is entitled 'Arithmetick made easie, and the Rules thereof Explained and made familiar to the Capacity of those that desire to learn in a little time'. Bradford based this section on William Leybourn's *Arithmetick vulgar, decimal, instrumental, algebraical* (London 1657 *etc.*) and William Mather's *A Very useful manual, or the young man's companion* (London 1681 *etc.*), contributing only a small part himself. Editions printed in New York *circa* 1698 and *circa* 1705 entitled *The Secretary's guide, or, young man's companion in four parts* are suggested by anecdotal evidence; the earliest surviving copy is from a 'second Edition corrected & Enlarged' dated 1710.[1]

Among the purely arithmetical books imported into colonial America was James Hodder's *Arithmetick: or, that necessary art made most easy* (London 1661 *etc.*), a treatise intended 'for the better compleating of youth, as to clerkship and trades'. The twenty-fifth English edition of this (London 1714) was reprinted at Boston in 1719, becoming the first separate textbook on arithmetic printed in North America.[2] The American edition evidently could not compete with imported textbooks and no further edition was issued in the Colonies.

Another English work, nearly as old as Hodder's, circulating in colonial America, was Edward Cocker's *Arithmetick* (London 1677 *etc.*). Proclaimed on its title-page as 'suitable to the meanest capacity', this treatise dealt more extensively than Hodder with commercial problems, ready reckoning, practice, barter, loss and gain, equation of payments, exchange of money, and weights all being included. Cocker's *Arithmetick* passed through more than one hundred editions in England and was still being used in the first quarter of the Nineteenth century; but though often imported, it was never printed in America.[3]

A third popular English import was John Ward's *Young mathematician's guide* (London 1707 *etc.*), treating arithmetic, algebra, geometry, conic sections, and arithmetic of infinities, as well as weights, measures, money, and commercial questions.[4] That work was used for instruction at Harvard, Yale, Brown and Dartmouth colleges, and as a book of reference at the University of Pennsylvania.[5] Copies are listed in the catalogues of the Library Company of Philadelphia (1741), Penn Charter School (1764), Union Library of Philadelphia and Association Library Company of

1 Louis C. Karpinski, 'Colonial American arithmetics', in *Bibliographical essays, a tribute to Wilberforce Eames* (Cambridge, Massachusetts 1924), pp.244–245. These editions are listed by L.C. Karpinski, *Bibliography of mathematical works printed in America through 1850* (Ann Arbor & London 1940), pp.36–37, 39–41; and in Clifford K. Shipton & James E. Mooney, *National index of American imprints through 1800. The Short-title Evans* ([Worcester] 1969), nos.818, 1201, 39517.

2 David Eugene Smith & Jekuthiel Ginsburg, *A History of mathematics in America before 1900* (Chicago 1934), pp.37–38; Charles Carpenter, *History of American schoolbooks* (Philadelphia 1963), pp.128–129.

3 Florence A. Yeldham, *The Teaching of arithmetic through four hundred years (1535–1935)* (London 1936), pp.75–87. Evans cited an edition of Cocker, printed at Philadelphia in 1779 (Shipton & Mooney no.16226), but no copy can be located. A London edition of Cocker was read by the young Benjamin Franklin *circa* 1722; cf. Florian Cajori, *The Teaching and history of mathematics in the United States* (Washington, DC 1890), p.13.

4 F.A. Yeldham, *Teaching of arithmetic*, pp.88–94; C. Carpenter, *History of American schoolbooks*, pp.133–134.

5 The earliest certain use of Ward as a textbook is at Yale in 1722; cf. F. Cajori, *Teaching and history of mathematics*, pp.25–27, 32.
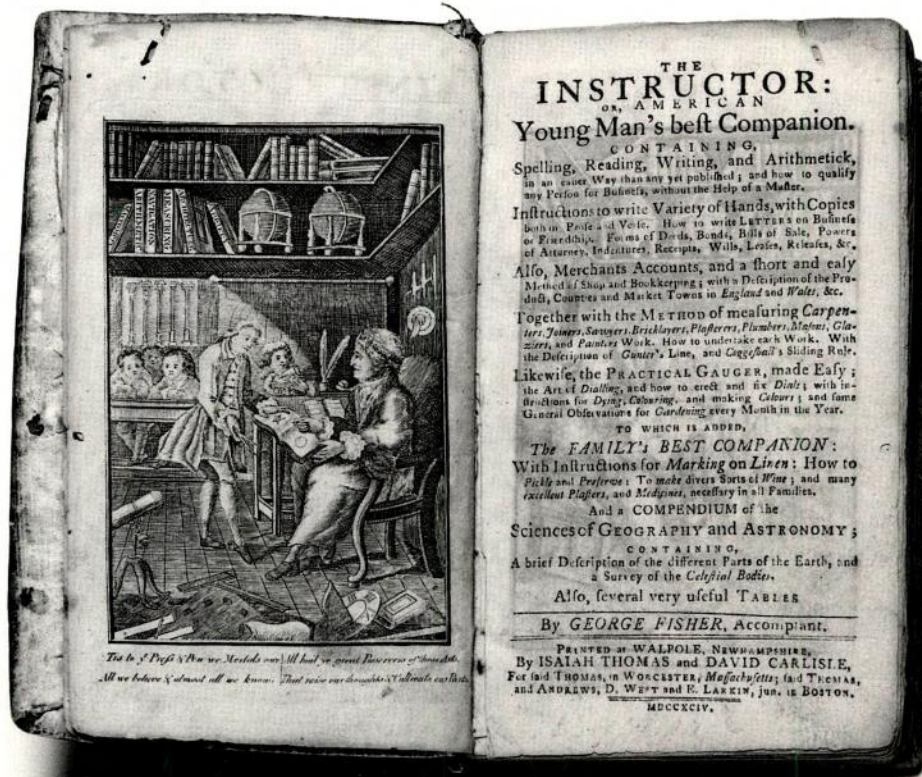
190. George Fisher, *The Instructor: or, American young man's best companion* (Walpole, New Hampshire 1794)

Philadelphia (both 1765).[6]

    The first arithmetic to achieve extended circulation in the American Colonies was Thomas Dilworth's *The Schoolmaster's assistant: being a compendium of arithmetic, both practical and theoretical* (London 1744 *etc.*). The seventeenth London edition (1772) was reprinted at Philadelphia in 1773, the work was gradually adopted for use by American teachers, revised after the adoption of Federal money, and regularly reprinted, until the second quarter of the Nineteenth century.[7] Fourteen

editions of this textbook are offered in the present Collection, the earliest being the 'third American edition' printed at Philadelphia in 1781 (item nos.149–162).

    Another English work widely used for instruction in pre-Revolutionary America was a primer combining lessons in spelling, reading, writing, and arithmetic, compiled by George Fisher. The eighth London edition (1746) of Fisher's compendium was revised for the American market and published as *The American Instructor, or young man's best companion*

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6 Edwin Wolf II, *The Book culture of a colonial American city* (Oxford 1988), p.52. In the David Hall–William Strahan business correspondence cited by Wolf, the importation of several dozen copies of Cocker and Ward's arithmetics is recorded (*e.g.* pp.60–61).

7 Walter S. Monroe, *Development of arithmetic as a school subject*, Bureau of Education, Bulletin, no.10 (Washington, DC 1917), pp.18–38, 151–152; John A. Nietz, *Old textbooks* (Pittsburgh 1961), pp.143–146.

at Philadelphia, by Benjamin Franklin and David Hall, in 1748.[8] At least eleven further editions were published in America before 1800. Copies of five editions are offered in our Collection, the earliest published at Philadelphia in 1760 (item nos.188–192).

The commercial needs of Americans were being met meanwhile by another English work, Daniel Fenning's *The Ready reckoner, or, trader's useful assistant*. The sixth edition of Fenning's *Ready reckoner* was published in London in 1773. It was reprinted the following year at Germantown, Pennsylvania, in English, and in a German translation. The next American edition, curiously designated 'sixth edition' on its title-page, was printed at Boston by John Folsom *circa* 1785; seventeen or more American editions followed. Copies of six editions are offered here (item nos.180–186).

THE TEACHING OF ELEMENTARY MATHEMATICS IN AMERICAN SCHOOLS

These mathematical textbooks, although read in certain colleges and by men engaged in commerce, were seldom used by teachers in the elementary and grammar schools of colonial America. Until the mid-Eighteenth century, mathematics had no official place in the school curriculum, since it was not required for college entrance. It was deemed a 'vulgar study' and considered essential to a boy's education only if he was destined to enter commercial life or certain trades.

As the century progressed, arithmetic lost its commercial taint because more applications were evident and because commerce itself was no longer restricted to a small segment of the American population. Primary schools still did not teach arithmetic as part of their regular course of instruction, but the grounds for excluding it had shifted. Whereas arithmetic was earlier ignored because it was not considered valuable, by the mid-Eighteenth century it was regarded as too difficult for children younger than ten or twelve to study.[9]

In 1745 arithmetic became a requirement for entrance to Yale and in 1760 Princeton required candidates 'to understand the principal rules of vulgar arithmetic'.[10] This recognition of arithmetic in the college entrance requirements necessitated its teaching in the grammar schools. By 1789 both Massachusetts and New Hampshire had made the teaching of arithmetic obligatory in the schools; by 1800, arithmetic was generally taught, even in the country districts.[11]

But even where arithmetic was taught at an elementary level, even when schools which could afford them were well supplied with books, few pupils learned arithmetic from textbooks.

Editions of Dilworth's *The Schoolmaster's assistant* are advertised on their title-pages as 'necessary to be used in Schools by all Teachers, who would have their Scholars thoroughly understand, and make a quick Progress in Arithmetic'. Other books published in the last decade of the Eighteenth century bear the similar declaration 'for the use of schools'; but those works also were designed for the benefit of teachers, or at least mature readers, and were seldom used by young pupils.[12] Not until about 1810 were printed books introduced into the Boston schools and not until 1821 was any book published which truly attempted to make arithmetic 'easy' for children.[13]

8 A.S.W. Rosenbach, *Early American children's books* (Portland 1933), no.31; L.C. Karpinski, 'The elusive George Fisher', in *Scripta Mathematica* 3 (1935), pp.337–339.

9 Patricia Cline Cohen, *A Calculating people. The Spread of numeracy in early America* (Chicago & London 1982), pp.117–118.
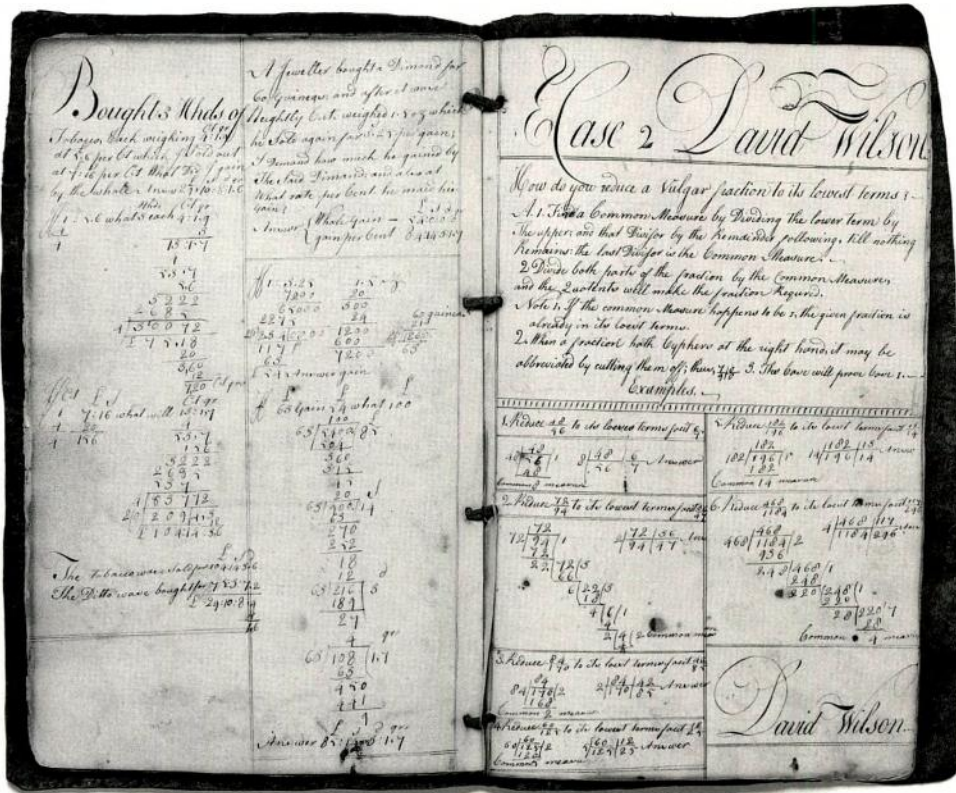
10 W.S. Monroe, *Development of arithmetic as a school subject*, p.13. Harvard waited until 1802 to institute a similar rule.

11 By comparison, the most respectable English public schools, like Eton and Harrow, did not offer any instruction in arithmetic until well into the Nineteenth century; cf. Florian Cajori, *A History of elementary mathematics* (New York 1896), p.207.

12 Nicolas Pike's *A New and complete system of arithmetic* (1788), Phineas Merrill's *The Scholar's guide to arithmetic* (1793), and Consider Sterry's *A Complete exercise book in arithmetic* (1795), all proclaim to be 'for the use of schools'. Donald Fraser's *The Young gentleman's and lady's assis-*

tant (1791) was 'for the convenience of schools' and Daniel Jaudon's *A Short system of polite learning* (1797) was 'adapted for schools'. The title-page of Erastus Root's *An Introduction to arithmetic* (1795) says it is 'for the use of common schools'. See below pages 25–26.

13 W.S. Monroe, *Development of arithmetic as a school subject*, p.45. Works like Emmor Kimber's *Arithmetic made easy for children* (Philadelphia 1802), Titus Bennett's *New system of practical arithmetic* (Philadelphia 1807), and Samuel Temple's *An Arithmetical primer for young masters and misses* (Boston 1809), tried to adapt arithmetic to children by simplifying the rules and shortening (or eliminating) the examples. Samuel Goodrich in *The Child's arithmetic* (Hartford 1818) argued that learning by rules prevented children from comprehending arithmetic. Goodrich used counters and other objects in his teaching, an idea taken up and elaborated by Warren Colburn, whose *Arithmetic on the plan of Pestalozzi* (Boston 1821), discussed below, initiated a new era.

Ms1. Ciphering book of David Wilson, written 1786–1789

Arithmetic was taught in the schools by lecture and initially using the horn book, which, adorned on one side by Roman numerals, 'We venture to propose... as a candidate for the honor of being the first mathematical primer used in this country'.[14] When a pupil commenced to study arithmetic he provided himself with a blankbook, a quire of paper folded and sewn together, often but not necessarily bound, known as a 'ciphering book'. The master himself possessed a ciphering book which he had made when he learned the subject. The pupils were given a problem and told the rule for its solution.

Each boy set to work on scraps of paper or a slate and when finished carried his work up to the master's desk for approval, where it was compared with the master's ciphering book. If the pupil's work was identical, it was ordered to be copied, together with the rule, into his ciphering book. The pupil kept his ciphering book term by term. Nothing but type problems and an occasional note was entered into it. Often, the first page was embellished by the master with scrolls and patterns around the pupil's name, and calligraphic headings marked the pupil's progress.[15]

Two ciphering books offered in this Collection

14 Cf. F. Cajori, *Teaching and history of mathematics*, p.11.

15 Reminiscences of twenty persons who attended school in the last quarter of the Eighteenth century and were taught using this method were gathered by Henry Barnard and published in the *American Journal*

of Education; see W.S. Monroe, *Development of arithmetic as a school subject*, p.14, and Chapter III: 'The ciphering book method of teaching arithmetic', pp.44–52. Cf. F.A. Yeldham, *Teaching of arithmetic*, Chapter IX: 'The exercise book', pp.126–130.

are entirely typical. The earlier (Ms1), belonging to a pupil named David Wilson, executed in the years 1786–1789, extracts its definitions, rules, and examples from Dilworth's *Schoolmaster's assistant*. Wilson began in 1787 calculating interest and 'discount' and by 1789 had progressed to 'subtraction of vulgar fractions' – a stage two-thirds through Dilworth, with square and cube roots to be learned next.

The other ciphering book (Ms2) belonged to John Wadsworth (1780–1861) of Portland, Maine, one of eleven children of Peleg Wadsworth, a general during the Revolutionary War and representative in Congress 1793–1807. According to his ownership inscription, it was begun January 1, 1795, and put aside March 1795; the following year, John Wadsworth matriculated in Harvard College.[16] His instruction encompassed algebra, logarithms, plane trigonometry, surveying, and weights and distances. No single source treating this range of subjects has been identified and his teacher probably used several; at one point, during an exercise in 'division of decimals' (p.15), the pupil wrote in his ciphering book 'Rule in Pike more simple'.[17]

The tradition of the manuscript cipher book continued until about 1820. Even when a pupil possessed a text, the plan of instruction was scarcely altered, so strong was the belief in the efficacy of teaching arithmetic by the ciphering book. In fact, the early elementary mathematics textbooks were specific attempts to facilitate, not to change the plan of teaching. They often were just collections of 'the most useful rules in arithmetic' without examples or problems, and specifically intended to lessen the labour of the master in dictating rules.[18] Daniel Adams' *Scholar's arithmetic* (Leominster 1801 *etc.*) was printed with blank spaces left in the text, where the
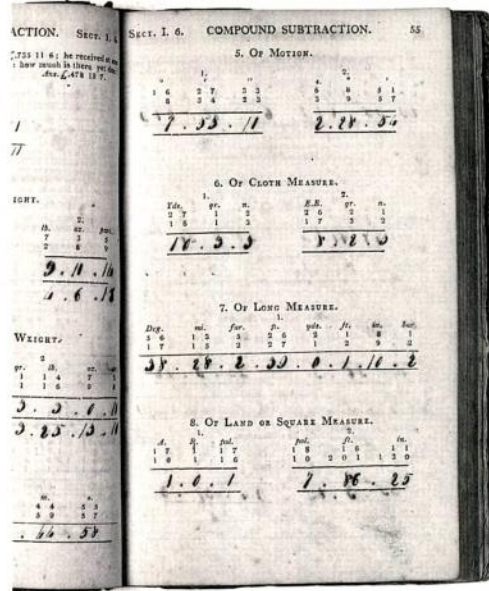
9. Daniel Adams, *The Scholar's arithmetic*
(Keene, New Hampshire 1807)

pupil was expected to write correct answers, after he had worked them out first on waste paper or a slate, and shown them to his teacher. In a sense this was a combination textbook and ciphering book.

MATHEMATICAL TEXTBOOKS BY AMERICAN AUTHORS

After the Revolution much attention was paid to education; academies and grammar schools were established, and a large number of textbooks passed

16 Cf. Peleg Wadsworth, *Letters of General Peleg Wadsworth to his son John, student at Harvard College, 1796–1798*, edited by George & Margaret Rose (Portland: Maine Historical Society, 1961). Three books in our Collection have the same family provenance, item nos.233, 480, A15.

17 These ciphering books were once judged uncommon (cf. W.S. Monroe, *Development of arithmetic as a school subject*, pp.42, 159, reporting 'only a few of these manuscripts are available in libraries'). Four student arithmetic manuscripts are described in the *Catalogue of the Manuscript Collections of the American Antiquarian Society* (Boston: G.K. Hall, 1979), pp.244–245; two ciphering books, executed by Edward Earle (1757–1825) and Aaron Belknap (1789–1847), are preserved in the Department of Manuscripts, New York Historical Society (RLIN records). 'Harvard University has some five dozen manuscript copybooks made by New England students between 1739 and 1850'

according to P.C. Cohen, *A Calculating people. The Spread of numeracy in early America*, pp.120, 247. Ciphering books in the New Haven Colony Historical Society and at Yale are cited by Robert Middlekauff, *Ancients and axioms. Secondary education in Eighteenth-century New England* (New Haven & London 1963), pp.94–95, 105, 'But the best collection, numbering several hundred navigation, surveying, arithmetic, and mathematical copybooks, is in the Uncatalogued MSS in the Essex Institute' (p.197).

18 Examples of such collections are Benjamin Dearborn's *The Pupil's guide. Being a collection of the most useful rules in arithmetic* (Portsmouth 1782); Phineas Merrill, *The Scholar's guide to arithmetic, being a collection of the most useful rules* (Exeter 1793); and James Noyes, *The Federal arithmetic, or, a compendium of the most useful rules* (Exeter 1797). Editions of the latter two works are item nos.291–293, 298 below.

through the press. By 1800 twenty-nine arithmetics by American authors had been published, including some of a not purely arithmetical nature, to compete with the works by English authors imported and printed domestically.[19]

In 1788 was published at Newburyport the first edition of *The New and complete system of arithmetic* by Nicolas Pike. This was an elaborate treatise, 512 pages in length, of which the first 408 are devoted to arithmetic, then four pages of 'plain' geometry, eleven of 'plain' trigonometry, forty-five pages of mensuration of superficies and solids, thirty-three pages of 'an introduction to algebra', and ten pages of 'conic sections'.[20]

A few topics from the table of contents give some idea of the ground Pike attempted to cover: 'Extraction of the Biquadrate Root', how 'To find the time of the Moon's Southing', how 'To measure a Rhombus', and the way to determine 'The Proportions and Tonnage of Noah's Ark'. Some of Pike's explanations and rules are quite unintelligible to the present generation, as for instance: 'When tare, and tret and cloff are allowed: Deduct the tare and tret, and divide the suttle by 168, and the quotient will be the cloff, which subtract from the suttle, and the remainder will be neat'; or 'To find the Gregorian Epact. Subtract 11 from the Julian Epact: If the subtraction cannot be made, add 30 to the Julian Epact; then subtract, and the remainder will be the Gregorian Epact; if nothing remain, the Epact is 29'.

A second edition of *The New and complete system of arithmetic* was printed in 1797, a third in 1808, a fourth in 1822, and a fifth edition in 1832. An abridged edition published in 1793 was even more popular, passing through eight editions, and a second abridgement published in 1826 enjoyed four editions. Copies of nine editions are included in the present Collection (item nos. 318–326).

Nicolas Pike was born at New Haven in 1743, graduated from Harvard College in 1766, and in 1773 became master of the Newburyport grammar school. In the 'Recommendations' printed before his work, he is lauded as the first American author of an arithmetic textbook, a claim not actually true.

The first work devoted exclusively to arithmetic, written by an American author and printed there, was in fact *Arithmetick vulgar and decimal: with the application thereof, to a variety of cases in trade, and commerce* by Isaac Greenwood, Boston 1729. Greenwood was born in 1702, graduated Harvard College in 1721, and was Hollis professor of mathematics and natural philosophy there from 1726 until 1738. His book was directed at 'Persons of some Education and curiosity' and accordingly he thought it 'improper to go into an elaborate Explanation of the Rules in the lower Parts of Arithmetic, as most authors have done'. Greenwood possibly used the *Arithmetick* in his classes at Harvard; it was not reprinted, and its influence must be judged slight, if indeed it had been forgotten just sixty years later.[21]

19 These textbooks are: Isaac Greenwood, *Arithmetick vulgar and decimal* (Boston 1729); Jonathan Burnham, *A Small tract of arithmetick, for the use of farmers and country-people* (New London 1747); Benjamin Dearborn, *The Pupil's guide. Being a collection of the most useful rules in arithmetic* (Portsmouth 1782); Alexander McDonald, *The Youth's assistant, being a plain, easy, and comprehensive guide to practical arithmetic* (Norwich 1785 etc.); John Gough & Benjamin Workman, *A Treatise on arithmetic in theory and practice* (Philadelphia 1788); Nicolas Pike, *A New and complete system of arithmetic* (Newburyport 1788 etc.); Thomas Sarjeant, *Elementary principles of arithmetic* (Philadelphia 1788); Benjamin Workman, *The American accountant* (Philadelphia 1789 etc.); Consider Sterry, *The American youth, being a new and complete course in introductory mathematics* (Providence 1790); Donald Fraser, *The Young gentleman and lady's assistant* (New York 1791 etc.); [John Todd], *The American tutor's assistant, or, a compendious system of practical arithmetic* (Philadelphia 1791 etc.); Gordon Johnson, *An Introduction to arithmetic* (Springfield 1792 etc.); John Vinall, *The Preceptor's assistant or student's guide, being a systematical treatise of arithmetic* (Boston 1792); Phinehas Merrill, *The Scholar's guide to arithmetic* (Exeter 1793 etc.); Thomas Sarjeant, *The Federal arithmetician* (Philadelphia 1793 etc.); Joseph Chaplain, *The Trader's best companion* (Newburyport 1795); Erastus Root, *An Introduction to arithmetic* (Norwich 1795 etc.); Consider Sterry, *A Complete exercise book in arithmetic* (Norwich 1795); Samuel

Temple, *A Concise introduction to practical arithmetic* (Boston 1796 etc.); David Kendal, *The Young lady's arithmetic* (Leominster 1797); Chauncey Lee, *The American accomptant* (Lansingburgh 1797); William Milns, *The American accomptant* (New York 1797); James Noyes, *The Federal arithmetic* (Exeter 1797); Peter Tharp, *A New and complete system of federal arithmetic* (Newburgh 1798); Zachariah Jess, *The American tutor's assistant improved* (Wilmington 1799); Ezekiel Little, *The Usher* (Exeter 1799); David Cook, *American arithmetic* (New Haven 1800); David Daboll, *Schoolmaster's assistant* (New London 1800 etc.); E. Shepherd, *The Columbian accountant* (New York 1800).

20 The complete 'Table of contents' is reprinted by W.S. Monroe, *Development of arithmetic as a school subject*, pp.152–154. On Pike, see F. Cajori, *Teaching and history of mathematics*, pp.45–46; J.A. Nietz, *Old textbooks*, pp.156–158; C. Carpenter, *History of American schoolbooks*, pp.135–138.

21 F. Cajori, *Teaching and history of mathematics*, pp.14, 24; D.E. Smith & J. Ginsburg, *History of mathematics in America before 1900*, pp.38–40; C. Carpenter, *History of American schoolbooks*, pp.122–125. The 'Table of contents' is reprinted by James M. Greenwood & Artemas Martin, 'Notes on the history of American textbooks of arithmetic', in *Report of the Commissioner of Education for the year 1897–1898* (Washington, DC 1899), pp.802–805.

A

NEW AND *COMPLETE*

SYSTEM OF ARITHMETICK.

RITHMETICK is the Art or Science of computing by numbers, and confifts both in Theory and Practice.—The Theory confiders the nature and quality of numbers, and demonftrates the reafon of practical operations.—The Practice is, that which fhews the method of working by numbers, fo as to be moft ufeful and expeditious for bufinefs, and is comprifed under five principal or fundamental Rules, viz. NOTATION of NUMERATION, ADDITION, SUBTRACTION, MULTIPLICATION, and DIVISION ; the knowledge of which is fo neceffary, that, fcarcely any thing in life, and nothing in trade, can be done without it.

NUMERATION

Teaches the different value of figures by their different places, and to read or write any fum or number by thefe ten characters, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.—0 is called a cypher, and all the reft are called figures or digits. The names and fignifications of thefe characters, and the origin or generation of the numbers they ftand for, are as follow ; 0 nothing ; 1 one, or a fingle thing called an unit ; $1+1=2$, two ; $2+1=3$, three ; $3+1=4$, four ; $4+1=5$, five ; $5+1=6$, fix ; $6+1=7$, feven ; $7+1=8$, eight ; $8+1=9$, nine ; $9+1=10$, ten, which has no fingle character ; and thus, by the continual addition of one, all numbers are generated.

2. Befide the fimple value of figures, as above noted, they have, each, a local value, according to the following law ; viz. In a combination of figures, reckoning from right to left, the figure, in the firft place, reprefents its primitive fimple value ; that in

C   the

318. Nicholas Pike, *A New and complete system of arithmetic* (Worcester, Massachusetts 1797)

Pike's *System of arithmetic*, on the other hand, was endorsed by the presidents and professors of the leading New England colleges, was long the standard mathematical manual in New England schools, and formed the basis for other arithmetics. Through it Pike 'made an enduring contribution to American education'.[22]

In 1800 appeared a second successful arithmetic, *The Schoolmaster's assistant* by Nathan Daboll, which pushed aside Pike and even Dilworth. Daboll had become teacher of mathematics and astronomy in Plainfield Academy (Connecticut) in 1783 and from 1788 taught navigation at Groton school. The author says in his preface 'The design of this work is to furnish the schools of the United States with a methodical and comprehensive system of Practical Arithmetic'. One element in the popularity of the new work probably was Daboll's early introduction of Federal money, immediately after the addition of whole numbers, and his instruction on how to find the value of goods therein immediately after simple multiplication. It was the first book to make frequent use of the $ symbol.[23]

Another innovation of Daboll's arithmetic was the presentation of a increased number of examples. Both Pike and Dilworth had only nine examples for drill on addition and a like number on subtraction. Daboll complains in his preface 'They have been too sparing of examples, especially in the first rudiments; in consequence of which the young pupil is hurried through the ground rules too fast for his capacity. This objection I have endeavoured to obviate in the following treatise'.

These are some of Daboll's problems: 'Divide $4^{1}/_{2}$ gallons of brandy equally among 144 soldiers. *Answer* 1 gill a-piece'. 'How much shalloon that is $^{3}/_{5}$ yard wide, will line $5^{1}/_{2}$ yards of camblet which is $1^{1}/_{4}$ yard wide? *Answer* $16^{1}/_{24}$ yds'. 'Seven gentle-men met at an inn, and were so well pleased with their host, and with each other, that they agreed to tarry so long as they together with their host, could sit everyday in a different position at dinner. How long must they have staid at said inn to have fulfilled their agreement? *Answer* $110^{170}/_{365}$ years'. The problems set by Daboll and other arithmetic textbook writers are now engaging the attention of cultural historians.[24]

Inclusion of more examples and problems made it necessary to provide a 'key' containing solutions for the use of the teacher. A key, bound either with the text or separately, became an essential part of many Nineteenth-century arithmetics.[25] In the present Collection, we offer copies of ten editions of Daboll's *Schoolmaster's assistant* and one copy of an associated *Key* (item nos.99–109).

In 1801 was published *The Scholar's arithmetic: or, federal accountant* by Daniel Adams, a graduate of Dartmouth College (class of 1797) who settled in Leominster, Massachusetts, to practice medicine, but soon turned his attention to the preparation of school books, including grammars and readers as well as arithmetics. In the period before 1825, only Daboll's *Schoolmaster's assistant* enjoyed greater commercial success.[26] Seven editions are represented in the present Collection (item nos.8–14; see reproduction p.7).

Among other mathematical works published between 1801 and 1820, five titles enjoyed outstanding popularity. The earliest of these was Michael Walsh's *New system of mercantile arithmetic*, a commercial arithmetic featuring a thorough treatment of exchange (eighty-one pages), originally published at Newburyport in 1801. According to the publisher's preface, the 'first Northampton edition' (1807) alone numbered 20,000 copies. Altogether, more than twenty editions were

22 L.C. Karpinski, 'Nicolas Pike', in *Dictionary of American Biography*, XIV (London & New York 1934), p.598.

23 F. Cajori, *Teaching and history of mathematics*, p.47; C. Carpenter, *History of American schoolbooks*, pp.138–140.

24 Cf. Michael V. Belok, 'Early American school-books and the search for national identity and character', in *International Review of History and Political Science* (June 1966), pp.138–147; and M.V. Belok, 'School books – a magic looking glass', in *Forming the American Minds: Early school-books and their compilers 1783–1837* (Agra, India 1973), pp.1–2. A substantial number of arithmetic textbooks were analysed by Ruth Miller Elson, *Guardians of Tradition. American Schoolbooks of the Nineteenth Century* (Lincoln, Nebraska 1964), who asks such questions

as 'Did the nature of the problems accustom the child to the shift from an agricultural and mercantile economy to an industrial one? Were such controversial matters as slaves, rum, and tobacco included as terms in the problems?' (p.3). Her list of arithmetic textbooks consulted occupies pp.410–414.

25 J.A. Nietz, *Old textbooks*, p.154. Other *Keys* in this Collection are item nos.7, 39, 46, 60, 75, 90–91, 109, 112–113, 139, 171–172, 213, 222, 226, 330–331, 354–355, 368, 405, 419, 438, 446, 473–474, published between 1806 and 1850.

26 L.C. Karpinski, *Bibliography of mathematical works printed in America*, pp.133–135; J.A. Nietz, *Old textbooks*, pp.162–163.

published. Copies of seven editions are present in our Collection (item nos.449–455).

William Kinne's *Short system of practical arithmetic... designed for the use of schools* (Hallowell 1807) was published in more than a dozen editions before 1850 (four editions are item nos.258–261 below) and Stephen Pike's *The Teacher's assistant or a system of practical arithmetic... designed to abridge the labour of teachers* (Philadelphia 1811) was issued in twenty-two or more editions, plus twelve editions of a *Key* by Frederick McKenney (see item nos.327–331). Oliver Welch's *American arithmetic* (Exeter 1812) was published in at least seventeen editions, of which seven are represented in our Collection (item nos.459–465).

The last of these five popular titles, John Gummere's *Treatise on surveying... particularly adapted to the use of schools*, was first published at Philadelphia in 1814, in which year the author was elected to the American Philosophical Society. From 1814 until 1833 Gummere taught school at Burlington, New Jersey, drawing pupils from all parts of the Union.[27] His work was still being printed as late as 1917. Copies of three editions and a *Key* are offered here (item nos.223–226).

The textbooks of the previous century were compendious, endeavouring to contain all subjects in a single volume, including banking, bookkeeping, algebra, import and export. Textbooks published after about 1820, by and large, dropped those subjects, as well as discussion of such subjects as alligation, duodecimals, barter, tare and tret, permutations and combinations. Many tables that were included in early arithmetics are deleted after 1820, including tables related to English square measure, nautical measure, lead weight, paper, wood and bark measure, measures of ale, beer, wool, wine, and cloth.

Generally, there was increased treatment of processes involving whole numbers, common fractions, partial payments, and numeration in textbooks printed after 1820. More topics were dropped than added, however, and it is clear that Nineteenth-century authors of arithmetic textbooks aimed to deal just with those topics most likely to be useful in post-school life.[28]

WARREN COLBURN
AND THE REFORM OF
MATHEMATICAL EDUCATION

In 1821 was published the first in a series of arithmetic textbooks prepared by Warren Colburn.[29] This author had entered Harvard College in 1817, where apparently he learned of the instructional methods practised by the celebrated reformer Johann Heinrich Pestalozzi (1746–1827) at his schools in Switzerland, and by disciples elsewhere. In 1801, Pestalozzi's *Lienhard und Gertrud* had been translated into English and published at Philadelphia. In 1806, William McClure invited Joseph Neef, one of Pestalozzi's colleagues, to come to America, and in 1808 the latter published *Sketch of a plan and method of education* which contains a chapter devoted to Pestalozzi's plan of teaching arithmetic. The following year, McClure and Neef opened a school together in Philadelphia. By 1821, the movement had acquired considerable momentum. Colburn's textbook published that year became 'the first Pestalozzian textbook' published in America.[30]

27 *Dictionary of American Biography*, VIII (London & New York 1932), p.49.

28 These generalisations are based on research undertaken by H.L. Smith & M.T. Eaton, 'An Analysis of Arithmetic Textbooks [1821–1880]', in *Bulletin of the School of Education, Indiana University* 18 (1942), no.6; and by doctoral students of John A. Nietz: Angie Turner King, 'An Analysis of Early Algebra textbooks used in American schools before 1900' (unpublished PhD dissertation, University of Pittsburgh 1955); Emily K. Jones, 'An Historical Survey of the Developmental Treatment of Vulgar Fractions in American Arithmetics from 1719 to 1839' (unpublished PhD dissertation, University of Pittsburgh 1957); Harold E. Burry, 'An Analysis of early American Arithmetic Textbooks through 1810' (unpublished PhD dissertation, University of Pittsburgh 1958); John D. Wilson, 'An Analysis of Plane Geometry content of Geometry Textbooks published in the United States before 1900' (unpublished PhD dissertation, University of Pittsburgh 1959). This research is tabulated by Nietz in his *Old textbooks*, pp.146–150, and in *The Evolution of American secondary school textbooks* (Rutland, Vermont 1966), pp.57–59, 72–75.

29 W.S. Monroe, *Development of arithmetic as a school subject*, chapter IV: 'Warren Colburn and his relation to Pestalozzi', pp.53–62, and chapter V: 'Warren Colburn's arithmetics', pp.63–79; F. Cajori, *Teaching and history of mathematics*, pp.106–108; J.A. Nietz, *Old textbooks*, pp.165–169; C. Carpenter, *History of American schoolbooks*, pp.141–143; P.C. Cohen, *A Calculating people. The Spread of numeracy in early America*, pp.134–138.

30 *Early American Textbooks 1775–1900. A Catalog of titles held by the Educational Research Library* (Washington, DC 1985), p.xii.

The contents of nearly all arithmetic textbooks before Colburn were arranged to require the use of the 'deductive' approach in teaching. The pupil first committed to memory definitions and rules, then applied them in the solving of problems. Colburn advocated instead an 'inductive' plan of teaching and this he explained in a nine-page 'General view of the plan' printed in his first book.

The pupil was to begin with mental exercises, from which an understanding of the principles of arithmetic would develop. Colburn's first question or exercise was 'How many thumbs have you on your right hand? how many on your left? how many on both together?' Such exercises continued for 124 pages and were intended to enable the child to discover the basic rules of arithmetic for himself.

According to the new methodology, effective instruction was child-centred instruction. Since children learn through their senses, instructional books had to appeal to the senses through pictorial illustration and attractive typography. Moreover, according to this theory, children learn best through material appealing to their interests, and when the order of learning is from the simple to the complex, from the particular to the general. Therefore, textbooks needed to be simple, easy, interesting, and move from the easy to the difficult in slowly graduated steps.

Colburn's first textbook, entitled *An Arithmetic on the plan of Pestalozzi, with some improvements*, was published at Boston in 1821. In its second edition, published in 1822, the work was retitled *First lessons in arithmetic on the plan of Pestalozzi*, and that remained its title until 1826, when it was again changed, to *Colburn's First lessons. Intellectual arithmetic, upon the inductive method of instruction*, which title was retained thereafter. The second edition presented a vast number of new practical examples and the book increased in size from 108 pages in the first edition to 172 pages. After 1822, the body of the text remained unchanged, until revised in 1884. It is asserted that Colburn's *First lessons* 'enjoyed greater popularity than any other arithmetic ever published'.[31] Represented in our Collection are nine editions, published between 1823 and 1849 (item nos.76–84).

The *First lessons* were to be begun when a child was aged five or six and to be studied for three or
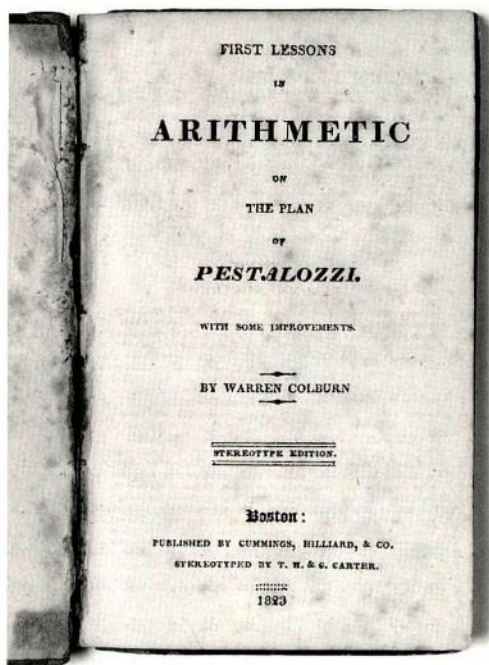
76. The first Pestalozzian textbook published in America, originally printed Boston 1821

four years, when the pupil was to advance to a further work. This sequel, entitled *Arithmetic; being a sequel to First lessons in arithmetic*, was first published at Boston in 1822. In 1826 it too was retitled, becoming *Arithmetic upon the inductive method of instruction, being a sequel to Intellectual arithmetic*, and that title was retained (six editions and a *Key*, 1822–1834, are represented in our Collection). Although written as a practical arithmetic, Colburn expected the pupil to learn something of the science of arithmetic as he worked with practical examples.

Colburn's also prepared *An Introduction to algebra*

31 'About two millions of copies have been sold since its first publication in this country' report J.M. Greenwood & A. Martin, 'Notes on the history of American textbooks of arithmetic', p.824; cf. W.S. Monroe, *Development of arithmetic as a school subject*, p.56. Colburn's success, however, was not immediate. The *Connecticut Common School Journal* yearly presented quantitative assessments of education in that state, including statistics on the texts in use. In 1838–1839, Colburn had not yet overtaken Daboll; cf. P.C. Cohen, *A Calculating people. The Spread of numeracy in early America*, p.250.

kind can do when properly taught, I can affirm, that I find in him no peculiar deficiency. And whether you choose to bring him up to trade or to some practical profession, I see no reason to doubt that he may in time become sufficiently qualified for it. It is my favourite maxim, sir, that every thing most valuable in this life may generally be acquired by taking pains for it. Your son has already lost much time in the fruitless expectation of finding out what he would take up of his own accord. Believe me, sir, few boys will take up any thing of their own accord but a top or a marble. I will take care while he is with me that he loses no more time this way, but is employed about things that are fit for him, not doubting that we shall find him fit for them.

I am, sir, yours, &c.
SOLON WISEMAN.

Though the doctrine of this letter did not perfectly agree with Mr. Acres' notions, yet being convinced that Mr. Wiseman was more likely to make something of his son than any of his former preceptors, he continued him at his school for some years, and had the satisfaction to find him going on in a steady course of gradual improvement. In due time a profession was chosen for him, which seemed to suit his temper and talents, but for which he had no *particular turn*, having never thought at all about it. He made a respectable figure in it, and went through the world with credit and usefulness, though *without a genius*.

Mrs. Barbauld.

ARITHMETIC.

PART I.

SECTION I.

A.* 1. How many thumbs have you on your right hand? how many on your left? how many on both together?

2. How many hands have you?

3. If you have two nuts in one hand and one in the other, how many have you in both?

4. How many fingers have you on one hand?

5. If you count the thumb with the fingers, how many will it make?

6. If you shut your thumb and one finger and leave the rest open, how many will be open?

7. If you have two cents in one hand, and two in the other, how many have you in both?

8. James has two apples, and William has three; if James gives his apples to William, how many will William have?

9. If you count all the fingers on one hand, and two on the other, how many will there be?

10. George has three cents, and Joseph has four; how many have they both together?

* For the manner of solving questions, and the explanation of the plates, see the key at the end of the book. The first questions in this section are intended for very young children. It will be well for the instructer to give a great many more of this kind.—Older pupils may omit these.

2

77. Warren Colburn, *Intellectual arithmetic, upon the inductive method of instruction* (Watertown, New York 1827)

upon the inductive method of instruction, first published at Boston in 1825. The contents cover binomial theorem, progressions, logarithms, annuities, and summation of series by differences.[32] In the preface of that work, Colburn reiterated his method: 'The best mode, therefore, seems to be, to give examples so simple as to require little or no explanation, and let the learner reason for himself, taking care to make them more difficult as he proceeds. This method, besides giving the learner confidence, by making him rely on his own powers, is much more interesting to him, because he seems to himself to be constantly making new discoveries. Indeed, an apt scholar will frequently make original explanations much more simple than would have been given by the author'. The first edition of Colburn's *Algebra*, four subsequent editions, and two *Keys*, are present in our Collection (item nos.85–91)

COLBURN'S INFLUENCE
ON THE TEACHING OF
ELEMENTARY MATHEMATICS

Warren Colburn's textbooks transformed the school study of arithmetic from the catechetical learning of rules to the reasoned solution of problems, and marked the beginning of a new epoch in

32 Lao Genevra Simons, *Bibliography of early American textbooks on algebra published in the Colonies and United States through 1850, together with a characterisation of the first edition of each work*, Scripta Mathematica Studies I (New York 1936), pp.22–23.

the teaching of the subject. Following publication of the *First lessons* in 1821, the conventional notion of arithmetic as a subject fit only for mature minds was overturned, and there was a period of very rapid development of arithmetic as a school subject. Other authors brought out new textbooks which claimed to be based directly on Pestalozzi, or simply revised their previous works on the example provided by Colburn.[33]

Daniel Adams, for example, brought out at Keene, New Hampshire, in 1827, a revised edition of his popular *Scholar's arithmetic*, which he called his 'New Arithmetic', and entitled *Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied thus combining the advantages to be derived both from the inductive and synthetic modes of instructing.*

The *Scholar's arithmetic* (1801 *etc.*) had been arranged in four parts, treating respectively fundamental rules, rules essential for those engaged in business, rules necessary for men in other particular employments, and miscellaneous questions. There were added 'Forms of notes, deeds, bonds, and other instruments of writing'. In the preface of the revised work, Adams refers to his *Scholar's arithmetic* as being synthetic, and says 'If that is a fault of the work, it is a fault of the times in which it appeared'. He also refers to the inductive method of teaching as being an improvement of later years and praises Pestalozzi and Warren Colburn for what they had done in advancing the cause of education.

The 'New arithmetic' introduces numerous simple exercises; from these the rule was to be deduced, and at the close of the chapter or subject, supplementary problems are inserted as reviews. Whereas in the *Scholar's arithmetic* Adams had provided few examples – just ten on addition, nine on subtraction, *etc.* – here in the 'New Arithmetic' 203 miscellaneous examples are given at the close of the arithmetic proper, which call into active exercise all that the pupil has been taught.[34] Six editions

and one *Key* to Adams' 'New Arithmetic' are represented in our Collections (item nos.1–7).

Another textbook to undergo radical change was Roswell Smith's *A Practical and mental arithmetic on a new plan*, originally published at Boston in 1827, when 'designed principally to accompany Daboll's System of Arithmetic'. In the preface to the third edition of 1834, the author wrote 'Is this edition different from the preceding? The answer is, Yes, in many respects. The present edition professes to be strictly on the Pestalozzian, or inductive plan of teaching'. It began with mental exercises, which were followed by 'mental exercises combined with exercises for the slate'. The tables of coinage and measures were taught using a question-and-answer method (see catalogue item nos.395–405).

Colburn's *First lessons* stimulated especially the publication of arithmetics intended for children. The most successful of the elementary arithmetics appearing in Colburn's wake was Frederick Emerson's *North American arithmetic. Part first, containing elementary lessons* (Boston 1829). Frederick Emerson (1788–1857) taught in the Boston public schools for a number of years, became principal in the department of arithmetic at Boylston School, and was finally superintendent of the Boston schools.

Emerson designed *Part first* to be used before a pupil commenced such a work as Colburn's *First lessons*, that is for children five years of age and younger. 'The slate and pencil are not required in the performance of the lessons contained in Part First', he tells us. Woodcut illustrations of various objects are used – apples, trees, hats, houses, horses, *etc.* – to graphically represent problems. In his preface Emerson explains 'The plan of the lessons accords with the method of instruction practiced in the school at Stanz, by the celebrated Pestalozzi. The method of illustration, by the use of cuts, and the location of unit marks under the question, it is hoped, will be found to be an improvement'.

33 Examples in this Collection are: Pliny E. Chase, *The Elements of arithmetic… taught inductively on the system of Pestalozzi* (Philadelphia 1844); Alpheus Crosby, *First lessons in geometry, upon the model of Colburn's First lessons in arithmetic* (Boston 1847); Benjamin Greenleaf, *Introduction to the national arithmetic, on the inductive system* (Boston 1845) and *Mental arithmetic upon the inductive plan* (Boston 1849); James Hayward, *Elements of geometry upon the inductive method* (Cambridge, MA 1829); Joseph Ray, *Algebra… on the analytic and inductive methods*

of instruction (Cincinnati [1848]); James Bates Thomson, *Practical arithmetic, uniting the inductive with the synthetic mode of instruction* (Auburn, NY 1848). Copies of these books are item nos.61, 66–67, 211–215, 233, 352, 431 below. Further titles are listed by W.S. Monroe, *Development of arithmetic as a school subject*, chapter VIII: 'Formalized Pestalozzian arithmetics', pp.94–119; and by P.C. Cohen, *A Calculating people. The Spread of numeracy in early America*, pp.250–251.

34 F. Cajori, *Teaching and history of mathematics*, p.107.

PREFACE.

THERE are two methods of teaching,—the *synthetic* and the *analytic*. In the synthetic method, the pupil is first presented with a *general* view of the science he is studying, and afterwards with the particulars of which it consists. The analytic method *reverses* this order : the pupil is first presented with the *particulars*, from which he is led, by certain natural and easy gradations, to those views which are more general and comprehensive.

The Scholar's Arithmetic, published in 1801, is synthetic. If that is a *fault* of the work, it is a fault of the *times* in which it appeared. The analytic or inductive method of teaching, as now applied to elementary instruction, is among the improvements of later years. Its introduction is ascribed to PESTALOZZI, a distinguished teacher in Switzerland. It has been applied to arithmetic, with great ingenuity, by Mr. COLBURN, in our own country.

The analytic is unquestionably the best method of *acquiring* knowledge ; the synthetic is the best method of *recapitulating*, or *reviewing* it. In a treatise designed for school education, *both* methods are useful. Such is the plan of the present undertaking, which the author, occupied as he is with other objects and pursuits, would willingly have forborne, but that, the demand for the Scholar's Arithmetic still continuing, an obligation, incurred by long-continued and extended patronage, did not allow him to decline the labour of a revisal, which should adapt it to the present more enlightened views of teaching this science in our schools. In doing this, however, it has been necessary to make it a new work.

In the execution of this design, an *analysis* of each rule is first given, containing a familiar explanation of its various principles ; after which follows a *synthesis* of these principles, with questions in form of a supplement. Nothing is taught *dogmatically* ; no technical term is used till it has first been defined, nor any principle inculcated without a previous developement of its truth ; and the pupil is made to understand the *reason* of each process as he proceeds.

The examples under each rule are mostly of a practical nature, beginning with those that are very easy, and gradually advancing to those more difficult, till one is introduced containing larger numbers, and which is not easily solved in the mind ; then, in a plain, familiar manner, the pupil is shown how the solution may be facilitated by *figures*. In this way he is made to see at once their *use* and their *application*.

At the close of the fundamental rules, it has been thought advisable to collect into one clear view the distinguishing properties of those rules, and to give a number of examples involving one or more of them. These exercises will prepare the pupil more readily to understand the

1. Daniel Adams, *Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied* (Keene, New Hampshire 1835)

SUBTRACTION.

Note to Teachers. Here explain to the learners, that the cipher (0) represents nothing of itself, being used only to occupy a place. Also, lead them to observe the correspondence between addition and subtraction.

LESSON FIRST. I.

There was 1 pitcher on the table, but a careless boy knocked it off. What is left upon the table?

1 taken from where there was 1, leaves what?

2 trees stood near by, but the wind has blown 1 of them down. What number is left standing?

1 taken from 2, leaves what number?

3 chairs were standing in a row, but a child has thrown 1 of them down. How many are upright?

1 from 3 leaves how many?

7 sugar-loaves are on a shelf; one of them has the top broken off. How many of them are whole?

1 from 7 leaves how many?

Recite the table beginning, *One from one leaves nothing.*

1 from 1 leaves 0	1 from 6 leaves 5
1 from 2 leaves 1	1 from 7 leaves 6
1 from 3 leaves 2	1 from 8 leaves 7
1 from 4 leaves 3	1 from 9 leaves 8
1 from 5 leaves 4	1 from 10 leaves 9

LESSON SECOND. II.

Henry attempted to roll 3 hoops at once, but 2 of them have fallen down. What number is still up?

2 from 3 leaves what number?

5 boys came up to recite, but 2 of them were sent back for having no lessons. How many recited?

2 from 5 leaves how many?

Here are 6 cherries, 2 of which have lost off their stems? How many are there with stems on?

2 from 6 leaves how many?

7 bottles were standing on a table, but 2 of them are turned down. How many are still upright?

2 from 7 leaves how many?

Here are 8 pitchers, and 2 of them are placed bottom upward. How many are right side up?

2 from 8 leaves how many?

Recite the table beginning, *Two from two leaves nothing.*

2 from 2 leaves 0	2 from 7 leaves 5
2 from 3 leaves 1	2 from 8 leaves 6
2 from 4 leaves 2	2 from 9 leaves 7
2 from 5 leaves 3	2 from 10 leaves 8
2 from 6 leaves 4	2 from 11 leaves 9

168. Frederick Emerson, *The North American arithmetic. Part first, for young learners* (Philadelphia *circa* 1838)

In 1832 Emerson published a sequel, entitled *Part second, uniting oral and written arithmetic*, and again made use of pictorial objects for illustration. His *Part third, for advanced scholars*, a practical arithmetic for use in common schools, appeared in 1834. That work was intended for 'those who are to prosecute a full course of mathematical studies, and for those who are to embark in commerce'. He demanded much of his young pupils. Among the problems (no.137 of the 'Miscellaneous questions') is one borrowed without acknowledgement from Isaac Newton's *Arithmetica universalis* of 1704. Emerson asks 'If 12 oxen eat up 3½ acres of grass in 4 weeks, and 21 oxen eat up 10 acres of grass in 9 weeks, how many oxen will eat up 24 acres in 18 weeks; the grass being at first equal on every acre, and growing uniformly?'

As soon as Emerson's series was complete, it displaced Colburn's texts in the Boston schools.[35] In the present Collection, Emerson's *Part first* is represented by three editions, his *Part second* and *Part third* by two editions each, and two *Keys* (item nos.166–174).

Another elementary work founded on Colburn's prototype was Charles Davies' *First lessons*

35 J.M. Greenwood & A. Martin, 'Notes on the history of American textbooks of arithmetic', p.833; W.S. Monroe, *Development of arithmetic as a school subject*, pp.95–96; Clifton Johnson, *Old-time schools and school books* (New York & London 1904), pp.316–317 (two text illustrations reproduced); J.A. Nietz, *Old textbooks*, p.171.

in arithmetic, designed for beginners (Hartford 1840). The first part is intended for absolute beginners and combines the oral method with slate exercises. The second part is a mental arithmetic and designed to perfect the pupil in rapid and accurate work.[36] A testimonial shows that the Davies' *First lessons* had been adopted in the Philadelphia common schools.

Charles Davies graduated from the Military Academy at West Point in 1815; he became professor of mathematics there in 1823, later taught at Trinity College, Hartford, and finished his career at Columbia College, New York. Davies had already published, in 1833, an arithmetic for students of more advanced understanding, entitled initially *The Common school arithmetic, prepared for the use of academies and common schools*, then *Mental and practical arithmetic* (editions published 1838–1841), finally *Arithmetic designed for academies and schools*.

When completed, Davies' *Course of mathematics* comprised thirteen textbooks, instructing the student from the *First Lessons in Arithmetic* through algebra, geometry, drawing, trigonometry, surveying, linear perspective, and the calculus, and including *The University arithmetic, embracing the science of numbers and their numerous applications* (1846).[37] In our Collection these works are represented by twenty-three copies (item nos.110–132).

Joseph Ray (1807–1855) was professor of mathematics in Woodward High School, Cincinnati, where he published in 1834 a set of *Tables and rules in arithmetic for children*, sold for six cents. In 1844 that work was remodelled as *Part first* of *Ray's Arithmetical course*, later entitled *Primary lessons* (1857) and then *Ray's New primary arithmetic* (1877).

Ray's *Part first* contained 'very simple lessons for Little Learners, illustrated with about 1,000 pleasing Pictorial Counters' – cats, dogs, rabbits, boys, girls, *etc.* – and its advertised price was ten cents.[38] The sequel was entitled *The Little arithmetic. Elementary lessons in intellectual arithmetic, on the analytic and induc-*

tive method of instruction (Cincinnati 1834). In its preface, Ray wrote 'So far as the plan of the work is concerned… we tread in the footsteps of Pestalozzi'. In 1843 the *Little arithmetic* was enlarged and retitled *Ray's Arithmetic, part second*; further changes to its name occured in 1857 and 1877.

The advanced work in Ray's series was first published under the title *Eclectic arithmetic on the inductive and analytic methods of instruction* (Cincinnati 1837). In 1844 it too was 'carefully revised' and called *Ray's Arithmetic, part third*; and it was also retitled in 1857 and 1877.

All three works in Ray's *Arithmetical course* were advertised to be 'the Best and Cheapest Arithmetics ever Published': *Part first* sold for ten cents, *Part second* for twenty cents, and *Part third* for thirty-five cents. The textbooks were a huge success.[39] Copies of his elementary arithmetic and algebra textbooks and two *Keys* for teachers are present in our Collection (item nos.352–355).

Another series of arithmetics popular during the middle years of the Nineteenth century was compiled by Benjamin Greenleaf (1786–1864). This author graduated from Dartmouth College in 1813 and settled at Bradford, Massachusetts, where he was preceptor of Bradford Academy (1814–1836) and then head of Bradford Teachers' Seminary (1839–1848).

The four works comprising Greenleaf's course were prepared in reverse order, the first to be published being the most advanced. Entitled *The National arithmetic, combining the analytic and synthetic methods*, it was published at Boston in 1835, and Greenleaf later said the edition was exhausted within the year.[40] The book was reprinted in 1836 and revised editions appeared in 1847 and 1857.

Published next was Greenleaf's *Introduction to the national arithmetic*, or *Common school arithmetic*, in 1842, revised in 1848 and 1856. Then appeared *Mental arithmetic upon the inductive plan, for beginners*

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36 J.M.Greenwood & A. Martin, 'Notes on the history of American textbooks of arithmetic', pp.837–838.

37 For later publication history of these textbooks, see W.S. Monroe, *Development of arithmetic as a school subject*, p.95.

38 W.S. Monroe, *Development of arithmetic as a school subject*, pp.105–106. The advertisement is reproduced by L.C. Karpinski, *Bibliography of mathematical works printed in America*, p.366.

39 'Of all the texts of this period, the series by Joseph Ray has enjoyed the most extended and continued use… Even now (1913), after more

than a decade which has been characterized by texts of another type, they are still a widely used series of arithmetics. The average yearly sale for the last ten years has been approximately 250,000 copies' reported W.S. Monroe, *Development of arithmetic as a school subject*, p.97. J.A. Nietz, *Old textbooks*, pp.173–177.

40 J.M. Greenwood & A. Martin, 'Notes on the history of American textbooks of arithmetic', p.835. A copy of the 1835 edition is item no.213 below. L.C. Karpinski, *Bibliography of mathematical works printed in America*, p.388, records only copies dated 1836.

(1845, revised 1857); and finally his elementary arithmetic, entitled *Primary arithmetic* (1857, revised 1861).[41] In our Collection three of these works are present (item nos.211–215).

Another series of arithmetics written by James Bates Thomson (1808–1883) appeared at the very end of our period. His first published work was an *Elements of algebra* in 1843, followed by a *Practical arithmetic* (1845), *Mental arithmetic* (1846), and *Higher arithmetic* (1847). In 1852 Thomson published *Rudiments of arithmetic* and in 1854 *Arithmetical analysis*. All of these textbooks passed through many editions. It was stated in 1859 that 100,000 copies of Thomson's arithmetical works were circulated annually.[42]

Thomson must have been very pedagogically conscious, for in his *Practical arithmetic* (item no.431) he devotes four pages to describing the characteristics of the book, and presents a long list of suggestions on the teaching of arithmetic. The procedure followed in the book was first to present by analysis and solution a number of practical examples involving a rule. The operation was then defined and each principle analysed. The general rule was then to be deducted, thus combining the inductive and synthetic modes of instruction.

The great success enjoyed by Colburn's *First lessons* and by works following that prototype did not prevent the appearance of arithmetical textbooks using the old methods. At least forty editions of *Daboll's schoolmaster's assistant* streamed from the presses in the twenty years 1821–1841. Opponents of the inductive method argued that arithmetic was in reality a deductive science and could never be taught inductively. By the middle of the Nineteenth century, understanding of the inductive plan had largely faded. Expressions such as 'inductive' and 'mental' less frequently appear on title-pages. Gradually, arithmetical textbooks reassumed a deductive form.[43]

The Teaching of Mathematics in American Colleges

At the beginning of the Nineteenth century the entrance requirements to American colleges were practically non-existent. In 1803, Harvard required the rudiments of arithmetic as far as the Rule of Three. By 1816, the whole of elementary arithmetic was required; and in 1819 a slight knowledge of algebra was added. At Dartmouth, only arithmetic and Bourdon's *Algebra* through linear equations were required, until the mid-Nineteenth century.[44]

At Yale, the men studied mathematics through reading and recitation. In the late 1810s, students were given daily assignments of a few pages of textbook to memorise for presentation in the classroom.[45] The textbooks then in use at Yale were essentially British: 'Freshmen, Webber's Mathematics; Sophomores, Webber's Mathematics and Euclid's Elements; Juniors, Enfield's Natural Philosophy and Astronomy, and Vince's Fluxions; Seniors, natural philosophy and astronomy'.[46]

Samuel Webber (1759–1810), Hollis professor of mathematics and later president of Harvard University, based his *Mathematics, compiled from the best authors* (Boston 1801) on Charles Hutton's *Course of mathematics* (London 1798 etc.); it is the earliest mathematical textbook for colleges, written by an American author.[47] A second edition of Webber's *Mathematics* was issued in 1808, and the arithmetical portion only was printed in 1812 and 1813 (see item no.457).

Euclid's *Elements* could be read in either the translation of John Playfair (1748–1819), first printed in America at Philadelphia in 1806 (see item nos.333–337), or in the translation by Robert Simson (1687–1768), of which twelve editions were published at Philadelphia between 1803 and 1838 (see item nos.380–381).

The very popular British textbook by William

41 W.S. Monroe, *Development of arithmetic as a school subject*, p.116; J.A. Nietz, *Old textbooks*, pp.177–178.

42 W.S. Monroe, *Development of arithmetic as a school subject*, p.99; J.A. Nietz, *Old textbooks*, pp.178–179.

43 W.S. Monroe, *Development of arithmetic as a school subject*, pp.118, 125; P.C. Cohen, *A Calculating people*, p.138.

44 W.S. Monroe, *Development of arithmetic as a school subject*, p.13; D.E. Smith & J. Ginsburg, *History of mathematics in America before 1900*, p.70;

R. Middlekauff, *Ancients and axioms*, p.92. English translations of L.P.M. Bourdon's *Elements of algebra* were first published in America in 1831 (see item nos.48–50 below).

45 Brooks Mather Kelley, *Yale: A History* (New Haven & London 1974), pp.70, 157–160, 167.

46 F. Cajori, *The Teaching and history of mathematics*, p.63. Euclid had been used as a textbook at Yale since 1733.

47 F. Cajori, *The Teaching and history of mathematics*, p.60.

Enfield (1741–1797), *Institutes of natural philosophy,* could be read in Samuel Webber's edition, first published at Boston in 1802 (item nos.A5–A8).[48] Samuel Vince (1749–1821) was Plumian professor of astronomy and experimental philosophy in the University of Cambridge, England. The first American edition of his *The Principles of fluxions* was printed at Philadelphia in 1812 (item no.444).

Two other British authors whose works were in use at American colleges were John Bonnycastle (1750?–1821) and Charles Hutton (1737–1823). Bonnycastle, professor of mathematics at the Royal Military Academy, Woolwich, was author of the *Scholar's guide to arithmetic* (London 1780 etc.), *Introduction to algebra* (London 1782 etc.), and *Introduction to mensuration and practical geometry* (London 1782 etc.). American editions of his works were first published at Boston 1786 (see item no.47), Philadelphia 1806 (item nos.36–38, *Key* no.39), and Philadelphia 1812 (item nos.40–45, *Key* no.46).

Charles Hutton's *A Course of mathematics* (London 1798 etc.), was revised by the most outstanding American mathematician in this time, Robert Adrain (1755–1843), professor of mathematics at Columbia College. Five editions of Adrain's revision were published in New York, the first in 1812 (see item nos.241–243).

These British textbooks were widely regarded as ill-suited to the American classroom: they were inaccessible to American students with minimal mathematical background, and some were not complete in themselves, but required reference to other books.[49]

Jeremiah Day (1773–1867), a graduate of Yale College (class of 1795) and from 1801 professor there of mathematics and natural philosophy, set out to remedy these defects in a four-volume *Course of mathematics* 'adapted to the method of instruction in the American colleges'.

Day's four textbooks, each published at Cambridge, Massachusetts, were *A Practical application of the principles of geometry to the mensuration of superficies and solids,* published in 1811 (item nos.142–145); next *An Introduction to algebra* in 1814 (item nos.134–138, *Abridgement* no.133, *Key* no.139); then *A Treatise of plane trigonometry* in 1815 (item nos.146–147); and lastly *The mathematical principles of navigation and surveying* in 1817 (item nos.140–141). Day's algebra textbook gives a measure of the popularity enjoyed by his *Course of mathematics.* It was printed at least sixty-seven times 1814–1850, before its author and Antony Stanley produced a revised edition, which subsequently went through sixteen printings between 1852 and 1869.[50]

Day based his textbooks on works by British mathematicians and thereby guaranteed the survival of the British mathematical tradition in American colleges throughout the first half of the Nineteenth century.[51]

Meanwhile, French mathematical works by Étienne Bézout, Silvestre François Lacroix, and Adrien Marie Legendre, which before 1815 had been virtually unknown in America, were being promoted at Harvard.[52]

Harvard's answer to Day's *Course of mathematics* was a series of six works by John Farrar (1779–1853), a Harvard graduate (class of 1803, A.M. 1805), who was appointed Hollis professor of mathematics in that institution in 1807. Farrar's series comprised *An Introduction to the elements of algebra* (from Euler), 1818 (item nos.175–176); *An Elementary treatise on arithmetic* (from Lacroix), 1818 (item nos.262–263); *An Introduction to the elements of algebra* (from Lacroix), 1818 (item nos.266–267); *Elements of geometry* (from Legendre), 1819 (item nos.269–270); *An Elementary treatise on plane and spherical trigonometry,*

48 F. Cajori, *The Teaching and history of mathematics,* pp.64–65.

49 Library resources were often inadequate: in 1823, there were eighteen mathematical books in the library of Middlebury College, Vermont; cf. D.E. Smith & J. Ginsburg, *History of mathematics in America before 1900,* p.73.

50 'Of the American school texts which ran through many editions, this is one of the few where exact circulation is known. The record was kept straight by the appearance in the title-pages of the respective editions of the number of copies printed' according to C. Carpenter, *History of American schoolbooks,* p.127, who states that 184,000 copies of Day's *Algebra* were printed before 1850.

51 Helena M. Pycior, 'British synthetic vs. French analytic styles of algebra in the Early American Republic', in *The History of modern mathematics, volume I: Ideas and their reception,* edited by David Rowe & John McCleary (Boston 1989), p.126.

52 On the original editions, see Jean Dhombres, 'French mathematical textbooks from Bézout to Cauchy', in *Historia Scientiarum* 28 (1985), pp.91–137; and on their reception in America, Lao Genevra Simons, 'The Influence of French mathematicians at the end of the eighteenth century upon the teaching of mathematics in American colleges', in *Isis* 15 (1931), pp.104–123.

and on the application of algebra to geometry (from Lacroix and Bézout), 1820 (item nos.264–265); and *First principles of the differential and integral calculus* (from Bézout), 1824 (item no.33). Of these books, 'the two first… [were] to be studied previous to admission into college', while the others were intended for use at college level.[53]

Whereas British mathematicians favoured a 'synthetic' or deductive style of textbook, presenting clear definitions and self-evident axioms, from which rules were supposed to follow, the French authors Bézout, Lacroix, and Legendre favoured an analytical style, and depended on examples to build toward definitions. The approach pursued by Farrar's has thus a similar objective to that sought by Warren Colburn in his teaching of elementary mathematics.

Two series of textbooks published later by William Smyth (1797-1868) and Benjamin Peirce (1809–1880) also enjoyed popularity. William Smyth had graduated from Bowdoin College in 1822 and in 1828 was appointed professor of mathematics. He wrote *An Elementary treatise on plane trigonometry* (Brunswick 1825), later entitled *Elements of plane trigonometry* (Boston 1834); *Elements of algebra* (Portland 1830); and *Elements of analytic geometry* (1836). These textbooks 'were used in the leading colleges of the country and won the commendation of the foremost American scientists of the day'.[54] Copies are item nos.407–411 in our Collection.

Benjamin Peirce became Hollis professor of mathematics at Harvard in 1832 and soon thereafter began preparation of a series of mathematical textbooks. His series eventually comprised treatises on *Plane trigonometry* (1835), *Sound* (1836), *Spherical trigonometry* (1836), *Algebra* (1837), *Plane and solid geometry* (1837), *Plane and spherical trigonometry* (1840), and *Curves* (1841–1846). Seven copies of these works are present in our Collection (item nos.306–312). In general, Peirce's books 'were so full of novelties that they never became widely popular'. Even at Harvard, where Peirce's textbooks enjoyed their most consistent use, they 'were found very difficult' and their assignment remained controversial.[55]
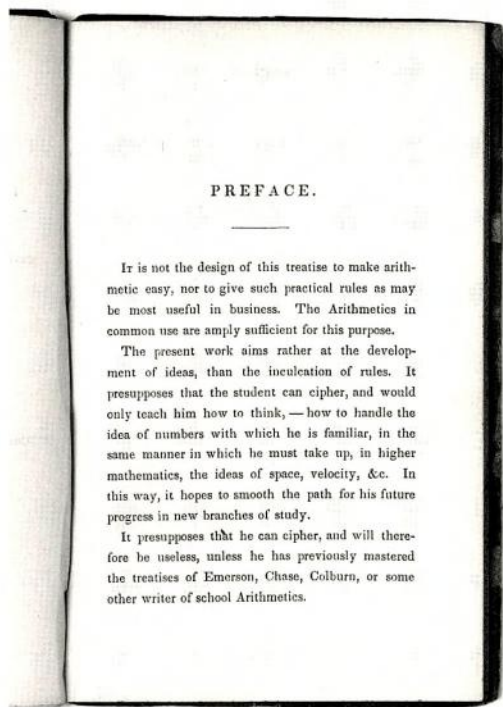
234. Thomas Hill, *An Elementary treatise on arithmetic* (Boston 1845)

Thomas Hill's *An Elementary treatise on arithmetic* (Boston 1845) was 'designed as an introduction to Peirce's course of pure mathematics, and as a sequel to the arithmetics used in the high schools of New England' (item no.234). The author graduated from Harvard in 1843 with particular distinction in mathematics and settled as a Unitarian clergyman at Waltham, Massachusetts; in 1862 he was called to the presidency of Harvard. For many years Hill's textbook was required for admission to Harvard College. In the preface, Hill wrote 'It is not the design of this treatise to make arithmetic easy, nor to give such practical skill as may be useful in business'. A critic considers it 'one of the most singular, as well as one of the most interesting, arithmetics ever published in the English language'.[56]

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53 F. Cajori, *The Teaching and history of mathematics*, p.131; H.M. Pycior, 'British synthetic vs. French analytic styles of algebra', p.130.

54 *Dictionary of American Biography*, XVII (London & New York 1935), p.378.

55 F. Cajori, *The Teaching and history of mathematics*, pp.134, 136, 140–141.

56 J.M. Greenwood & A. Martin, 'Notes on the history of American textbooks of arithmetic', p.845.

ANALYSIS OF THE COLLECTION

There are few American mathematical textbooks of much importance that are not found, in one edition or another, in this Collection.

One way to evaluate our Collection is against the target of completeness presented by the monumental *Bibliography of mathematical works printed in America through 1850* completed by L.C. Karpinski in 1939. That bibliography lists 1092 different works, or, including subsequent editions, 2998 books in all. Approximately 125 of these works were printed in Canada, Central and South America, so the number published within the present United States of America is about 967.

Nearly one-quarter of the 1092 works listed (232 exactly) are designated by Karpinski as 'lost', in the sense that while their existence is documented by subsequent editions, copyright entries accompanied by certificates of deposit, publishers' advertisements, *etc.*, copies can not be located. The number of mathematical works published within the present United States which the author could actually examine is thus about 735.

Karpinski's bibliography initiated a wider search for additional titles and editions. Several American libraries, notably the New York Public Library, which under Wilberforce Eames 'undertook to acquire every title listed in the Bibliography', joined Karpinski in the search for omissions, and three lists of addenda were eventually published.

The original work proved remarkably thorough and comprehensive. In the third list of additions, published in 1954, Karpinski estimated that the cumulative increase in titles had been less than four per cent. 'To the original 3000 editions a slightly larger percentage of additions is available, partly through inclusion of a few doubtful titles… and through the enlarged Union Catalogue facilities now available at the Library of Congress'.[1]

In our Collection, 269 different works are offered, plus 192 later editions, for a total of 511 printed books. Of these 511 books, twenty-seven are outside Karpinski's scope, being textbooks of natural philosophy, astronomy, and mathematical geography, and they consequently are relegated here to an appendix (pp.138–142). Three books included in our Collection were first published after 1850 and consequently ignored by Karpinski.[2] Twenty-one books are on subjects encompassed by Karpinski, but not treated systematically. These include four textbooks of accountancy,[3] six books which are encyclopedic in the range of topics treated,[4] and eleven books of tables.[5]

1 Louis C. Karpinski, *Bibliography of mathematical works printed in America through 1850* (Ann Arbor & London 1940); L.C. Karpinski, 'Supplement to the *Bibliography of mathematical works printed in America through 1850*', in *Scripta Mathematica* 8 (1941–1942), pp.233–236; L.C. Karpinski, 'Second supplement to the *Bibliography of mathematical works printed in America through 1850*', in *Scripta Mathematica* 11 (1945), pp.173–177; L.C. Karpinski, 'Third supplement to the *Bibliography of mathematical works printed in America through 1850*', in *Scripta Mathematica* 20 (1954), pp.197–202.

2 These are: *An Appendage, or the complete little arithmetic* (New York *circa* 1855); Thomas Hill, *First Lessons in geometry* (Boston 1858); and Elias Loomis, *Elements of analytical geometry* (New York 1871), described below as item nos.22, 235, 278.

3 Karpinski acknowledged that his *Bibliography of mathematical works printed in America through 1850* 'does not include all works… in book-keeping, but only those having quite definite mathematical aspects' (p.9). Some works included in this Collection, but excluded from Karpinski's bibliography, are: Frederick Beck, *The Young accountant's guide* (Boston 1831); Christopher Marsh, *The Art of single-entry book-keeping* (New York 1844); Lyman Preston, *The Book-keeper's diploma* (New York 1837); and Lyman Preston, *Preston's treatise on book-keeping* (New York 1837). These are item nos.28, 284, 342, 349.

4 These anthologies are: Oliver Angell, *The Union, No.V* (Philadelphia 1834); Thomas Palmer, *The Teacher's manual* (Boston 1840); Charles Peirce, *The Arts and Sciences abridged* (Portsmouth 1811); Almira Phelps, *The Fireside friend, or female student* (Boston 1840); Timothy Stone, *Stories to teach me to think* (Boston 1844); Samuel Willard, *The General class-book* (Greenfield 1833). They are described below as item nos.21, 302, 313, 317, 420, 471.

5 Cf. Karpinski, *Bibliography of mathematical works printed in America through 1850*, pp.668–672, for a listing of the books of tables included in his bibliography. These works in our Collection are not described by Karpinski: Stuart Beebe, *The Time and lunar register* (Hartford 1827); Charles Cleveland, *Exchange tables* (Boston 1838); Samuel Dickinson, *A Help to printers* (Boston 1835); Samuel Freeman, *The Town officer* (Boston 1794); Noah George, *The Gentleman's pocket companion* (Concord 1831); Charles Leonard, *The Mechanical principia* (New York 1848); *Mechanic's Assistant* (Providence 1827); *Merchant and Seaman's expeditious measurer* (New York 1847); James Pedder, *The Farmers' land-measurer* (Philadelphia 1843); Lyman Preston, *Preston's cubical estimates* (New York *circa* 1837); Joseph Price, *Tables of sterling exchange* (New York 1848). These are item nos.29, 64, 148, 202, 203, 273, 289, 290, 304, 343, 350.

TABLE I. ITEMS NOT RECORDED BY KARPINSKI

5	Adams 1842	113	Davies 1849	303	Parke 1845
6	Adams 1850	116	Davies 1845	345	Preston 1850
66	Cobb 1832	134	Day 1835	355	Ray [1845]
67	Coffin 1848	138	Day 1844	378	Simpson 1821
72	Colburn 1830	166	Emerson 1830	381	Simson [1819]
84	Colburn [*circa* 1849]	167	Emerson 1830	392	Smith 1845
91	Colburn 1830	169	Emerson 1832	399	Smith [1834]
94	*Complete ready reckoner* 1847	172	Emerson [1844]	403	Smith 1841
		198	Fowler 1839	427	Thomson 1849
105	Daboll 1828	213	Greenleaf 1835	431	Thomson 1848
106	Daboll 1832	218	Gregory 1848	443	Vanderbilt 1849
108	Daboll 1843	240	Holbrook 1833	474	Willetts 1841
109	Daboll 1842	283	*Marmaduke* 1841	484	Young 1850
110	Davies 1842	291	Merrill [1795]	A23	Renwick 1822

The Collection thus contains 460 books which either are cited by Karpinski, in the same or a similar editions, or, whilst not recorded, surely would have been if only a copy had passed beneath his notice. Forty-one items are books of the latter type, editions not recorded by Karpinski in his 1940 bibliography, nor in the three supplements he published 1941–1954. These forty-one books (Table I) mostly were published toward the end of Karpinski's period. With few exceptions, their authors are the most prolific textbook writers of that period.

Three other books deserve passing mention. Item no.299 is a *Practical arithmetic, prepared for the use of Mrs. Okill's female boarding school*, printed at New York in 1828. Karpinski knew of an application for copyright, dated June 16, 1828, but found no copy, or other evidence, that the intended publication was ever issued. A copy of this book has since been located by the editors of the Checklist.[6]

Two other rarities are sets of tables. One (item no.250) was compiled by Joseph Jelleff and Bennet B. Hull, entitled *Jelleff & Hull's patent pocket interest tables, at 6 per cent*, and published at Cooperstown, New York, in 1837. This book not only was unknown to Karpinski, but also later to the compilers of the Checklist, and no copy was located by the National Union Catalog. Another ephemeral publication (item no.356) is *The Ready reckoner, or traders' assistant, in dollars and cents*, Philadelphia, 1817. That work however was known to the editors of American Bibliography.[7]

The 'Checklist of American Imprints' is the principal bibliographical tool available for the identification of Nineteenth-century American imprints. It gathers from numerous, secondary sources all books published in a particular year. Fifty-three volumes (including indices) have so far been published, taking the Checklist through the year 1844.[8] In our Collection, twenty-six books represent editions not recorded in the Checklist. Another seventeen books have imprints different to those stated in the Checklist (Table II).

The holdings of more than one hundred American libraries were investigated by Karpinski during preparation of his bibliography. He found that nine libraries had 'definitely collected in this field' and later tabulated their holdings. As copyright

6 Richard H. Shoemaker & Gayle Cooper, *A Checklist of American imprints for 1828* (Metuchen, New Jersey & London 1971), no.34863, copy located at New York State Library, Albany (cf. *National Union Catalog of pre-1956 Imprints*, volume 468, p.637).

7 Ralph R. Shaw & Richard H. Shoemaker, *American Bibliography. A preliminary checklist for 1817* (New York 1963), no.41935, copy located at American Antiquarian Society.

8 Ralph R. Shaw & Richard H. Shoemaker, *American Bibliography. A preliminary checklist for 1801* [–1819] (New York 1958–1966); Richard H. Shoemaker & Gayle Cooper, *A Checklist of American imprints for 1820* [–1829] (New York & London 1964–1973); Gayle Cooper, Scott Bruntjen, & Carol Rinderknecht, *A Checklist of American imprints for 1830* [–1839] (Metuchen, New Jersey & London 1972–1989); Carol Rinderknecht, *A Checklist of American imprints for 1840* [–1844] (Metuchen, New Jersey & London 1990–1993). The volume for 1845 was due for publication in 1996.

TABLE II. ITEMS NOT RECORDED IN THE CHECKLIST OF AMERICAN IMPRINTS

1801–1829	1830–1835	1835–1839	1840–1844
1804 Jackson (246)	1830 Emerson (167)	1835 Daboll (107)	1841 Emerson (171)
[1818] Jess (252)	1830 [Marcet] (A17)	1835 Emerson (173)	1841 *Marmaduke* (283)
[1819] Simson (381)	[1831] Bridge (55)	1835 Greenleaf (213)	1841 Peirce (310)
1823 Pike (330)	1832 Daboll (106)	1835 Smiley (386)	1841 Tillinghast (434)
1825 Flint (197)	1832 Pike (320)	1836 Kinne (261)	1841 Welch (464)
1826 Colburn (86)	1832 Slocomb (384)	1837 Burnham (57)	1842 Adams (5)
1828 Daboll (105)	1833 Holbrook (240)	1837 Gregory (216)	1842 Daboll (109)
	1833 [Willard] (471)	1837 Jelleff (250)	1842 Pedder (304)
	1834 Colburn (74)	1837 Pike (331)	1842 Perkins (316)
	[1834] Smith (399)	1837 Preston (346)	1843 Daboll (108)
		1838 Davies (123)	1844 Scribner (374)
		[1838] Smith (402)	1844 Smith (391)
		[1839] Adams (4)	
		1839 Fowler (198)	

repository, the Library of Congress not unexpectedly possessed the largest number of books (938 first and subsequent editions), followed by Harvard (891), American Antiquarian Society (711), American University Library (659), Trinity College (654), University of Michigan Libraries (509), Columbia University Libraries (476), Boston Public Libraries (352), and New York Public Library (263).

A substantial collection of American textbooks is preserved in the Educational Research Library of the U.S. Department of Education. This collection, begun in 1869 for a projected 'Museum of textbooks' which never materialised, comprises about 12,000 volumes, of which 6,000 are listed in a printed catalogue published in 1985.[9] Mathematics textbooks published 1775–1900 are entries 4253–5391 in that catalogue. Of those books, just 203 were published in the period covered by Karpinski.

Our Collection, numbering 460 books, would thus have occupied sixth rank in Karpinski's tabulation, nearly approximating the holdings of Columbia, exceeding those of Boston and New York Public libraries.

An earlier checklist, Lao Genevra Simons' *Bibliography of early American textbooks on algebra published in the Colonies and United States through 1850* (New York 1936), is another yardstick against which our Collection may be measured. Simons describes seventy-one separate treatises, most of which ran into multiple editions, which she had located in a search through fifty libraries. We have in our Collection thirty-five of these seventy-one works; but of the nineteen earliest works enumerated, those published before 1830, we have fifteen, and eight in first editions.[10]

The chronological distribution of the 511 items in the Collection is

pre-1800	33 books
1801–1810	55 books
1811–1820	65 books
1821–1830	95 books
1831–1840	129 books
1841–1850	124 books
post-1850	10 books.

A list of the thirty-three Eighteenth-century imprints appears as Table III overleaf.

9   *Early American Textbooks 1775–1900. A Catalog of titles held by the Educational Research Library* (Washington, DC 1985). In the *History of Reading News* 16 (1991), p.1, it is reported that the early-American collection of the Educational Research Library comprises 40,000 textbooks, and further that these books 'are uncatalogued and lie tightly shelved in a dusty storage room. Many urgently need rebinding'.

10   These four early algebra textbooks are lacking from our Collection: Pieter Venema, *Arithmetica of Cyffer-Konst* (New York 1730); Samuel Webber, *Mathematics compiled from the best authors* (Boston 1801); [L.I.M. Chevigne], *Mathematical manual for the use of St. Mary's College of Baltimore* (Baltimore 1806); Francis Tillet, *A New key to the exact sciences* (Winchester, VA 1824).

TABLE III. BOOKS PRINTED 1760–1799

188 George Fisher, *The American instructor; or, young man's best companion* (New York 1760)

189 George Fisher, *The American instructor; or, young man's best companion* (Boston 1779)

149 Thomas Dilworth, *The Schoolmaster's Assistant* (Philadelphia 1781)

181 Daniel Fenning, *The Ready reckoner; or trader's useful assistant* (Boston [1785?])

150 Thomas Dilworth, *The Schoolmaster's Assistant* (Hartford 1786)

281 Alexander McDonald, *The Youth's assistant* (Litchfield 1789)

415 Consider & John Sterry, *The American youth: being a new and complete course of introductory mathematics* (Providence 1790)

201 Donald Fraser, *The Young gentleman and lady's assistant* (New York 1791)

63 John Clendinin, *The Practical surveyor's assistant* (Philadelphia 1793)

151 Thomas Dilworth, *The Schoolmaster's Assistant* (New York 1793)

321 Nicholas Pike, *Abridgement of the new and complete system of arithmetick* (Newburyport 1793)

182 Daniel Fenning, *The Ready reckoner or trader's sure guide* (Philadelphia 1794)

183 Daniel Fenning, *The Ready reckoner, or the trader's useful assistant* (Newburyport 1794)

190 George Fisher, *The Instructor: or, American young man's best companion* (Walpole 1794)

202 Samuel Freeman, *The Town officer* (Boston 1794)

184 Daniel Fenning, *The Ready reckoner; or trader's valuable guide* (Worcester 1795)

180 Daniel Fenning, *The American youth's instructor* (Dover 1795)

291 Phinehas Merrill, *The Scholar's guide to arithmetic* (Exeter [1795])

416 Consider & John Sterry, *A Complete exercise book, in arithmetic* (Norwich 1795)

470 William Wilkinson, *The Federal calculator, and American ready reckoner* (Providence 1795)

152 Thomas Dilworth, *The Schoolmaster's Assistant* (Wilmington 1796)

153 Thomas Dilworth, *The Schoolmaster's Assistant* (New York 1796)

204 Robert Gibson, *A Treatise of practical surveying* (Philadelphia 1796)

280 John Love *Geodaesia: or, the art of surveying* (New York 1796)

295 Samuel Moore, *An Accurate system of surveying* (Litchfield 1796)

361 Erastus Root, *An Introduction to arithmetic* (Norwich 1796)

247 [Daniel Jaudon], *A Short system of polite learning* (Litchfield 1797)

297 James Noyes, *The Federal arithmetic* (Exeter 1797)

318 Nicholas Pike, *A New and complete system of arithmetic* (Worcester 1797)

185 Daniel Fenning, *The Ready reckoner* (York 1798)

322 Nicholas Pike, *The New complete system of arithmetic* (Worcester 1798)

254 Zachariah Jess, *A Compendious system of practical surveying* (Wilmington 1799)

277 Ezekiel Little, *The Usher* (Exeter 1799)

It is not always possible to distinguish textbooks used in elementary schools from those used in secondary schools (Latin grammar schools, academies, high schools, *etc.*), or to differentiate textbooks used in the upper grades of secondary schools from those used in colleges. One reason for this uncertainty is that schools generally were not organised hierarchically, according either to the age of the pupils or by their progress. Mathematics might be taught every day in one school, two or three times a week in another; taught for a year in one school, but only for a semester in another. This meant that textbooks of differing scope and difficulty were needed.

Authors often used the title-page to indicate the level of instruction being offered. Some title-pages designate the age, achievement, or sex of the pupil: small children, beginners, young learners, or the young generally; advanced classes, advanced scholars, senior school boys, junior students in the universities, are all common appellations. On some title-pages, the type of school is specified: infant and primary schools, common schools, high schools, lyceums, seminaries for young ladies, or colleges and schools,

TABLE IV. TEXTBOOKS DESIGNATED FOR USE IN SCHOOLS, ACADEMIES, LYCEUMS, ETC.

'Adapted for schools' Jaudon 1797 (247)

'Adapted to the capacities of the young, and the method of instruction, in schools and academies' Thomson, J.B. 1849–1850 (427–428)

'Adapted to the capacity of youth, and designed for the use of schools' White, J.J. 1819 (467)

'Adapted to the comprehension of young pupils' Marcet A17 (1830)

'Adapted to the easy and regular instruction of youth in our American schools' Todd 1808–1820 (435–437)

'Adapted to the method of instruction in the higher schools and academies' Day 1819 (133)

'Adapted to the use of American schools' Bézout 1824 (32); Dilworth 1818 (162)

'Adapted to the use of common schools' Blake 1839 (A3)

'Adapted to the use of publick schools' Francoeur 1825, 1830 (199–200)

'Adapted to the use of schools' Daboll 1843 (108); Duane 1805 (163); Gummere 1825–1846 (223–225); Ticknor 1848 (432)

'Adapted to the use of schools and academies' Babcock 1829 (24); Ticknor 1849 (433)

'Adapted to the use of schools, throughout the Western country' Stockton 1826 (418)

'Adapted to the understanding and use of small children, in families, and schools' Cobb 1832 (66)

'Adapted to the use of the schools of the United States' Bonnycastle 1815 (47)

'Adopted by the high and public schools of the city of New-York' Underhill 1828 (441)

'For academies and schools' Davies 1842, 1843 (110–111)

'For advanced classes in schools and academies' Thomson, J.B. 1849 (430)

'For advanced scholars' Emerson 1835, 1837 (173–174)

'For beginners' Davies 1848 (127); Greenleaf 1849 (212); Thomson 1852 (429)

'For common and high schools' Adams 1846 (15)

For 'common schools' Chase 1848 (60); Greenleaf 1845 (221); White, J.J. 1812, 1815 (468–469)

'For common schools and academies' Ray 352 [1848]

'For infant and primary schools' Holbrook 1829, 1835 (238–239)

'For schools, academies, seminaries for young ladies, lyceums, and for private reading' Wilbur 1830 (A27)

'For schools and academies' Chase 1844 (61); Greenleaf 1835, 1838 (213–214); Thomson, J.B. 1848 (431)

'For the convenience of schools' Fraser 1791 (201)

'For the use of academies and common schools' Bailey 1837–1845 (25–27); Davies 1834 (114); Preston 1837 (349)

'For the use of academies and schools' Davies 1839 (115); Newell 1822 (296)

'For the use of academies, as well as private tuition' Hutton 1812–1831 (241–243)

'For the use of common schools' Perkins 1850 (314); Root 1796–1811 (361–364)

'For the use of families, schools, and lyceums' Holbrook 1833 (240)

'For the use of Mrs Okill's female boarding school' Okill 1828 (299)

'For the use of schools' Ainsworth 1830 (16); Arithmetical 1821 (23); Benner 1833 (30); Blair 1821 (A2); Comstock 1837 (A4); Fowler 1839 (198); Gough 1803 (208); Grout 1809 (220); Hilton 1807 (237); Jaudon 1809, 1826 (248–249); Kinne 1807–1836 (258–261); Leavitt 1813 (268); Lewis 1831, 1840 (275–276); Merrill 1795–1819 (291–293); Minifie 1849 (294); Peirce, C. 1811 (313); Pike, N. 1793–1809 (321–325); Post 1842 (341); Ropes 1849 (341); Slocomb 1832 (384); Sterry 1795 (416); Temple 1808 (422); Thompson, Z. 1826, 1835 (425–426); Tillinghast 1841 (434); Vyse 1806 (445); Walker 1829 (447–448); Welch 1812–1821 (459–461); Willard 1833 (471); Willetts 1822 (472)

'For the use of schools and academies' Adams 1835–[1850] (1–6); McIntire 1823 (A15); Robinson 1825 (360); Staniford 1818, 1820 (412–413); Welch 1833–1847 (462–465)

'For the use of schools and places of public education' Bonnycastle 1806–1822 (36–38)

'For the younger classes in academies, and for common schools' Olmsted 1844 (A20)

'For young learners' Emerson [1838] (168); Ray [1857] (353)

'Suited to the faculties and comprehension of senior school boys, designed for the mercantile line' Turner 1804 (440)

TABLE V. TEXTBOOKS DESIGNATED FOR USE IN BOTH SECONDARY SCHOOLS & COLLEGES

'Adapted to the instruction of youth in schools and colleges' Ryan 1824 (372)

'Adapted to the use of schools and colleges' Hackley 1849 (228)

'Designed as a text book for collegiate and academic instruction' Scholfield 1845 (373)

'Designed chiefly for the junior students in the universities, and the higher classes in schools' Kett 1812 (257)

'For the use of colleges and schools' Fischer 1827 (A11)

'For the use of high schools, academies, and colleges' Perkins 1844 (315)

'For the use of high schools and colleges' Peirce 1836 (312)

'For the use of mathematical students in schools and universities' Young 1833–1839 (477, 479–480)

'For the use of students in high schools and colleges' Sherwin 1847 (375)

'For use as a text-book in colleges and academies' Norton 1839 (A18)

TABLE VI. TEXTBOOKS DESIGNATED FOR USE IN COLLEGES

'Adapted to the course of mathematical instruction [in colleges]' Bourdon 1836, 1839 (49–50); Legendre 1853 (271)

'Adapted to the method of instruction in the American colleges' Day 1811–1844 (134–138, 140–147); Dutton 1824 (164)

Adapted 'to the use of American [college] students' Lacroix 1825, 1834 (262–263)

'For the convenience of the junior students of William & Mary College, Virginia' Rogers 1822 (A24)

'For the under-graduate course in the Wesleyan University' Smith 1849 (387)

'For the use of students in the university' Vince 1811, 1812 (444, A26)

'For the use of the cadets of the U.S. Military Academy' Bourdon 1831 (48); Mahan 1837 (A16)

'For the use of the cadets of the Virginia Military Institute, at Lexington, Va.' Biot 1846 (34)

For the use of the students in the College of New Jersey Princeton 1844 (351)

'For the use of the students in Yale College' Olmsted 1832 (A19)

'For the use of the students of the University at Cambridge, New England' Bézout 1836 (33); Farrar 1822–1834 (177–179); Lacroix 1818–1831 (264–267); Legendre 1819, 1833 (269–270); Webber 1812 (457)

'For the use of the young gentlemen who may be preparing to enter the Military Academy at West Point' Davies 1834 (114)

TABLE VII. TEXTBOOKS DESIGNATED FOR TEACHERS

'Designed to abridge the labour of teachers, and to facilitate the instruction of youth' Pike, S. 1813–1837 (327–331)

'Designed to facilitate the labour of teachers, and to assist those who do not have the opportunity of their instruction' Gummere 1837 (226); Rose 1835 (368); Todd 1809, 1817 (438–439)

'For the ease of schoolmasters' Vyse 1806 (446)

'For the ease of the master and the greater progress of the scholar' Adams 1802–1824 (8–14)

'For the use of schools, and the private teacher' White 1818 (466)

'For the use of teachers' Adams 1848 (7); Davies 1845, 1849 (112–113); Emerson 1841, [1844] (171–172); Farrar 1827 (A9); Grund 1833 (222); Smith 1836 (405); Willetts 1841 (474)

'To be used in schools by all teachers' Dilworth 149 (1781)

TABLE VIII. TEXTBOOKS DESIGNATED FOR TRADESMEN

'Adapted to the use of academies and counting rooms' Beck 1831 (28)
'For the use of merchants, clerks, and schools' Marsh 1844 (284)
'For the use of schools, academies, and clerks' Bennett 1835 (31)
'For the use of schools and counting-houses' Maginess 1821 (282); Smiley 1830, 1835 (385–386)
'For the use of schools and men of business' Parke 1845 (303)
'Suited to the faculties and comprehension of senior school boys, designed for the mercantile line' Turner 1804 (440)

TABLE IX. TEXTBOOKS DESIGNATED FOR PRIVATE INSTRUCTION

'Adapted to the use of schools and to private study' Hassler 1826 (230)
'Adapted wholly to private instruction' Blake 1815 (35)
'Designed to facilitate the labour of teachers, and to assist those who do not have the opportunity of their instruction' Gummere 1837 (226); Rose 1835 (368); Todd 1809, 1817 (438–439)
'For the use of academies, as well as private tuition' Hutton 1812–1831 (241–243)
'For the use of private students' Sterry 1790 (415)
'For the use of schools, academies, and private learners' Ostrander 1833, 1834 (301, A21)
'For the use of schools and private persons' Noyes 1797, 1808 (297–298); Talbott 1836 (421)

schools and universities, *etc.* A few titles mention a particular school or college for which the textbook had been prepared, as for example the Virginia and U.S. Military academies, Harvard, Wesleyan, William & Mary, and Yale colleges. Another convention was to emphasise that the textbook had been tailored especially for use in American schools.

To further promote sales, authors recommended their texts additionally to those who did not have 'the opportunity of instruction': private learners, clerks, and men of business, often specifying an occupation or trade, such as farmer, timber merchant, or surveyor. Some books of mathematical tables were intended both to facilitate commercial transactions and to serve as classroom calculators and this joint utility is specified on the title-page.

TEXTBOOK BINDINGS

The books in the present Collection, with few exceptions, retain their original bindings, and are wholly unrestored.

Textbooks published in the period before about 1820 commonly were offered in three styles of binding. The basic binding, a shingle of wood, backed with leather (usually sheep), and finished with blue or grey paper on covers, was called a scaleboard binding, and was popular particularly in New England. When the same textbook was offered, sewn, in paper boards covered by marbled paper, it was priced about ten or fifteen per-cent more than in a scaleboard binding. The most expensive binding was full leather, which could be drawn over either wooden or paper boards. A leather binding normally cost twenty or twenty-five per-cent more than a scaleboard binding.[11]

In this Collection, seventeen books are in scaleboard bindings with blue or grey paper sides.[12] Two of these bindings are on Eighteenth-century imprints (published 1789 and 1797); the latest book

11 Cf. A. d'Alte Welch, *A Bibliography of American Children's Books printed prior to 1821* (Worcester 1972), no.460, priced: 'In scaleboard binding with blue paper covers' 55 cents, 'In marbled paper covers sewed and filletted' 62 cents, 'In full binding, leather covers' 75 cents.
12 Books in scaleboard bindings are item nos.220, 236, 247, 259, 268, 281, 293, 298, 313, 362, 363, 364, 422, 423, 425, 459, 461.
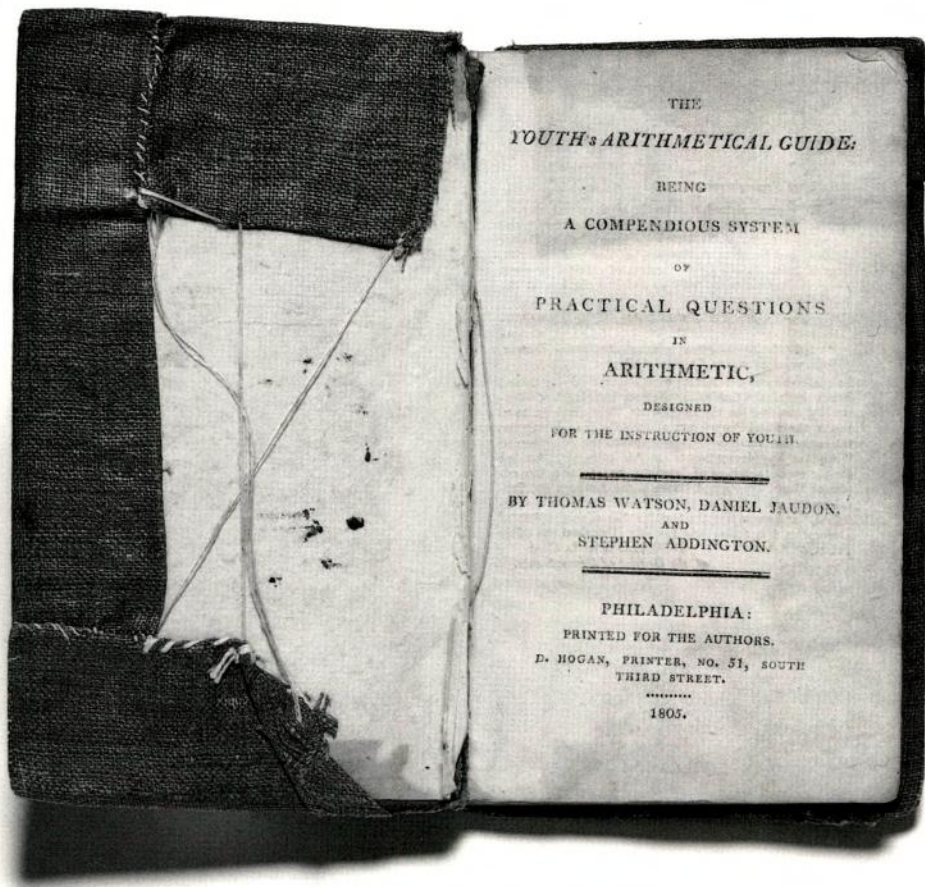
456. Thomas Watson, *The Youth's arithmetical guide* (Philadelphia 1805)

in a scaleboard binding was published in 1826. Another three books (published 1805, 1814, 1826) are finished with marbled or paste-paper, instead of the customary plain blue or grey paper over the wooden boards; and one book (published 1802) has cloth drawn over its wooden sides.[13]

Forty-five books in the Collection are bound between paper boards finished with marbled paper, a more expensive binding.[14] Two of these books are Eighteenth-century imprints (both published 1795). The earliest books in this style of binding have plain backs; later examples feature red or black leather lettering-pieces.

There are 259 books in the Collection bound in full-leather, the most expensive binding. Seven of these bindings are leather drawn over wooden

13 Books in wooden boards covered by marbled paper are item nos. 326, 424, 460. The book with cloth over the wooden covers is item no. 292.

14 Books in paper boards covered by marbled paper are item nos. 9, 10, 14, 28, 29, 31, 52, 59, 62, 64, 76, 77, 79, 80, 93, 94, 103, 203, 210, 270, 272, 284, 296, 332, 339, 340, 342, 343, 344, 346, 349, 360, 384, 412, 413, 416, 424, 426, 440, 467, 468, 470, 481, A24, A27.
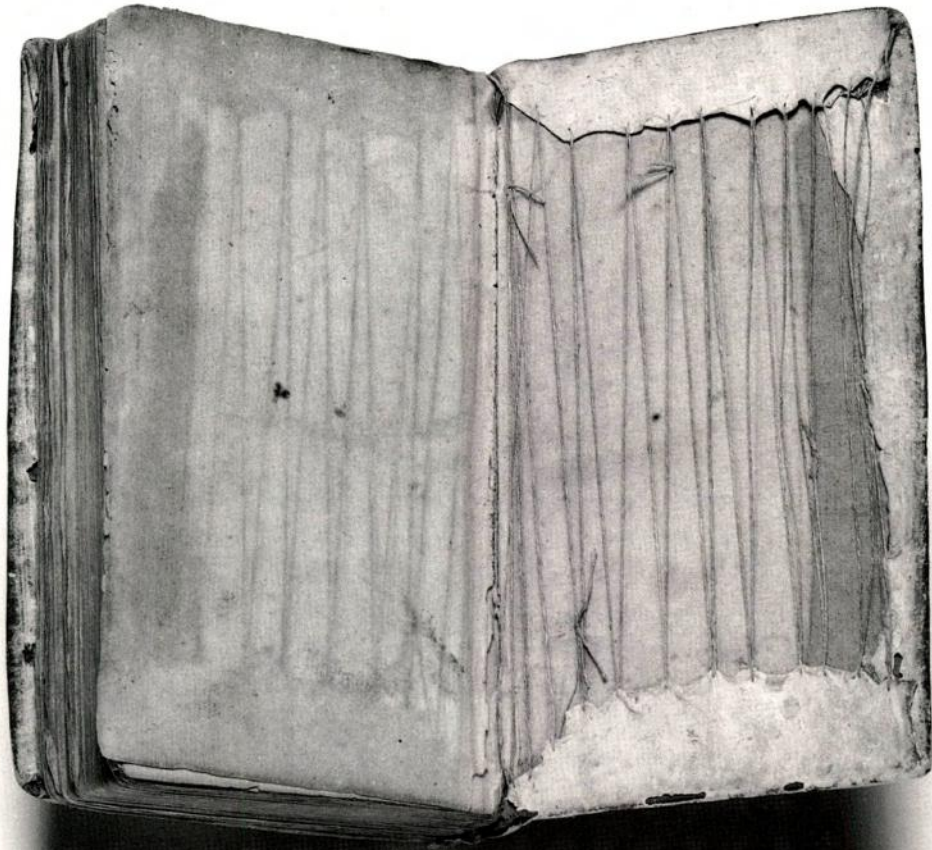
190. George Fisher, *The Instructor: or, American young man's best companion* (Walpole, New Hampshire 1794)

boards, all Eighteenth-century imprints, except for one book published in 1808.[15] The other 252 books are bound in leather drawn over paper boards.

Certain types of books customarily received a leather binding. John Nietz observed that 'nearly all algebra textbooks published before 1850 were bound in leather'. 'This was true', he reasoned, 'because they were used in the schools attended mostly only [*sic*] by students coming from the wealthier homes. Ray's Algebra were among the first to appear both in leather [and] in cloth binding. One reason may have been that they were published in the mid-West, where not so many students came from wealthy homes'.[16] In our Collection, just four algebra textbooks are bound in paper boards, while forty-seven are in full-leather bindings.[17] Our copy

15 Books in full leather over wooden covers are item nos.100, 150, 181, 183, 190, 291, 297.

16 J.A. Nietz, *The Evolution of American secondary school textbooks* (Rutland, Vermont 1966), p.57.

17 Algebra textbooks bound in paper boards are item nos.18, 48, 85, 267. Those bound in leather are item nos.25–27, 36–39, 49–50, 56, 62, 86–89, 122–126, 133–138, 175–176, 228, 266, 275–276, 279, 306–307, 314, 316, 352, 359, 372, 375, 378, 408–410, 427–428.

of Ray's *Algebra, part first* (Cincinnati [1848]) is bound in full-leather.

In general, the binding of books intended for elementary school children were limp paper or quarter-leather bindings having paper boards finished with paper.

About 1820, a type of publishers' binding became popular, featuring on the upper cover the text of the title-page, and on the lower cover recommendations, testimonials, or publishers' advertisements. Eighty-nine books in this Collection are in such bindings.[18] Occasionally, these bindings contribute additional bibliographical evidence: the imprint on title-page and cover are not identical, or a different publisher is named, or the issue date is changed, or sometimes the cover is dated when the title-page is not.[19]

Clifton Johnson knew no textbook in printed covers earlier than 1818.[20] Three books in our Collection are in bindings of that date, or earlier: John J. White's *Collection of the most useful arithmetical rules and tables* of 1815 (item 469); Jeremiah Day's *A Practical application of the principles of geometry*, which is dated 1811 on the title-page, but 1816 on front cover (item 142 – see reproduction page 67); and John J. White's *Practical system of mental arithmetic* of 1818 (item 466).

A few books in our Collection still retain a paper wrapper made to protect the binding from wear (*e.g.* item nos.264 and 266). Pupils sometimes fashioned new coverings from linen or leather (*e.g.* item no.456, illustrated page 28), strengthened or rebacked their textbooks (*e.g.* item no.297).[21] Occasionally, the fore-edge of the entire book would be pared with a knife to remove frayed, dog-eared corners (*e.g.* item no.275).

18 Books in printed wrappers or covers are item nos.1–7, 15, 18, 22, 23, 54, 61, 66, 78, 81–84, 96, 97, 108, 110–115, 127, 142, 143, 147, 166, 168–170, 211, 212, 234, 235, 237–240, 255, 261, 274, 285, 286, 289, 301, 303, 341, 353–355, 357, 365, 389, 390–392, 394, 397–405, 425, 429, 431, 432, 441, 443, 462–466, 469, 471, 474, 475, A3, A21.

19 Examples of books with different publishers named on the title-page and binding cover are item nos.82, 400, 429, 431, 464. Examples of books with different dates printed on title-pages and covers are item nos.127, 261, 401, 463–465, 474, A21. Item 6 has a dated cover and undated title-page.

20 Clifton Johnson, *Old-time schools and schoolbooks* (New York & London 1904), p.165.

21 C. Johnson, *Old-time schools and schoolbooks*, p.164, reproduces a protective cover in leather stitched with tow; a similar example in this Collection is item no.190, illustrated page 29.

TABLE X. OWNERSHIP ENTRIES BY GIRLS (PLACES AND DATES GIVEN OCCUR IN THE INSCRIPTION)

Harriet G. Atwell (192)
Cynthia Bailey, 1829 (397)
Mary Ann E. Bowman (253)
Mehetabel Cynthia Chesebrough, Albany County, 1830 (105)
Harriet Cornish, Bangor, Maine, 1822 (13)
Mary A.P. Dorrance, 1846 (128)
Elizabeth & Catherine Edwards, 1818 (150)
Sophia Emery, 1839 (214)
Sarah A. English (3)
Martha Esterbrook, Ipswich, Massachusetts, 1834 (78)
Hannah R. French (3)
Elizabeth Gardiner, [Philadelphia] 1811 (435)
Mary J. & Sarah A. Hardy, Boxford, Massachusetts (213)
Lavinia Harper (355)
Magdalenae R. Harsen, 1830 (249)
Anna H. Hill, Lowell, Massachusetts (83)
Lydia Holmes (168)
Jane Horn, Dover, New Hampshire, 1838 (25)
Sarah Adaline Howd, Durham, 1832 (A17)
Ellen Lake, Portsmouth, New Hampshire (73)
Mary E. McManus, Holyoke, Massachusetts (48)
Miss S. Le Maire (299)
Mary Jane Morrill, Livermore, Maine (8)
Elizabeth Moulton, Kensington, 1831 (72)
Nancy Norris (291)
Polly Pilson, 1817 (160)
Mrs. A.M. Pratt, Nebraska (95)
Nancy Pray, Lebanon, Maine (400)
Laura Rodgers (101)
Sabrina Sedgwick 1813 (468)
Agnes Selin, Thompsontown, Illinois (66)
Mary E. Spofford, 1842 (80)
Helen Stockton 1822 (23)
Margaret Ten Eyck (201)
Susan B. Thayer, 1833 (11)
Esther Tuttle 1814 (325)
Sarah R. Warren, Providence, Rhode Island (16)
Ella M. Wiggin (125)
Isabell Wingate, Shotham, New Hampshire (82)
Hannah Woodman (292)

As a rule, textbooks have been inscribed, drawn-on, or otherwise marked, more consistently than most books, by readers who are not usually purchasers. Few owners failed to write at least their names on the endleaves; many pupils added incantations against borrowers and thieves of books, sentimental verses of affection to other students, comments upon their classmates and teachers, drawings of soldiers, rubbings of coins and medals, pen trials and scrolls.

In this Collection, forty books have ownership inscriptions by girls, and are of particular interest.

When mathematics became inserted in the elementary curriculum, it was taught to boys and girls alike. Girls memorised the same rules that boys did, solved the same problems, and kept ciphering books. Middlekauff located numerous girls' ciphering books that showed a progression identical to boys' books through the first four rules of arithmetic but no further, and drew the conclusion that girls never progressed to study geometry or algebra.[22] Cohen examined six copybooks by colonial girls in the Harvard collection and found that none goes beyond problems in simple interest.[23]

The textbooks in this Collection owned by girls (Table X) uphold the suppositions of Middlekauff and Cline. On the slender evidence provided by these forty schoolbooks, it seems that the moment of transition, when the stereotype of the non-mathematical feminine mind eroded sufficiently for algebra and geometry to be taught to girls, occurred about 1840: Jane M. Horn of Dover, New Hampshire, studied in 1838 a copy of Ebenezer Bailey's *First lessons in algebra* (Boston 1837); about that date Mary E. McManus, of Holyoke, Massachusetts, was studying a copy of Bourdon's *Elements of Algebra* (New York 1831); and later Ella Wiggin owned a copy of Davies' *Elementary algebra* (New York 1848). Mary A.P. Dorrance studied, in 1846, Davies' *Practical geometry* (Philadelphia 1842).

22 Robert Middlekauff, *Ancients and axioms. Secondary education in Eighteenth-century New England* (New Haven & London 1963), pp.104–105.
23 Patricia Cline Cohen, *A Calculating people. The Spread of numeracy in early America* (Chicago & London 1982), pp.139–148, 251. A ciphering book executed by Miss Catherine G. Willard while she was attending the ladies academy, Boston, in 1809, is discussed by W.S. Monroe, *Development of arithmetic as a school subject*, p.42.

TABLE XI. OWNERSHIP ENTRIES BY BOYS (PLACES AND DATES GIVEN OCCUR IN THE INSCRIPTION)

Thomas Adams, 1837 (426)
William L. Adams (108)
Richard Allen, 1846 (248)
Samuel, Alfred & Elisha Allyn, Groton School, 1821 (100)
Theodore Arrosmith, Menoham, Morris County, New Jersey, 1832 (224)
George B. Atwell (192)
Abner Austin, Wallingford, 1824 (102)
Frank Barger (330)
J. Barnes, Jr. (199)
Joseph Barrett, York (277)
Thomas L. Batchelder (449)
James B. Batcheller (9)
Charles H. Bell (268)
John Benge, 1843 (304)
P. Bigelow, Wesleyan University, Middletown, Connecticut (147)
Thomas Bishop, 1843 (20)
William P. Bliss, Schaghticoke, New York (347)
B. Bradley (148)
William J. Bradner, New Burghe, Goshen College, 1833 (197)
D.S. Brainerd (A9)
Jacob Bremmeman (418)
James Brine (172)
S.M. Brinsmady, 1836 (135)
F.L. Bristol, 1834 (227)
Ebenezer Brown, 1813 (362)
William A. Brown, 1824 (205)
Lewis Brush, SmithTown, Long Island, 1805 (155)
George Bullock, Birmingham Township, Delaware, 1839 (43)
Tristam Burges, Jr., Providence (A18)
John L. Burnham (463)
David Burroughs 1792 (150)
S. Caldwell (51)
L.L. Camp (427)
Wm. A. Chafrin, Jr., Greensboro (A22)
Geo. Chamberlain (243)
Stephen Chase, editor's presentation inscription (97)
Jesse Cheyney, 1852 (276)

TABLE XI. OWNERSHIP ENTRIES BY BOYS (CONTINUED)

Chauncey Clark, East Hampton, Connecticut (205)

L.G. Clarke, Harvard College, 1850 (312)

Parker Cleaveland (165)

John Cogswell (262)

Charles Colgate, 1836 (31)

Osborn Conrad, 1828 (42)

Owen Cornish, Bangor, Maine, 1822–1825 (13)

James Cox (204)

Alpheus Crosby, author's presentation inscription (96)

Calvin Daggett, 1822 (A2)

Edmund Day, West Springfield, 1844 (2)

Alfred O., John & Maurice Deshong (40)

John Devereux, 1811 (246)

John Dixon, 1838 (49)

C.J. Dow (370)

William L. Eaton, Hartford, Connecticut (429)

Jabez Edwards, Lowell, Massachusetts, 1848 (219)

Enoch Egbert (327)

[?] Elwell, 1832 (200)

G. Alex. Emery (191)

Stephen Emery (375)

John W. Erwin, Hamilton, Ohio (334)

B.K. Estabrook (6)

Moses Everett, Brunswick, 1838 (409)

A.D. Foster, 1817 (A12)

Mardeca Frederick (367)

Robert Friekey, 1836–1837 (173)

John Funck, 1841 (331)

William George, 1859 (458)

A. & Charles J. Gilman, Exeter, New Hampshire (217)

Gardiner Gilman, 1829 (460)

John G. Gilman, Exeter Academy, New Hampshire, 1836 (270)

William Henry Gilman, Exeter Academy, New Hampshire, 1842 (87, 117, 136, 335)

F.W. Goodale (81)

John Grant, Salem, Massachusetts, 1847 (390)

J.B. Griswold (36)

Edward C. Guild, 1849 (234)

Edgar Haas (33, 34, 121, 333, 371, 383, 478)

S. Harding (99)

Nathaniel Harris (349)

Pliny Harris, Winthrop, 1816 (195)

Chas. B. Harrison, 1840 (374)

Jonathan Hartz, 1817 (327)

Nehemiah Haskell, 1840 (262)

James W. Heard (120)

E[dward] C[laudius] Herrick, New Haven 1838 (475)

Alfred Hicks (462)

Alexander Hill, Paris, Maine, 1836 (408)

S.G. Hilliard (215)

N. Holmes, New York 1822 (378)

T[heophilus Hunter] Holmes, 1821 (242)

Nathaniel Horn (337)

Jonas Houghton (189)

N.S. Howe, Haverhill, Massachusetts, 1833 (146)

Richard Hubbard (A6)

H. Huntington (54)

J.N. Husted, 1844 (A18)

Stanley F. Jablonski (334)

John Janvier, 1825 (41)

William H. Jersey, 1845 (110)

Professor J. Johnson (287)

William N. Johnson, 1823 (269)

Louis F. Kampmann (366)

B.H. Kimball (340)

Charles Kimball, Kensington, 1837 (141)

T.G. Kimball (57)

Albert King, 1824 (236)

Levi Kirk, 1831 (167)

Eli Knauers, 1832 (329)

Frances R. & Eliphalet Ladd, 1830–1835 (70)

James A. Langley, Boston (221)

Samuel Sterne Latch (44)

S.B. Little (1, A20)

George W. Locke (434)

Alexander Longfellow, Portland, 1824 (A15)

A. Wadsworth Longfellow, Boston, 1837 (233, 480)

Elias Loomis (50, 118, 316)

Francis E. Loomis, New Haven, Connecticut, 1864 (145)

P. Lord (412)

Charles E. Lowe, Exeter, New Hampshire, 1845 (211)

Lunford L. Ludwig (226)

Samuel Lyon (324)

N. Mansfield, Salem, Massachusetts (61)

Henry Mauzey, McGaheyville, Rockingham County, Virginia (381)

Lucius Maynard (104)

George Merrick (264, 266)

Anderson Fielding Moffett Jun., 1816 (156)

TABLE XI. OWNERSHIP ENTRIES BY BOYS (CONTINUED)

Henry H. Moffett, Shenandoah County, Virginia, 1814 (156)

James & John Moore (188)

Lyman Moorehouse (62)

Jeremiah Morgan, Jr., 1839 (190)

G.W. Morris, Staunton, Virginia (330)

James Pemberton Morris, 1812 (A13)

Claude A. Nichols, New York (79)

Dudley & Josiah Norris, Epping, 1798–1800 (291)

W. Osgood, Cambridge, 1847 (307)

Wm. R. Pattangall (410)

Abraham L. Pennock, 1799 (204)

Joel Perham, Jr. (237)

George Roberts Perkins, author's presentation inscription (316)

W.P. Pickett, 1878–1885 (A26)

Matthew Pilson, 1817 (160)

Wm. James Potter (311)

Charles Proctor, New York, 1840 (262)

George S. Rawson (365)

Davis Reece (444)

George Remsbergh, 1813 (445, 446)

Jos. Roberts, Jr. (478)

Ichabod Rollins, Gilmanton, 1804 (323)

O. Root, Hamilton College, Oneida County, New York (272, 288)

Alfred L. Ross, Lebanon, Ohio, 1836 (368)

T. Ross (438)

E.H. & Albert W. Seaman (377)

E.B. Seeley (369)

Nathan H. Seward, Prospect Hill, 1844 (389)

Tob. Shearman, 1810 (10)

Michael Shoudt, 1827 (19)

E. Sibley, presented to him by the author (18)

Professor A.W. Smith (286)

Robert A. Smith (26)

William Smith, 1835 (384)

William H. Smith (419)

Rubin Spalding, 1841 (403)

Joseph Stackhouse, 1828 (162)

William F. Stanly, Sanford, Maine (4)

Calvin Stowe, Natick, Massachusetts, 1816 (11)

Jacob Strickler, Newmarket, Shenandoah County, Virgina, 1817 (251)

Peter Strode, 1834 (275)

Thomas L. Steward, San Francisco, Alta California, 1849 (290)

A.D. Strong, Brown University, 1854 (244)

Gerard B. Stuart (232)

James H. Swell, Charlestown, Massachusetts (360)

Samuel T. Taber, 1860 (305)

William Talbot (20)

Jacob Ten Eyck, 1791 (201)

Francis J. Thatcher, Norwich, Connecticut, 1828 (103)

Luther Thinsley, 1797 (361)

A. & Nicolas Tillinghast (241)

W. Tracy (439)

W.C. Underhill, Auburn, New Hampshire (97)

John A. Vanderlip, 1838 (49)

John M.Veasey, Exeter, 1840 (88)

Charles C. Wakely (406)

P. Walker (98)

Lewis Warriner, 1832 (200)

'Daniel Weigner's Assistant', 1815 (436)

G.A. Wentworth (308)

Hiram Wheeler, New York, 1812 (295)

C.P. White (332)

Geo. W. Whitehouse, Franklin Academy, Dover, New Hampshire, 1836 (326)

Wm. Whitney, Schenectady, 1834 (289)

John Whittens, Bloomfield, Maine, 1813 (258)

Amos Williams, Chambersburg, 1817 (379)

B.B. Wisner (36)

Edward Wolcott, 1807 (193)

William W. Wood, Huntington Academy, 1832 (267)

John & Sylvester Woodbridge (151)

Cyrus Woodman, 1877 (263)

Wm. G. Woodworth (315)

William H. Yeomans, New Haven (119)

Ira Young, 1828 (A7)

Jacob Zigler, 1829 (328)

TABLE XII. INSTITUTIONAL OWNERSHIP (USUALLY STAMPED DUPLICATE, DISCARDED OR WITHDRAWN)

Brunswick Public Library (409)
Delaware Historical Society, Dean bequest (257)
Franklin and Marshall College (479)
Hallowell Social Library, Hallowell, Maine (264, 266)
Harvard College Library (447)
Harvard College Observatory, Phillips Library (234)
Mercantile Library, New York (299)
Middlebury College (380)
New Hampshire Historical Society (15, 60)
Phillips Academy, Andover, Massachusetts, Goodale bequest (81)

Phillips Exeter Academy, Exeter, New Hampshire (132)
Phillips Exeter Academy, Gilman bequest (87, 117, 132, 136, 217, 270, 335, 460)
Phillips Exeter Academy, Wood bequest (267)
Rhode Island State College Library (218)
United States Military Academy, West Point (241, 242)
Wesleyan University (229, 265, A11, A18, A23)
Westbrook Seminary (411)
Yale Observatory, Loomis bequest (50, 65, 67, 96, 118, 138, 314, 387, 431)

TABLE XIII. BOOKSELLERS' LABELS OR MEMORANDA

Blum & Son, Salem, North Carolina (256)
John Cain, Bookbinder, Indianapolis (334)
Fred S. Collins, Boston (169)
Thomas Collins, New York (295)
W.P. Gray, Fredericksburg, Virginia (75)
J. Hutchens, 1 Market Street [Providence, Rhode Island?] (320, 480)

W.A. Leary, Philadelphia (42, 477)
Little & Cummings, Albany (90)
Lockwood's School Depository, New York (389)
N. March, Portsmouth (214)
Raynor's Bookstore, 76 Bowery, New York (305)
J. Ritter & Co., Reading, Pennsylvania (367)
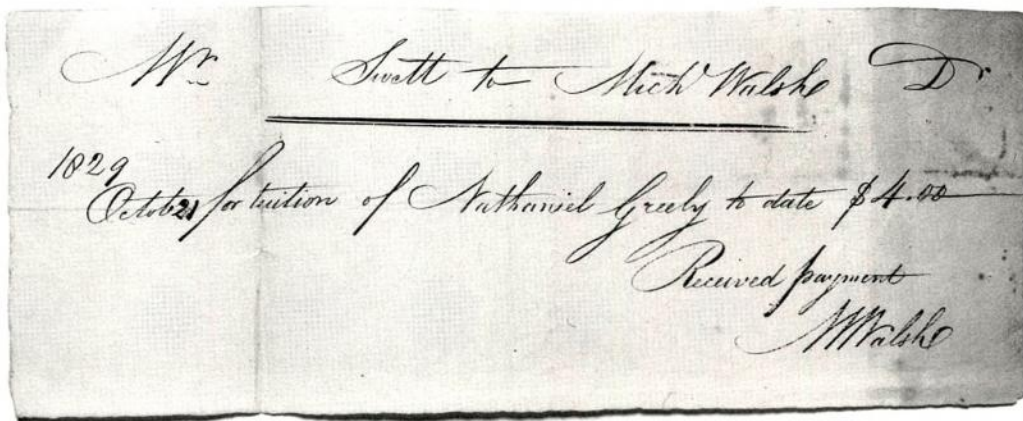
454 (insert). Receipt for tuition provided by Michael Walsh (see item nos.449–455) to Nathaniel Greely, 1829

ABBREVIATED REFERENCES

AB

Ralph R. Shaw & Richard H. Shoemaker, *American Bibliography. A preliminary checklist for 1801* [–1819], New York: Scarecrow Press, 1958–1966; *Printers, publishers and booksellers index*, compiled by Frances P. Newton, Metuchen & London: Scarecrow Press 1983

Alden

John Alden, *Rhode Island Imprints 1727–1800*, New York: Bibliographical Society of America, 1949

BAI

Bibliography of American imprints to 1901. Compiled from the databases of the American Antiquarian Society and The Research Libraries Group, Inc., New York: K.G. Saur, 1993, in 92 volumes (1–42 Main part; 43–56 Author index; 57–71 Subjects; 72–82 Places; 83–92 Dates)

Batschelet

Margaret W. Batschelet, *Early American scientific and technical literature: an annotated bibliography*, Metuchen & London: Scarecrow Press, 1990

Bristol

Roger P. Bristol, *Supplement to Charles Evans' American Bibliography*, Charlottesville: Bibliographical Society of America, 1970

Cajori

Florian Cajori, *The Teaching and history of mathematics in the United States*, Bureau of Education, Circular, no.3, Washington, DC: Government Printing Office, 1890

Checklist

Richard H. Shoemaker & Gayle Cooper, *A Checklist of American imprints for 1820* [–1829], New York & London: Scarecrow Press, 1964–1973; Gayle Cooper, Scott Bruntjen, & Carol Rinderknecht, *A Checklist of American imprints for 1830* [–1839], Metuchen & London: Scarecrow Press, 1972–1989; Carol Rinderknecht, *A Checklist of American imprints for 1840* [–1844], Metuchen & London: Scarecrow Press, 1990–1993

DAB

Dictionary of American Biography, edited by Allen Johnson, London & New York: Oxford University Press & Charles Scribner's Sons, 1928–1937

ERL

Early American Textbooks 1775–1900. A Catalog of titles held by the Educational Research Library, compiled by Dolly Svobodny, Washington, DC: U.S. Department of Education, 1985

Greenwood & Martin

James M. Greenwood & Artemas Martin, 'Notes on the history of American text-books on arithmetic', in *Report of the Commissioner of Education for 1897–1898*, Washington, DC: Government Printing Office, 1899, pp.789–868

Karpinski

Louis C. Karpinski, *Bibliography of mathematical works printed in America through 1850*, Ann Arbor & London: The University of Michigan Press, 1940

Karpinski, First Supplement

Louis C. Karpinski, 'Supplement to the *Bibliography of mathematical works printed in America through 1850*', in *Scripta Mathematica* 8 (1941–1942), pp.233–236

Karpinski, Second Supplement

Louis C. Karpinski, 'Second supplement to the *Bibliography of mathematical works printed in America through 1850*', in *Scripta Mathematica* 11 (1945), pp.173–177

Karpinski, Third Supplement

Louis C. Karpinski, 'Third supplement to the *Bibliography of mathematical works printed in America through 1850*', in *Scripta Mathematica* 20 (1954), pp.197–202

Nichols

Charles L. Nichols, *Bibliography of Worcester… from 1775 to 1848*, Worcester: Privately printed, 1899

Simons

Lao Genevra Simons, *Bibliography of early American textbooks on algebra published in the Colonies and United States through 1850, together with a characterization of the first edition of each work*, Scripta Mathematica Studies I, New York: Yeshiva College, 1936

SM

Clifford K. Shipton & James E. Mooney, *National index of American imprints through 1800. The Short-title Evans*, [Worcester:] American Antiquarian Society, 1969

Trumbull

James Hammond Trumbull, *List of books printed in Connecticut 1709–1800*, Hartford: Acorn Club, 1904

CATALOGUE

Ms1

WILSON David *fl.*1786–1789

His manuscript ciphering book, the lessons progressively dated 1786, 1787, 1788, and 1789, inscribed in several places 'David Wilson' and once (folio 5 recto) 'David Wilson of Newbo…' (rest deleted, *i.e.* Newborough, New York?)

310 × 195mm. (26)ff., apparently of 30ff. (stubs of four excised folios survive, however no loss of text is evident), not paginated

Paper stocks: (1) T. French, an English maker; (2) D. Bemis & Co., a mill on the Charles River, at Newtonville, Massachusetts, working 1760–1790 (watermark reproduced by Thomas Gravell & George Miller, *A Catalogue of American Watermarks 1690–1835*, New York & London 1979, no.102)

In a contemporary reversed leather binding.

¶ This pupil began in 1787 with calculations of 'Interest', 'Discount' and 'Single Fellowship'. In 1787, he proceeded to 'Fellowship' (folio 6), 'Compound Fellowship', 'The Double Rule of three', 'Position', 'Double Position', 'Addition & Subtraction of Decimels [*sic*]', 'Multiplication of Decimals', 'Division of Decimals', and 'Reduction of Decimals'. By 1788 he was studying 'The Single Rule of Three Direct in Decimals' (folio 18) and in 1789 'Addition of vulgar Fractions' (folio 20) and 'Subtraction of vulgar Fractions'.

The same sequence of lessons occurs in parts I and II of Thomas Dilworth's *The schoolmaster's assistant*, the most popular of the early arithmetics published in America (first American edition Philadelphia 1773). The third part of Dilworth advances to 'Decimal Fractions'.

See illustration page 6

Ms2

WADSWORTH John 1780–1861

His manuscript ciphering book, the first leaf inscribed (in two hands) 'John Wadsworth / Was born in the year of our lord / 1780 on the 23rd of Nov.r / in the 4th year of American Independence / January 1st 1795 began this book' and at end (page 166) 'March 1795 then left of this book John Wadsworth'

519 × 160mm. (90)ff., paginated by the pupil (2) 1–170 (2, blanks) (6, 'Index' and three further sections not indexed)

Paper stock: unidentified Britannia watermark, not certainly an American paper

Bound in contemporary leather-backed marbled paper boards (covers detached).

¶ This pupil, John Wadsworth, was the son of Peleg Wadsworth, of Portland, Maine, a general during the Revolutionary War, and representative in Congress 1793–1807. According to the ownership inscription, the book was begun January 1, 1795, and put aside March 1795; the following year, John Wadsworth matriculated in Harvard College.

His studies began with the 'Rule of Three Direct', proceeded to 'Decimal Fractions', with sub-headings 'Addition & Subtraction of Decimals', 'Multiplication of Decimals', 'Division of Decimals', 'Reduction of Decimals', 'Rule of three in Decimals', then 'Simple Interest', 'Single Fellowship', 'Double Fellowship', 'Square Root', 'Algebra', 'Involution', 'Evolution', 'Equations' 'Simple Interest… exprest algebraically', 'Practical Geometry', 'Mensuration of Superficies', Lograthims [*sic*], 'Plane Trigonometry', 'Of Weights and Distances', 'Surveying of Land', and concluded with 'To enlarge or diminish Maps'. Further sections on 'Algebra', 'Of the Quantities + and − in Algebra', and 'Computation of Logarithms', written on the last six folios, may be later additions, since they are not included in the pupil's 'Index'.

No single source treating this range of subjects has been identified and Wadsworth's teacher probably used several; at one point, during an exercise in 'division of decimals' (p.15), the pupil wrote in his ciphering book 'Rule in Pike more simple'.

See illustration opposite

Ms3

STARLING S.A. *fl.*1828

Her manuscript ciphering book, the first page with command of hand inscription (probably supplied by a teacher) 'Miss / S.A. Starling / Miss Huston's / Academy / 1828'

198 × 158mm. (80)ff., not paginated

Paper stock: wove paper watermarked *T G 1824*

Contemporary marbled paper boards, backed with red roan.

¶ Miss Starling's instruction commenced with 'Numeration', 'Addition', 'Subtraction', 'Multiplication', 'Division', 'Compound Addition', 'Compound Subtraction', 'Multiplication', 'Compound Division', 'Bills of Parcels', 'Reduction', 'Troy weight', 'Avoirdupois
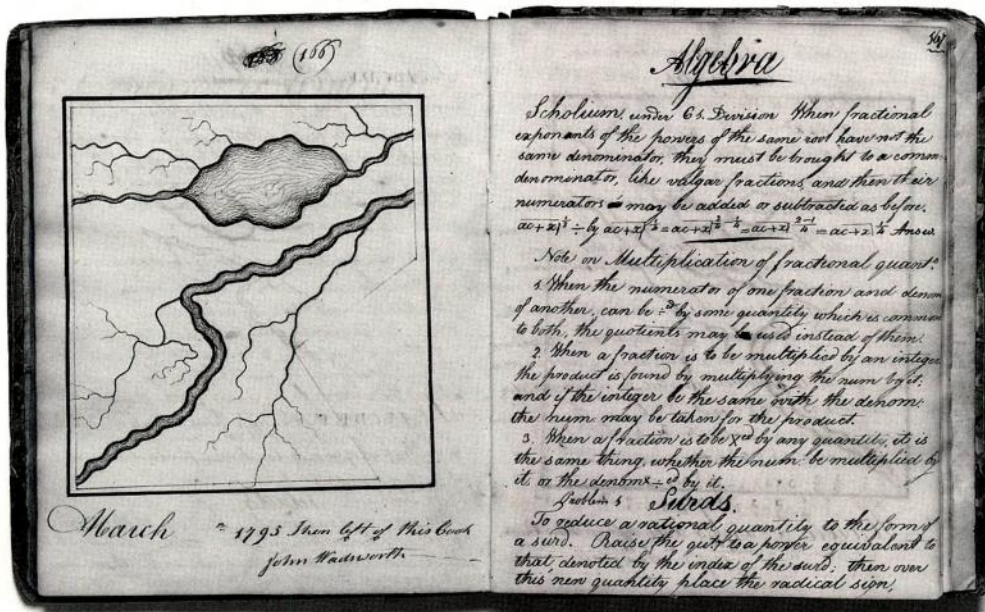
Ms2. Ciphering book of John Wadsworth, written 1795

Weight', 'Apothecaries Weight', 'Cloth Measure', 'Long Measure', 'Land Measure', 'Wine measure', 'Dry measure', 'Time', and concluded with 'Single Rule of Three'.

'Miss Huston's Academy' has not been located. Some of the problems set Miss Starling are in English money; others involve calculating the distance from London to York, *etc.*

Ms4

BUYN Mary C.
Her exercise book, the cover inscribed 'Mary C. Buyn' within a printed cartouche
197 × 165mm. (20)ff., not paginated
Paper stock: unwatermarked wove paper
Printed paper wrapper (see below).

¶ An exercise book filled with conjugations of French verbs. The front cover of the decorative wrapper is printed in black and stencilled in four colours. It features four woodcut vignettes, beneath each a printed maxim (*e.g.* a scene of a mother thrashing her daughter and 'Indulge not thyself in the passion of anger; it is whetting a sword to wound thine own breast, or murder thy friend'), and has a frame composed of printers' flowers lettered 'The Property of' in its centre. At foot, is the imprint 'Printed for, and sold by, W.B. Gilley, No. 92 Broadway [New York]'. The lower cover is printed in black with a 'Numeration Table', 'Multiplication Table', 'Time', 'Pence Table', 'Hay', and tables of exchange.

See reproduction on catalogue cover

Ms5

STEARNS Rachel W. *fl.*1832–1835
Her exercise book, the cover inscribed 'Rachel W. Stearns / Greenfield High School' and inside cover 'R.W. Stearns'
187 × 152mm. (8)ff.
Paper stock: unwatermarked wove paper
Printed paper wrapper (see below).

¶ An exercise book containing accounts of Rachel W. Stearns, a teacher in three Massachusetts schools: Shelburne (July–August 1832), Greenfield (November 1832–October 1834), Leominster (November 1834–January 1835), and again Greenfield (February–August 1835). It contains a list of fifty-nine pupils, aged from three to thirteen, whom she taught at Greenfield in the years 1832–1834, together with an account of cash received for their tuition. Other accounts record sums she paid for books, slates, a globe, rent, wood, *etc.*, and calculate her profit. Six pages are a private journal, the entries dated

July 26, 1833 to September 6, 1833.

The upper cover of the printed wrapper is ornamented by a large woodcut depicting eight Indians filing toward a village; beneath is a cartouche lettered 'The Property Of', and along the sides a frame composed of typographical ornaments. On the lower cover is a multiplication table (to 12 × 12) and woodcuts of soldiers, also enclosed by a frame of type ornaments.

PRINTED BOOKS

1

ADAMS Daniel 1773–1864
Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied... Designed for the use of schools and academies in the United States
Keene, New Hampshire
J. Prentiss (Stereotyped at the Boston Type and Stereotype Foundry), 1835
172mm. 1–264pp.
Endpaper inscribed *S.B. Little*; blue ink stamp *Columbia*. Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover (upper cover nearly detached, rubbed).
¶ This work is a sequel to *The Scholar's arithmetic* (1801) and 'Adam's New Arithmetic' is printed at top of the title-page. The original copyright was taken September 18, 1827, and the first edition printed at Keene, by John Prentiss, in 1827. The author graduated Dartmouth College in 1797 and practised as a physician in Leominster, Massachusetts (*DAB*, I, pp.54–55).
Karpinski p.283; Checklist 29930

2

ADAMS Daniel 1773–1864
Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied... Designed for the use of schools and academies in the United States
Keene, New Hampshire
Published by J. and J.W. Prentiss, 1837
179mm. 1–262pp.
Endpaper inscribed *Edmund Day West Springfield July 31st* [18]*44*.
Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover.
Karpinski p.283; Checklist 42674; ERL 4402

3

ADAMS Daniel 1773–1864
Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied... Designed for the use of schools and academies in the United States
Keene, New Hampshire
Published by J. and J.W. Prentiss, 1838
168mm. 1–262pp., advertisements ('School books in high repute published by John Prentiss') 2pp.
Endpaper inscribed *Hannah R. French* and *Sarah A. English*. Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover (covers detached).
Karpinski p.283; Checklist 48705

4

ADAMS Daniel 1773–1864
Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied... Designed for the use of schools and academies in the United States
Keene, New Hampshire
Published by J. and J.W. Prentiss, [undated; *circa* 1839]
178mm. 1–261 (1)pp.
Endpaper inscribed *Mr William F. Stanly, Sanford, Maine*. Bound in contemporary leather-backed green paper boards, text of title-page on upper cover (cover imprint same as the title), advertisements printed on lower cover.
¶ In this edition the printed copyright and author's 'Preface' are dated 1827. The 'Example of a ledger' (p.261) is dated July 1835. The advertisement printed on the lower cover includes a 'Recommendation' dated January 11, 1839.
Karpinski p.284; cf. Checklist 53842 (edition dated 1839)

5

ADAMS Daniel 1773–1864
Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied... Designed for the use of schools and academies in the United States
Keene, New Hampshire
Published by J. & J.W. Prentiss, 1842
180mm. 1–262pp., advertisements ('School books in high repute published by John Prentiss') 2pp.
Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover.
BAI 43, p.31; cf. Karpinski p.283 and Checklist 43/51, listing a Prentiss edition dated 1843

6

ADAMS Daniel 1773–1864

Arithmetic, in which the principles of operating by numbers are analytically explained, and synthetically applied. Illustrated by copious examples. Designed for the use of schools and academies in the United States

New York

Published by Robert B. Collins, [1850]

180mm. 1–306pp., advertisements ('Valuable works published and for sale by Robert B. Collins') 6pp.

Endpaper inscribed *B.K. Estabrook.*

Bound in contemporary leather-backed brown paper boards, text of the title-page on upper cover, advertisements printed on lower cover (covers detached).

¶ 'Adam's New Arithmetic–Revised Edition' is printed at top of the title-page. The copyright for this edition was entered in 1848. The publication date 1850 is printed on the binding cover, but not on the title-page.

Cf. Karpinski p.285, undated editions by Collins

7

ADAMS Daniel 1773–1864

Key to Adam's new arithmetic. Revised edition. For the use of teachers

Keene, New Hampshire

Published by J.H. Spalter & Co., *etc.* (Stereotyped by George A. Curtis… Boston), [undated; *circa* 1848]

177mm. 1–88pp.

Bound in contemporary cloth-backed green paper boards, text of the title-page on upper cover, advertisements printed on lower cover.

¶ This *Key* was first printed at Keene, by J. and J.W. Prentiss and Co., in 1842. A copyright for the present edition was entered in 1848.

Karpinski p.285

8

ADAMS Daniel 1773–1864

The Scholar's arithmetic: or, federal accountant. Containing, I. Common arithmetic, the rules and illustrations. II. Examples and answers with blank spaces, sufficient for their operations by the scholar. III. To each rule a supplement comprehending 1. Questions on the nature of the rule, its use, and the manner of its operations. 2. Exercises. IV. Federal money, with rules for all the various operations in it to reduce federal to old lawful, and old lawful to federal money. V. Interest cast in federal money, with compound multiplication, compound division, and practice wrought in old lawful and in federal money, the same questions being put, in separate columns, on the same page, in each kind of money, by which these two modes of account have contrasted, and the great advantage gained by reckoning in federal money easily discerned. VI. Demonstrations by engravings, of the reason and nature of the various steps in the extraction of the square and cube roots, not to be found in any other treatise on arithmetic. VII. Forms of notes, deeds, bonds and other instruments of writing. The whole in a form and method altogether new, for the ease of the master and the greater progress of the scholar. Second edition, carefully corrected and revised, with additions

Leominster, Massachusetts

By Adams & Wilder, for E. & S. Larkin, *etc.*, 1802

214mm. 1–216pp. (pages 47–48 lacking).

Pastedown inscribed *Mary Jane Morrills Book Livermore Maine.*

In a contemporary leather binding, remains of black lettering-piece.

¶ The original copyright was taken September 9, 1801, and the first edition printed at Leominster by Adams & Wilder in 1801.

Karpinski p.134 (title-page reproduced); AB 1711

9

ADAMS Daniel 1773–1864

The Scholar's arithmetic: or, federal accountant… Fourth edition

Keene, New Hampshire

Printed by and for John Prentiss, 1807

212mm. 1–216pp.

Title-page inscribed *James B. Batcheller.*

Bound in contemporary leather-backed marbled paper boards.

¶ The preface to the second edition, dated 1802, has been reprinted.

Karpinski p.134; AB 11928

10

ADAMS Daniel 1773–1864

The Scholar's arithmetic: or, federal accountant… Sixth edition

Keene, New Hampshire

Printed by and for John Prentiss, 1810

212mm. 1–216pp.

Ownership inscription on lower endpaper *Tob. Shearmans His book Bought november the 5 1810.*

Bound in contemporary leather-backed marbled paper boards.

¶ 'The Sixth Edition is printed page for page from the Fifth' (from the 'Preface Dedicatory').

Karpinski p.134; AB 19300

11
ADAMS Daniel 1773–1864
The Scholar's arithmetic: or, federal accountant… Tenth edition, revised and corrected, with additions
Keene, New Hampshire
Printed by John Prentiss, 1816
210mm. 1–216pp.
Endpaper inscribed *Calvin E. Stowe… 1816* and *Susan B. Thayer… 1833*. Laid to the rear endpaper is a letter addressed to Prof. C.E. Stowe from the bookseller D.C. Colesworthy, dated Boston, 1867: 'The arithmetic I send you on account of the autograph written more than 50 years ago. Perhaps your children will be pleased with it, on that account'.
Bound in contemporary leather-backed paper boards.
¶ The copy deposited for copyright is described by Roger Stoddard, 'United States copyright deposit copies of books and pamphlets printed before 1820', in *Publishing History* 13 (1983), pp.5–21, no.25. The first owner of our copy, Calvin Ellis Stowe (1802–1866), prepared at Gorham Academy, Gorham, Maine, and entered the class of 1824 at Bowdoin College (*DAB*, XVIII, p.115).
Karpinski p.134; AB 36673; ERL 4412

12
ADAMS Daniel 1773–1864
The Scholar's arithmetic: or, federal accountant… Stereotype edition, revised and corrected, with additions
Keene, New Hampshire
Printed by John Prentiss, 1819
205mm. 1–224pp.
Bound in contemporary leather-backed paper boards.
¶ Printed on the title-page is the price: '10 Dollars per dozen, 1 Dollar single'.
Karpinski p.135; AB 46921

13
ADAMS Daniel 1773–1864
The Scholar's arithmetic: or, federal accountant… Stereotype edition, revised and corrected, with additions
Keene, New Hampshire
Printed by John Prentiss, 1820
215mm. 1–224pp.
Endpapers inscribed *Harriet Cornish* and *Owen Cornish*, Bangor, Maine, with dates 1822–1825.
Bound in contemporary leather-backed paper boards.
Karpinski p.135; Checklist 16

14
ADAMS Daniel 1773–1864
The Scholar's arithmetic: or, federal accountant… Stereotype edition, revised and corrected, with additions

Keene, New Hampshire
Printed by John Prentiss, 1824
210mm. 1–224pp.
Bound in contemporary leather-backed marbled paper boards.
Karpinski p.135; Checklist 15022

15
ADAMS Frederick Augustus
Arithmetic, in two parts. Part first, advanced lessons in mental arithmetic. Part second, rules and examples for practice in written arithmetic. For common and high schools
Lowell, Massachusetts
Published by Daniel Bixby (Stereotyped and printed by Dickinson & Co., Boston), 1846
181mm. 'Recommendations' 4pp., 1–212pp.
Exlibris *The New Hampshire Historical Society*.
Bound in contemporary leather-backed brown paper boards, text of title-page on upper cover, advertisements ('Valuable Books published by Daniel Bixby') printed on lower cover.
¶ First edition.
Karpinski p.483 (title-page reproduced)

16
AINSWORTH Luther
Conversation on practical arithmetic, comprising a collection and familiar explanation of the most important rules of practical arithmetic, in a series of questions and answers, designed for the use of schools
Providence, Rhode Island
Published by Cory, Marshall and Hammond, 1830
148mm. 1–84pp. (pages 17–20 lacking)
Front wrapper inscribed *Sarah R. Warren Providence R.I.*
Bound in cloth-backed paper wrappers.
¶ Only edition. 'My object has been to collect the best system of rules for the operation of the most essential parts of Practical Arithmetic, and by presenting them in this condensed and plain, familiar form, to bring them to the capacities of youth… In my arrangement of the rules, I have followed Dabol's system more particularly than any other, because (although greatly deficient in many essential points) I consider it, on the whole, the best arithmetic' (author's 'Note').
Karpinski p.309 (misstating pagination, as 34pp.); Checklist 42

17
ALLEN Zachariah 1795–1882
The Science of mechanics, as applied to the present improvements in the useful arts in Europe, and in the

22. *An Appendage; or the complete little arithmetic, mental and practical* (New York *circa* 1855)
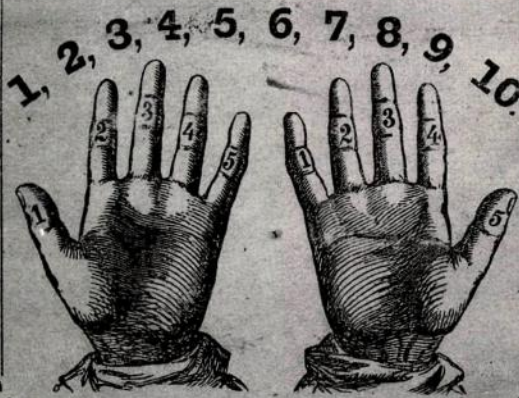
United States of America: adapted as a manual for mechanics and manufacturers, and containing tables and calculations of general practical utility
Providence, Rhode Island
Published by Hutchens & Cory; Miller & Hammond, Printers, 1829
215mm. 1–5 (1), 1–364 (2)pp., five plates (including frontispiece)
In a contemporary leather binding, red lettering-piece (joints cracked).
¶ Only edition. The author graduated from Brown University in 1813 (*DAB*, I, pp.215–216).
Karpinski p.298 (title-page reproduced); Checklist 37424

18
ALSOP Samuel 1813–1888
First lessons in algebra, in which the elements of the science are familiarly explained
Philadelphia
E.C. & J. Biddle (Stereotyped by L. Johnson & Co. Philadelphia. Printed by T.K. & F.G. Collins), 1849
186mm. 1–116pp., advertisements ('E.C. & J. Biddle's school publications') 4pp.
Pastedown inscribed *Presented to E. Sibley By the Author.*
Bound in contemporary leather-backed green paper boards, text of title-page on upper cover, advertisements printed on lower cover.
¶ First edition. The copyright was entered August 14, 1849.
Karpinski p.520; Simon pp.59–60

19
AMERICAN...
The American ready reckoner, and traders' infallible guide, in dollars and cents; with a variety of useful tables
Baltimore
Warner & Hanna, John Vance & Co., 1806
127mm. 1–175 (*i.e.* 156, pp.149–167 omitted in numbering) (12)pp.
Endpaper inscribed *Michael Shoudt His Booek 1827.*
In a contemporary leather binding.
¶ This is the earliest edition listed by Karpinski. The printed copyright notice, dated August 20 [1806], names William Warner and Andrew Hanna as proprietors. At the end are a table of 'Contents' (2pp.) and blank pages with printed heading 'Memorandums' (10pp.).
Karpinski p.159–160 (*q.v.* Anonymous); AB 9836

20
ANGELL Oliver 1787–1858
Elements of mathematics. Designed to follow a course of common arithmetic
Providence, Rhode Island

Published by A.S. Beckwith, 1829
175mm. 1–4 (2) 5–94pp. (apparently lacking a plate)
Endpaper inscribed *William Tabbut* [or Talbot?] and in another hand *Sold to Thomas Bishop... 1843.*
In a contemporary half-leather binding.
¶ Only edition.
Karpinski p.298 (title-page reproduced), calling for one plate; Checklist 37475

21
ANGELL Oliver 1787–1858
The Union, No.V. Containing lessons for reading and spelling, with exercises in mental arithmetic, abbreviations, definitions, &c. Being the fifth of a series of spelling and reading books, in six numbers
Philadelphia
Published by Marshall, Clark, & Co., *etc.* (Stereotyped by Lyman Thurston & Co. Boston), 1834
180mm. 1–296, 1–4pp.
In a contemporary leather binding (upper cover detached).
¶ Pages 291–296 are occupied by 'Questions for exercise in mental arithmetic' and 'Arithmetical tables'. Angell also edited *The Union, No. IV* (Providence 1831). Two previous editions of the present work are recorded, at Providence, by Cory and Brown, 1831; and at Boston, by Carter Hendee and Babcock, *etc.*, 1831 (BAI 43, p.169).
Checklist 22971; not considered by Karpinski

22
APPENDAGE...
An Appendage; or the complete little arithmetic, mental and practical; with the tables of weight, measure, money, &c. By a practical teacher
New York
Published by George F. Cooledge, [undated; *circa* 1855]
186mm. (5) 170–217 (3)pp., with advertisements laid to paste-downs
In the publisher's printed wrappers.
¶ According to a note by the publisher, this work was intended to supplement William G. Webster's *Elementary spelling book.* A copyright for it was entered to George F. Cooledge in 1855.
Not considered by Karpinski; not traced in BAI

23
ARITHMETICAL...
Arithmetical tables, for the use of schools
New York
Published by Samuel Wood & Sons; Baltimore: Samuel S. Wood & Co., 1821
105mm. 1–24pp. (pages 9–10 lacking)

Ownership inscription *Helen Stockton 1822*.
In the publishers' stiff paper wrappers, text of title-page on upper cover, advertisements printed on lower cover.
¶ The earliest edition of these tables recorded by Karpinski is dated 1807.
Karpinski p.168 (*q.v.* Anonymous); Checklist 4490

24
BABCOCK Tertullus H.
The Practical arithmetic; in which the principles of operating by numbers are analytically explained and synthetically applied... Adapted to the use of schools and academies in the United States
New York
G. & C. & H. Carvill (H.C. Sleight, printer), 1829
182mm. 1–180pp.
Bound in contemporary leather (rubbed).
¶ 'This is one of the best of the earlier American arithmetics. The author had clearly defined notions of what he wanted to say and how it ought to be said' (Greenwood & Martin p.831). The title-page of this copy is dated 'Sept. 1829'. The copy seen by Karpinski evidently was undated.
Karpinski p.300 (title-page reproduced); Checklist 37532

25
BAILEY Ebenezer 1795–1839
First lessons in algebra, being an easy introduction to that science designed for the use of academies and common schools
Boston
American Stationers' Company, John B. Russell (Stereotyped at the Boston Type and Stereotype Foundry), 1837
183mm. 1–252pp.
Endpaper inscribed *Jane M. Horn Dover N.H. Dec. 1838*.
In a contemporary leather binding (backstrip missing).
¶ The first edition had been printed at Boston in 1833. The author graduated Yale in 1817 and from 1827–1837 was principal of the Young Ladies' High School in Boston (*DAB*, I, p.494).
Karpinski p.345; Simon p.31; Checklist 42908

26
BAILEY Ebenezer 1795–1839
First lessons in algebra, being an easy introduction to that science designed for the use of academies and common schools. Improved stereotype edition
Boston
Jenks and Palmer, 1840
182mm. 1–252pp.
Endpaper inscribed *Robert A. Smith*.
In a contemporary leather binding, black lettering-piece.
Karpinski p.345; Simon p.31; Checklist 40/358

27
BAILEY Ebenezer 1795–1839
First lessons in algebra, being an easy introduction to that science: designed for the use of academies and common schools. Twenty-third improved stereotype, edition
Boston
Jenks and Palmer, 1845
182mm. 1–252pp.
In a contemporary leather binding (lettering-piece and upper cover detached).
Karpinski p.345; cf. Simon p.31, 'twenty-third improved stereotype, edition', but dated 1844

28
BECK Frederick
The Young accountant's guide: or an easy introduction to the knowledge of mercantile book-keeping. Comprised in four sets of books, on individual and company business... Adapted to the use of academies and counting-rooms
Boston
Stimpson and Clapp (From the Congress-Street Steam Power Press, W.L. Lewis, printer), 1831
274mm. 1–116pp.
In a contemporary half-leather binding, sides covered by marbled paper (covers detached).
¶ The 'Certificates of Recommendation' are dated September–October, 1830; copyright was secured January 14, 1831.
Checklist 6051; not considered by Karpinski

29
BEEBE Stuart 1779–1851
The Time and lunar register, referring to the year, month, days of the month and week, from the advent of Our Saviour, to the close of the nineteenth century. The lunar part presents a table of the new and full moons. Interspersed with historical notices. The whole calculated for general use and convenience, both on land and sea
Hartford, Connecticut
Printed by R. Canfield for the author, 1827
214mm. 1–55 (*i.e.* 56) (4)pp., plus errata leaf
Note of purchase on endpaper *Samuel [?] Bot of Steuart Beebe Esqre August 7th 1827 price 62 1/2 cents.*
Bound in contemporary leather-backed marbled paper boards (leather decayed, upper cover detached).
¶ The printed copyright notice is dated April 9, 1827.
Checklist 28086; not considered by Karpinski

Erklärungen
derjenigen algebraischen Zeichen,
die in diesem Buche vorkommen, und mit denen
der Schüler sich billig bekannt machen sollte.

Zeichen.   Bedeutungen.

= Zwey Parallel-Striche bedeuten das Wort (equal) "gleich," als 100 Cents=1 Thaler, das ist: 100 Cents sind eben so viel als 1 Thaler.

+ Ein aufrechtstehendes Kreuz bedeutet (plus) das Wort "mehr" oder auch "und" als 6+2=8 das ist: 6 und 2 sind gleich oder so viel als 8. Steht dieses Zeichen bey einer Antwort, so zeigt es an, daß noch Etwas übrig ist.

— Ein Strich bedeutet (minus) das Wort "weniger," oder "davon" als 8—2=6 d. i. 8 weniger 2 sind gleich 6.

× Ein liegendes Kreuz bedeutet die Worte: "multiplicirt mit" als: 6 × 2 = 12, das heißt 6 multiplicirt mit 2, ist gleich 12.

÷ Ein Strich zwischen zwey Punkten bedeutet die Worte: "dividirt mit" z. E. 12÷4 =3, heißt 12 dividirt mit 4 ist gleich 3. Dies wird auch öfters auf folgende Art gesetzt: 4)12(3.

:::: Proportions-Punkte; diese so gesetzten Punkte bedeuten die Worte: "wie sich verhält zu, so verhält sich zu," nämlich: 2 : 4 :: 6 : 12, das ist, wie sich 2 zu 4 verhält, so verhält sich 6 zu 12.

Arithmetik oder Rechenkunst

Ist die Wissenschaft der Zusammenrechnung oder Computation. Sie wird bey der Vermehrung und Verminderung der Zahlen, welche man Ziffer nennt, angewendet; lehrt, wie sie zu gebrauchen sind, und erklärt die Eigenschaften derselben. Man theilt sie in die gemeine und höhere Rechenkunst ab.—Erstere beschränkt sich auf Bewirkungen die durch gemeine Ziffer gemacht werden können.—letztere ist die Kunst, mit Buchstaben und Zeichen zu rechnen, und wird gewöhnlich Algebra genannt.

Die Arithmetik hat folgende Hauptabtheilungen zu ihrem Grunde, nämlich: Notation, Numeration, Addition, Subtraction, Multiplication und Division. Diese werden die Species genannt.

Notation und Numeration.

Diese zwey Ausdrücke, obschon sie öfters ohne Unterschied gebraucht werden, sind nicht (synonymisch) von gleicher Bedeutung, sondern

Notation ist die Kunst, eine Zahl, die man mit Worten ausspricht, ihrer Verbindung nach, mit Ziffern gehörig hinzuschreiben, und

Numeration lehrt, wie man eine solche mit Ziffern notirte Zahl, auch ihrer Verbindung nach, mit Worten richtig lesen oder aussprechen soll.
A

30. Enos Benner, *Abhandlung über die Rechenkunst* (Sunnytaun, Pennsylvania 1833)

30
BENNER Enos
Abhandlung über die Rechenkunst, oder Practische Arithmetik, zum Gebrauch für Schulen. Zweyte und verbesserte Auflage
Sunnytaun, Pennsylvania
'Gedruckt bey dem Herausgeber', 1833
165mm. 1–6 (2), 1–152pp.
In a contemporary leather binding.
¶ 'Aus englischen Rechenbüchern gesammelt' ('Vorrede'). The first edition had been printed at Philadelphia in 1826 (*First century of German language printing in the United States of America*, edited by Karl Arndt & Reimer Eck, Göttingen 1989, no.2818).
Karpinski p.269 (title-page reproduced); Checklist 17731
See illustration above

31
BENNETT James
The American arithmetic, adapted to the trade and commerce of the United States… Designed for the use of schools, academies, and clerks
New York
Published by the author (H. Ludwig, printer), 1835
243mm. 1–104pp. 'Recommendations to Bennett's American Arithmetic' pasted to inside upper cover 1p.
Endpaper inscribed *Charles Colgate… 1836*.
Bound in contemporary leather-backed marbled paper boards (covers detached).
¶ First edition (copyright entered March 23, 1835). The author describes his own method for teaching bookkeeping, requiring three blackboards, each five foot square, suspended individually from ropes (p.5).
Karpinski p.371 (title-page reproduced); Checklist 30379

32

BÉZOUT Étienne 1730–1783

Elements of arithmetic, translated from the French of M. Bezout, and adapted to the use of American Schools. By Nathaniel Haynes

Hallowell, Maine

Printed by Glazier and Co., 1824

178mm. 1–8, 1–220pp.

In a contemporary mottled leather binding, black lettering-piece.

¶ First edition.

Karpinski pp.254–256 (title-page reproduced); Checklist 15337

33

BÉZOUT Étienne 1730–1783

First principles of the differential and integral calculus, or the doctrine of fluxions, intended as an introduction to the physico-mathematical sciences, taken chiefly from the mathematics of Bézout, and translated from the French for the use of the students of the university at Cambridge, New England [by John Farrar]. Second edition

Boston

Hilliard, Gray & Co. (Cambridge press: Metcalf, Torry, and Ballou), 1836

230mm. 1–6, 1–195 (1)pp.

Endpaper inscribed *Edgar Haas*.

Bound in cloth-backed green paper boards.

¶ A translation of *Principes de Calcul qui servent d'Introduction aux Sciences Physico-Mathématiques*, by John Farrar (1779–1853), Hollis professor of mathematics and natural philosophy at Harvard from 1807 until 1836. The first edition had been printed at Cambridge, Massachusetts, in 1824. A copyright for this second edition was entered February 17, 1836.

Karpinski p.256, calling for two plates; Checklist 36104

34

BIOT Jean-Baptiste 1774–1862

An Elementary treatise on analytical geometry: translated from the French of J.B. Biot, for the use of the cadets of the Virginia Military Institute, at Lexington, Va.; and applied to the present state of mathematical instruction in the colleges of the United States. Revised edition

Philadelphia

Thomas, Cowperthwait & Co. (Stereotyped by J. Fagan. Printed by Kay and Brother), 1846

225mm. 1–252pp.

Endpaper inscribed *Edgar Haas*.

In a contemporary leather binding (spine abraded, joints cracked).

¶ This translation by Francis Henney Smith (1812–1890), distinguished professor at the University of Virginia, was previously printed at New York, 1840. The printed copyright notice here is dated 1846 and the 'Preface to the second edition' August 1846.

Karpinski p.418 (misstating pagination)

35

BLAKE John

The Private instructor, and young gentleman's pocket companion, comprising every thing necessary in arithmetic, mensuration, guaging [*sic*], book-keeping, and conveyancing, to form and complete the man of business. Also, tables… The whole upon a new and improved plan, and adapted wholly to private instruction

Trenton, New Jersey

Published by D. Fenton, 1815

182mm. 1–8, 13–244pp. (evidently complete)

In a contemporary leather binding (lettering-piece detached, front joint broken).

¶ First edition.

Karpinski pp.204–205 (title-page reproduced); AB 34144

36

BONNYCASTLE John 1750?–1821

An Introduction to algebra; with notes and observations; designed for the use of schools and places of public education. The First American edition

Philadelphia

Published by Joseph Crukshank, and sold by James Crukshank; A. Bartram, printer, 1806

185mm. 1–8, 1–208pp.

Title-page inscribed *B.B. Wisner*; exlibris *Library of J.B. Griswold*.

Bound in contemporary leather (upper cover detached, rubbed).

¶ 'The first widely popular American algebra' (Karpinski). The author was professor of mathematics at the Royal Military Academy, Woolwich. This work was first printed in 1782.

Karpinski p.160 (title-page reproduced); Simon pp.10–11; AB 10016

37

BONNYCASTLE John 1750?–1821

An Introduction to algebra, with notes and observations; designed for the use of schools and places of public education. To which is added an appendix, on the application of algebra to geometry. First New-York, from the Tenth London edition

New York

Published by Evert Duyckinck, Daniel D. Smith and George Long (G. Long, Printer), 1818

180mm. 1–14, 1–260pp.

In a contemporary leather binding, red lettering-piece; edges stained red.

Karpinski p.160; Simon p.11; AB 43408

38

BONNYCASTLE John 1750?–1821

An Introduction to algebra, with notes and observations; designed for the use of schools and places of public education. To which is added an appendix on the application of algebra to geometry. Second New-York, from the eleventh London edition. Revised, corrected and enlarged, with a variety of examples... by James Ryan

New York

Published by Evert Duyckinck and George Long, 1822

170mm. 1–11 (1), 1–310 (2)pp.

Bound in contemporary leather (upper cover detached).

¶ The first edition of the revision by Ryan, who added 'a great variety of practical examples, as being essentially necessary to exercise young students in the elementary principles'. A copyright for this edition was entered December 28, 1821.

Karpinski p.160; Simon p.11; Checklist 8122

39

BONNYCASTLE John 1750?–1821

A Key to the last New-York edition of Bonnycastle's Algebra; and also adapted to the former American and latest London editions of that work: containing correct solutions to all the questions. The whole rendered as plain as the present state of the science will admit. By James Ryan

New York

Published by Collins and Hannay; W.E. Dean, Printer, 1831

140mm. (4) 1–261 (1)pp.

In a contemporary leather binding, black lettering-piece.

¶ The 'Fifth New York edition' of Bonnycastle's *An Introduction to algebra* was published in 1831. Ryan previously had published a *Key* to the 'second New-York edition' (1822).

Karpinski p.162; Checklist 9070

40

BONNYCASTLE John 1750?–1821

An Introduction to mensuration and practical geometry... To which is added, an appendix containing a concise system of gauging. The second American, from the tenth London edition, revised and corrected

Philadelphia

Published by Kimber and Sharpless, 1818

181mm. 1–262pp.

Ownership inscriptions *Alfred, Maurice*, and *John Deshong*. In a contemporary leather binding, black lettering-piece (front joint broken).

¶ The first edition of this work published in America was Philadelphia, Kimber and Conrad, 1812.

Karpinski p.189; AB 43409

41

BONNYCASTLE John 1750?–1821

An Introduction to mensuration and practical geometry... To which is added, an appendix containing a concise system of gauging. The third American, from the tenth London edition, with corrections and additions

Philadelphia

Published by Kimber and Sharpless, 1823

185mm. 1–256pp., a list of errata is pasted to inside lower cover

Ownership inscription *John Janvier* and at end *Commenced May 15th 1825 and ended December 23rd 1825 August deduct August vacation.*

In a contemporary leather binding (upper cover detached).

¶ A copyright for this third edition was entered September 23, 1823.

Karpinski p.189; Checklist 11918

42

BONNYCASTLE John 1750?–1821

An Introduction to mensuration and practical geometry... To which is added, an appendix containing a concise system of gauging. The fourth American, from the tenth London edition. With corrections and additions

Philadelphia

Published by Kimber and Sharpless, 1827

179mm. 1–252pp.

Endpaper inscribed *Osborn Conrad's Book... 1828.* Bookseller's label *W.A. Leary, Jr., Philadelphia.*

In a contemporary mottled leather binding, red lettering-piece (joints cracking).

Karpinski p.189; Checklist 28221; ERL 5186

43

BONNYCASTLE John 1750?–1821

An Introduction to mensuration and practical geometry... To which are added, a treatise on guaging [*sic*]: and also the most important problems in mechanics [by James Ryan]

Philadelphia

Kimber & Sharpless; Stereotyped by J. Howe, 1835

176mm. 1–12, 1–288pp.

Endpapers and lower cover inscribed *George Bullock December 12th 1839 In Birmingham township Delaware County.* Bound in contemporary leather (joints cracked).

¶ Second printing of James Ryan's new edition, adding 'an article on mechanics and dynamics, containing the principal problems in Brunton's *Mechanics*' (preliminary 'Advertisement').
Karpinski p.189 (title-page reproduced); Checklist 30550

44
BONNYCASTLE John 1750?–1821
An Introduction to mensuration and practical geometry… To which are added, a treatise on guaging [*sic*]: and also the most important problems in mechanics [by James Ryan]
Philadelphia
Kimber and Sharpless; Stereotyped by J. Howe, 1839
185mm. 4pp. advertisements ('Books published by Kimber & Sharpless') 1–12, 1–288pp.
Endpaper inscribed *Samuel Stearne Latch*.
In a contemporary leather binding (front joint cracked).
Karpinski p.189; Checklist 54552

45
BONNYCASTLE John 1750?–1821
An Introduction to mensuration and practical geometry… To which are added, a treatise on guaging [*sic*]: and also the most important problems in mechanics [by James Ryan]
Philadelphia
Thomas, Cowperthwait & Co. *etc.*, 1848
180mm. 1–12, 1–288pp.
In a contemporary leather binding (lettering-piece renewed, front joint broken).
Karpinski p.190

46
BONNYCASTLE John 1750?–1821
A Key to the American edition of Bonnycastle's Mensuration. Containing solutions to all the questions left unsolved in that work. By Benjamin Hallowell. Second edition. Adapted to the revised edition of the Mensuration, by James Ryan
Philadelphia
Published by Kimber and Sharpless; A. Waldie, printer, 1834
182mm. 1–88pp.
In a contemporary leather binding (upper cover detached, spine defective).
¶ A copyright for this *Key* was entered in 1834. Benjamin Hallowell's *Key to the third American edition* had been printed by Kimber and Sharpless in 1824. The first edition of Ryan's revision of Bonnycastle's *Introduction to mensuration* is Philadelphia, Kimber and Sharpless, 1834.
Karpinski p.190; Checklist 23465

47
BONNYCASTLE John 1750?–1821
The Scholar's guide to arithmetic; or, a complete exercise book, for the use of schools. With notes, containing the reason of every rule, demonstrated from the most simple and evident principles; together with some of the most useful properties of numbers, and general theorems for the most extensive use of the science. The ninth edition, adapted to the use of the schools of the United States
New York
Published by Isaac Riley, 1815
175mm. 1–4, 1–238 (2)pp.
In a contemporary leather binding.
¶ A copyright for this ninth edition was entered July 29, 1815. The edition number refers to combined English and American issues. The work was first printed at London in 1780; the only previous American printing ('second edition, corrected') was issued at Boston in 1786.
Karpinski p.87; AB 34161

48
BOURDON Louis Pierre Marie 1779–1854
Elements of algebra, translated from the French of M. Bourdon, for the use of the cadets of the U.S. Military Academy. By Lieut. Edward C. Ross
New York
E.B. Clayton, printed by Clayton & Van Norden, 1831
218mm. 1–8, 1–389 (1)pp.
Endpaper inscribed *Mary E. McManus, Holyoke, Mass.*
Bound in contemporary cloth-backed boards, paper lettering-piece ('Bourdon's Algebra').
¶ A copyright for this edition was entered August 12, 1831. This is the second of two translations of Bourdon's *Élements d'Algèbre* to appear in 1831 (the other was translated by John Farrar). 'The whole of the fourth, ninth and tenth chapters of the original, with the exception of the article upon Figurate Numbers, and the Series upon which they depend, have been omitted in the translation, also that part of the seventh chapter which relates to the Theory of Symmetrical Functions' (from the 'Advertisement').
Karpinski p.325 (title-page reproduced); Simon p.26; Checklist 6248

49
BOURDON Louis Pierre Marie 1779–1854
Elements of algebra, translated from the French of M. Bourdon [by Edward C. Ross]. Revised and adapted to the courses of mathematical instruction in the United States; by Charles Davies. Second edition
New York
Wiley & Long; Boston: Russell, Shattuck & Co., *etc.*, 1836
205mm. 1–354pp.

Endpapers inscribed *John Dixon to John A. Vanderlip March 1838* and by other owners 1836–1843.

In a contemporary leather binding (backstrip detached).

¶ This abridgement of Bourdon, from the translation of Lieutenant Ross, was first published at New York, by Wiley and Long, in 1835. The editor, Charles Davies (1798–1876), has added 'permutations and combinations' (Simon) to Ross's edition.

Karpinski p.374 (*q.v.* Davies); Simon p.33; Checklist 36321

50

BOURDON Louis Pierre Marie 1779–1854
Elements of algebra: translated from the French of M. Bourdon [by Edward C. Ross]. Revised and adapted to the courses of mathematical instruction in the United States, by Charles Davies. Revised edition
Hartford, Connecticut
Published by A.S. Barnes & Co.; New York: Wiley & Putnam, *etc.*, 1839
204mm. 1–355pp., advertisements ('Davies' Course of Mathematics') 1p.
Exlibris *Yale University Observatory. Bequest of Professor Elias Loomis LLD 1889*; ownership inscription *E. Loomis* on front endpaper.
Bound in contemporary leather (front joint cracked, lettering-piece detached).

¶ The first owner, Elias Loomis (1811–1889) graduated Yale College in 1830 and became professor of mathematics there in 1833. He taught subsequently at Western Reserve College and City University, New York, returning to teach at Yale 1860–1889. In his will, Loomis left his books and $300,000 to Yale 'the largest single donation received by his alma mater up to that time' (*DAB*, XI, pp.398–399).

Karpinski p.374; Simon p.33; Checklist 54600

51

[BOWDITCH Henry Ingersoll 1808–1892]
Memoir of Nathaniel Bowditch. Prepared for the young.
Printed for the Warren Street Chapel
Boston
James Munroe and Company (Press of I.R. Butts), 1841
178mm. 1–13 (3), 1–158pp.
Endpaper inscribed *S. Caldwell No.76.*
In a contemporary cloth binding, decorated in blind and gilt.
¶ Only edition.
Karpinski p.424 (title-page reproduced); Checklist 41/783

52

BOWDITCH Nathaniel 1773–1838
Bowditch's useful tables [edited by J.I. Bowditch and Benjamin Peirce]
New York
Published by E. & G.W. Blunt (J.M. Elliott, Printer), 1844
230mm. 1–8, 1–67 (2) 131–147, 160–229, (2) 28–35pp. (complete)
Bound in contemporary leather-backed paper boards.
¶ 'The Tables found in the following pages are taken from the Practical Navigator. They have been printed at the suggestion of my friend Professor Pierce [*sic*], whose remarks on the same are annexed' (from the 'Preface', subscribed J. Ingersoll Bowditch, at Boston, 1844).
Karpinski p.456 (title-page reproduced); Checklist 44/916

53

BREWSTER David, *Sir* 1781–1868
A Treatise on optics. A new edition. With an appendix, containing an elementary view of the application of analysis to reflexion and refraction, by A.D. Bache
Philadelphia
Lea and Blanchard, 1839
185mm. 1–324, 1–96pp.
In a contemporary cloth binding, printed lettering-piece.
¶ The earliest edition of this version by Alexander Dulles Bache (1806–1867) had been published at Philadelphia, by Lea and Blanchard, in 1833. The editor was the great-grandson of Benjamin Franklin and professor of natural philosophy and chemistry at the University of Pennsylvania (*DAB*, I, pp.461–462).
Karpinski p.347; Checklist 54638

54

BRIDGE Bewick 1767–1833
A Treatise on the construction, properties and analogies of the three conic sections. From the second London edition, with additions and alterations by the American editor [Frederick A.P. Barnard]
New Haven, Connecticut
Published and sold by Hezekiah Howe, *etc.*, 1831
222mm. 1–7 (1), 1–132pp.
Endpaper inscribed *H. Huntington.*
Bound in contemporary brown paper boards, text of title-page on upper cover, publishers' advertisement (dated July 1831) printed on lower cover.
¶ First American edition (copyright entered July 9, 1831). The editor, Frederick Augustus Porter Barnard (1809–1889), graduated Yale 1828 and immediately became teacher in the Hartford Grammar School (*DAB*, I, pp.619–621).
Karpinski p.326; Checklist 6280; ERL 5193

55

BRIDGE Bewick 1767–1833

A Treatise on the construction, properties and analogies of the three conic sections. From the second London edition, with additions and alterations by the American editor [Frederick A.P. Barnard]

New Haven, Connecticut

Durrie and Peck; New York: Collins, Keese and Co. (Stereotyped by Francis F. Ripley), [undated; after 1831] 212mm. 1–136pp.

Bound in contemporary leather-backed cloth boards.

Karpinski p.326 (title-page reproduced); cf. Checklist 54653 (same imprint, but dated 1839)

56

BRIDGE Bewick 1767–1833

A Treatise on the elements of algebra. Second American, revised and corrected from the seventh London edition

Philadelphia

Key & Biddle, 1835

173mm. 12pp. advertisements ('Valuable School-Books published by Key & Biddle'), 1–224pp.

Ownership inscription dated 1837 on title-page.

In a contemporary red leather binding (joints cracked).

¶ The 'first American edition', revised and corrected from the 'sixth London edition', had been published by Key and Biddle in 1832. Judging by an 'Advertisement' printed in this 1835 'second American edition', the work was an immediate success: 'It is already introduced into the University of Pennsylvania, at Philadelphia; and the Western University at Pittsburgh. It is also the textbook of Gummere's School at Burlington, and the Friend's College at Haverford, and of a great number of the best schools throughout the United States'.

Karpinski p.336; Checklist 30640

57

BURNHAM Charles Guilford 1803–1866

A New system of arithmetic, on the cancelling plan: embracing the rules of three, single and double, direct and inverse; barter; loss and gain; reduction, multiplication and division of fractions; exchange of currencies; interest; and all proportional questions in one rule applicable to the whole. The process greatly simplified and abridged

Concord, New Hampshire

Published by Marsh, Capen & Lyon; New York: Daniel Appleton & Co. (Asa M'Farland, Printer), 1837

179mm. 1–6 (2) 13–256pp. (evidently complete)

Ownership inscription *T.G. Kimball*.

In a contemporary leather binding (upper cover detached).

¶ The preface to this edition is dated October 23, 1837.

Karpinski p.398; cf. Checklist 43491 (variant imprint)

58

BURNHAM Charles Guilford 1803–1866

A New system of arithmetic, on the cancelling plan: embracing the rules of three, single and double, direct and inverse; barter; loss and gain; reduction; multiplication and division of fractions; exchange of currencies; interest: and all proportional questions in one rule applicable to the whole. The process greatly simplified and abridged.

Second edition

Boston

Benjamin J. Mussey; Concord: John F. Brown (Asa McFarland, Printer), 1841

185mm. 1–312pp.

In a contemporary leather binding, black lettering-piece.

¶ The preface to this 'second edition' is dated November 27, 1841.

Karpinski p.398; Checklist 41/9521

59

BURROUGHS Richard 1775–1865

A Treatise on trigonometry & navigation, containing an explanation of their principles and tables, and a new method of working trigonometry by memory

Middlebury, Vermont

Printed by J.D. Huntington, 1807

168mm. 1–81 (1)pp., eight plates

Bound in contemporary leather-backed marbled paper boards (front joint cracked).

¶ The first of two editions (Karpinski, Second supplement, p.176). It is described by Marcus A. McCorison, *Vermont imprints 1778–1820* (Worcester 1963), no.904.

Karpinski p.170 (title-page reproduced); AB 12252

60

CHASE Pliny Earle 1820–1886

The Common-school arithmetic, designed for learners of every class; and particularly for those who are desirous of acquiring a thorough knowledge of practical mathematics

Worcester, Massachusetts

Published by A. Hutchinson & Co. (Stereotyped by S. Douglas Wyeth… Philadelphia), 1848

182mm. 1–256pp., *Key* 1–31pp.

Exlibris *The New Hampshire Historical Society*.

In a contemporary leather-backed black cloth binding.

¶ First edition. The author entered Harvard aged fifteen and after graduation taught in Leicester and Worcester, from 1841–1848 in Philadelphia, and in 1871 became professor of philosophy and logic at Haverford College.

Karpinski p.505 (title-page reproduced)

61

CHASE Pliny Earle 1820–1886

The Elements of arithmetic; for schools and academies. In which decimal and integral arithmetic are combined, and taught inductively, on the system of Pestalozzi. Part first [of two]

Philadelphia

Uriah Hunt and Son (C. Sherman, Printer), 1844

167mm. 1–144pp.

Endpaper inscribed *N. Mansfield, Salem Mass.*

Bound in contemporary leather-backed brown paper boards, text of title-page on upper cover, advertisements ('Preparing for publication… Part Second') printed on lower cover (spine chipped at foot).

¶ A copyright for this first edition was entered March 11, 1844. Copyright for 'Part second' was issued June 8, 1844. Karpinski p.458 (title-page reproduced); Checklist 44/1328; ERL 4488

See illustration opposite

62

CLARK Davis Wasgatt 1812–1871

Elements of algebra: embracing also the theory and application of logarithms; together with an appendix, containing infinite series, the general theory of equations, and the most approved methods of resolving the higher equations

New York

Harper & Brothers, 1843

226mm. 1–358pp.

Endpaper inscribed *Lyman Moorehouse.*

In a contemporary leather binding, red lettering-piece; marbled edges.

¶ 'An algebra written for teachers of arithmetic. It shows the constant struggle to give teachers some knowledge of their subject beyond the particular phase of it that they are teaching and claims that school teachers are not properly qualified to teach arithmetic without a knowledge of algebra' (Simon). A copyright for this first edition was entered May 23, 1843.

Karpinski pp.447–448 (title-page reproduced); Simon p.48; Checklist 43/1106

63

CLENDININ John

The Practical surveyor's assistant. In two parts. Part the I. being a table of difference of latitude and departure, fitted to every degree of the quadrant, and continued from one tenth of a perch to a mile. Part the II. a like table fitted to every quarter of a degree of the quadrant, and continued from one tenth of a perch to four hundred and fifty perches

Philadelphia

Printed by Benjamin Johnson for the author, 1793

202mm. (8) 1–45 (1), 1–45 (1)pp. including 'Subscriber's Names' (4pp.) and blanks (2pp.) among preliminaries

Bound in leather-backed paste-paper boards.

¶ Another setting of the title-page omitting Benjamin Johnson from the imprint is SM 25305 (title-page reproduced by Karpinski p.102). In this copy and the one in Brown University Library, 'the versoes of the list of subscribers are misprinted: F–K appears on the verso of S–Z and K–S on the verso of A–E' (RLIN record). The copy described by Bristol apparently measured just 125mm and comprised only 34pp.

Karpinski, Third supplement, p.201; SM 46718 (Bristol 8307); Batschelet 552

64

CLEVELAND Charles 1772–1872

Exchange tables, showing the value in dollars and cents of any sum of exchange on London, from one penny to five thousand pounds sterling. Commencing at par, and progressing by 1/4 to twelve per cent. advance. Second edition, with additional mercantile tables

Boston

Josiah Loring, 1838

228mm. (5) 1–32 (7)pp.

Bound in leather-backed marbled paper boards, printed label pasted on upper cover 'Tables of Exchange on London, with additional mercantile tables. Second edition… Price $1.25' (leather decayed, covers detached).

¶ The 'Preface to the second edition' is dated at Boston March 10, 1838. The first edition had been printed at Boston, by Lincoln and Edmands for the author, in 1814. Checklist 49758; not considered by Karpinski

65

CLOWES Timothy

The Root extractor, exhibiting new rules and processes, for the formation and resolution of equations of all orders in algebra; and for the evolution of the roots of any power in numbers: serving likewise as a key to all the examples of the cubic and higher equations in Bonnycastle's Introduction to algebra

New York

Published by Henry C. Sleight, 1831

194mm. 1–68, advertisements ('For sale, by the publisher of this work') 2pp.

Exlibris *Yale University Observatory. Bequest of Professor Elias Loomis LLD 1889.*

Bound in contemporary cloth-backed paper boards.

¶ The author, formerly head of Washington College, Maryland, opened a private school called the Long Island Academy, at Hempstead, New York. 'The preface is

examine him on that subject, after he has mastered the first four sections. If similar examinations are continued throughout the whole course of the work, the scholar who has properly studied merely the present volume, will be able to solve all questions that occur in ordinary business, readily and *understandingly.*

HINTS TO THE TEACHER.

The object of the text-book should be merely, to serve as a guide,—to point out the way, and assist the pupil, in removing any obstacles that may obstruct his progress. It is not sufficient, that the reader should have a tolerable understanding of its contents, or that he should be able to repeat by rote all its arbitrary rules; but he should be taught to form his own rules, and to apply the principles which he has himself discovered, in every possible manner. To give this full understanding, the aid of the teacher will be frequently required, and he will be enabled to give his assistance to the best advantage, by adopting a plan similar to the following, from which the author has derived great benefit.

At the end of every lesson, both in the Mental and the Written Exercises, the books are all closed, and original questions are proposed by the teacher, to the class, and by each pupil to his left-hand neighbour. In this manner, the familiarity of each one with the subject of the lesson, is thoroughly tested, and the teacher perceives at once what farther explanation is required.

The class are examined each day, on the preceding lesson, and are required frequently to review the part they have gone over. They are never allowed to enter on a new section, until they are perfectly familiar with the one they have left.

If the pupil finds any question contained in the book, too difficult, he is required to work out the statement with smaller numbers, until he perceives the course to be pursued.

At the recitations in Written Arithmetic, each scholar hands his slate to his neighbour. The proper mode of performing the sums is then stated, the correct answers are read from the key, and the errors marked on each slate, to be afterwards corrected by the owner. After the slates have been thus examined, one or more original questions are written on the board, to be solved and explained aloud, by different members of the class.

PHILADELPHIA, 1844.

THE

ELEMENTS OF ARITHMETIC.

MENTAL ARITHMETIC.

[THE teacher should illustrate this and the succeeding sections by grains of corn, beans, or some other small articles. Let him make piles of ten, and show that two piles will be called twenty; three piles, thirty; ten piles, one hundred, and so on. In this way, the pupil will soon learn to count a thousand, without difficulty.]

I.—1. Charles has one apple, and James gives him one more. How many does he then have? How many are one and one?

2. I have two pins, and my sister gives me one more. How many do I then have? How many are two and one?

3. George has three cents, and his father gives him one more. How many has he then? Three and one are how many?

4. How many fingers have you on one hand? How many thumbs? How many of both? Four and one are how many?

5. William has five plums in one hand and one in the other. How many has he in both hands? Five and one are how many?

(7)

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61. Pliny Chase, *The Elements of arithmetic; for schools and academies* (Philadelphia 1844)

written from that place and the book was probably used there… No later edition has been located. However the copy in the Library of Congress was printed by W. Hutchinson at Hempstead, L.I., in the same year' (Simon). Karpinski p.327 (title-page reproduced); Simon pp.26–27; Checklist 6566

66
COBB Lyman 1800–1864
Cobb's explanatory arithmetick, No.1; containing mental, theoretical, and practical exercises… Adapted to the understanding and use of small children, in families and schools
Ithaca, New York
Printed and published by Mack & Andrus; Stereotyped by Rees, Redfield, and Ripley – New York, 1832
146mm. 1–106pp.
Ownership inscription *Agnes Selin* [?] *Thompsontown Illanois* [sic].
Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover (leather decayed, covers illegible and detached).
¶ In 1832 Mack & Andrus also published Cobb's *Explanatory Arithmetick, No.2* (Karpinski p.338). Cobb was 'author of numerous texts, chiefly in spelling, reading, and arithmetic, millions of copies of which are said to have been sold… His books are the most reliable evidence of his life, and his only monument' (*DAB*, IV, pp.244–245). An incomplete copy at Cornell University is described by Douglas C. McMurtrie, 'Bibliography of books and pamphlets published at Ithaca, N.Y.', in *Grosvenor Library Bulletin* [Buffalo, New York] 19 (1937), no.4, p.67.
Checklist 11854; cf. ERL 4491 (as 216pp., presumably Nos.1–2 bound together); cf. Karpinski p.336 (another edition having imprint: New York: Collins & Hannay)

67
COFFIN James Henry 1806–1873
Elements of conic sections and analytical geometry
New York
Published by Collins & Brother, 1848
222mm. 1–158pp.
Exlibris *Yale University Observatory Bequest of Professor Elias Loomis LLD 1889*.
In a contemporary leather-backed cloth binding (covers detached).
¶ The author graduated Amherst College in 1828. In 1846 he took the chair of mathematics and natural philosophy at Lafayette College (*DAB*, IV, pp.267–268).
BAI 45, p.299; cf. Karpinski p.506 (variant title and imprint R.B. Collins and Brother)

68
COIT Samuel T.
Great circle sailing: being a specific application of spherical trigonometry to practical navigation. With a new great circle table, to abridge the calculation of courses on the arc of a great circle. To which are added problems in spherical trigonometry, Napier's rule of the circular parts, and Napier's analogies
New York
Published by the author, 1846
228mm. Advertisements ('Testimonials') 1–4pp., 1–58pp. Bound in leather-backed brown paper boards, upper cover printed 'Great Circle Sailing' (leather decayed).
¶ The printed copyright notice is dated 1846 and the latest of the printed 'Testimonials' April 28, 1846. No previous edition is recorded by Karpinski.
Karpinski p.487 (title-page reproduced)

69
COLBURN Warren 1793–1833
Arithmetic; being a sequel to First lessons in arithmetic
Boston
Published by Cummings and Hilliard; Hilliard and Metcalf, printers, 1822
178mm. 1–12, 1–288pp.
In a contemporary leather binding, red lettering-piece (covers detached).
¶ The author graduated Harvard in 1820 and opened a private school in Boston. In 1821 he published there *An Arithmetic on the plan of Pestalozzi*, reprinted in 1822 as *First lessons in arithmetic on the plan of Pestalozzi*, and in 1826 as *Intellectual arithmetic, upon the inductive method of instruction*. Editions of that immensely popular primary arithmetic were published as late as 1895.
The present work was directed at slightly more advanced pupils: 'It will be extremely useful, though not absolutely necessary, for pupils of every age, to study the "First Lessons", previous to commencing this treatise' (prefatory note). The copyright for *Arithmetic; being a sequel to First lessons in arithmetic* was entered October 13, 1822; it also passed through numerous editions.
Karpinski p.242 (title-page reproduced); Checklist 8378
See illustration opposite

70
COLBURN Warren 1793–1833
Arithmetic; being a sequel to First lessons in arithmetic. Third edition
Boston
Published by Cummings, Hilliard, & Co., 1826
174mm. 1–11 (1), 1–267 (1)pp.
Ownership inscriptions on title-page of *Frances R.* and

31. Seventy millions, two hundred and fifty thousand, three hundred and sixty seven.

32. Four hundred and seven trillions, and eighty seven thousand.

33. Thirty five billions, ninety eight thousand, one hundred.

34. Forty millions, two hundred thousand, and seventy four.

35. Eighty three millions, seven hundred and sixty three thousand, nine hundred and fifty seven.

———

Addition.

11. 1.* A man bought a watch for fifty eight dollars, a cane for five dollars, a hat for ten dollars, and a pair of boots for six dollars. What did he give for the whole?

2. In an orchard there are six rows of trees; in the two first rows, there are fifteen trees in each row; in the third row, seventeen; in the fourth row, eleven; in the fifth row, eight; and in the sixth row, nineteen. How many trees are there in the orchard?

3. Four men bought a piece of land: the first gave sixty three dollars; the second, seventy eight; the third, forty five; and the fourth, twenty three. How much did they give for the land?

4. In an orchard 19 trees bear cherries, twenty eight bear peaches, 8 bear plums, and 54 bear apples. How many trees are there in the orchard?

5. How many days are there in a year, there being in January 31 days; in February 28; in March 31; in April 30; in May 31; in June 30; in July 31; in August 31; in September 30; in October 31; in November 30; in December 31?

6. The distance from Portland (in Maine) to Boston, is 114 miles; from Boston to Providence, 40 miles;

* See First Lessons, sec. I.

from Providence to New-Haven, 122 miles; from New-Haven to New-York, 88 miles; from New-York to Philadelphia, 95 miles; from Philadelphia to Baltimore, 102 miles; from Baltimore to Charleston S. C., 716 miles; from Charleston to Savannah, 110 miles. How many miles is it from Portland to Savannah?

7. What number of dollars are there in four bags; the first containing 275 dollars; the second, 356; the third, 178; the fourth, 69?

8. How many times does the hammer of a clock strike in 24 hours?

Note. At 1 o'clock it strikes once, at 2 o'clock it strikes twice, &c.

9. A man has four horses; the first is worth sixty seven dollars; the second is worth eighty four dollars; the third is worth one hundred and twenty dollars; and the fourth is worth one hundred and eighty seven dollars; and he has four saddles worth twelve dollars a piece. How much are the horses and saddles worth?

10. A man owns five houses; for the first he receives a rent of 427 dollars; for the second, 763 dollars; for the third, 654 dollars; for the fourth, 500 dollars; and for the fifth, 325 dollars; and the rest of his income is 3,250 dollars. What is his whole income?

11. A Gentleman owns five farms, the first is worth 11,500 dollars; the second, 8,057 dollars; the third 2,468 dollars; the fourth, 9,462 dollars; and the fifth, 850 dollars; and he owns a house worth 15,000 dollars; a carriage worth 753 dollars, and two horses worth 175 dollars a piece. How much are they all worth?

12. A merchant bought four pieces of cloth, each piece containing 57 yards. For the first piece he gave 235 dollars; for the second, 384 dollars; for the third 327 dollars; and for the fourth, 486 dollars. How many yards of cloth did he buy? How much did he give for the whole?

13. In 1818 the navy of the United States consisted

1*

69. Warren Colburn, *Arithmetic; being a sequel to First lessons in arithmetic* (Boston 1822)

Eliphalet Ladd dated *1830* and *1835*.
In a contemporary leather binding, black lettering-piece.
Karpinski p.243; Checklist 24149

71
COLBURN Warren 1793–1833
Arithmetic upon the inductive method of instruction:
being a sequel to Intellectual arithmetic
Boston
Hilliard, Gray, Little, and Wilkins; Stereotyped at the
Boston Type and Stereotype Foundry, 1827
170mm. 1–245 (5)pp.
In a contemporary leather binding, black lettering-piece.
¶ When in 1826 Colburn's *First lessons in arithmetic* evolved
into *Intellectual arithmetic, upon the inductive method of instruc-
tion*, editions of its continuation, *Arithmetic; being a sequel
to First lessons in arithmetic*, were retitled *Arithmetic upon the
inductive method of instruction: being a sequel to Intellectual arith-
metic*. The present edition is the third issued under the
revised title.
Karpinski p.243; Checklist 28534; ERL 4496

72
COLBURN Warren 1793–1833
Arithmetic upon the inductive method of instruction:
being a sequel to Intellectual arithmetic
Boston
Hilliard, Gray, Little, and Wilkins; Stereotyped at the
Boston Type and Stereotype Foundry, 1830
176mm. 1–245 (5)pp.
Endpaper inscribed *Elizabeth S. Moultons Kensington Oct.
13th 1831*.
In a contemporary leather binding.
Checklist 938; this edition not listed by Karpinski

73
COLBURN Warren 1793–1833
Arithmetic upon the inductive method of instruction
being a sequel to Intellectual arithmetic
Boston
Published by Hilliard, Gray & Co., 1833
183mm. 1–245 (5)pp.
Endpaper inscribed *Ellen Lake Portsmouth N.H.*
In a contemporary leather binding (head and foot of spine
chipped).
Karpinski p.244; Checklist 18321

74
COLBURN Warren 1793–1833
Arithmetic upon the inductive method of instruction
being a sequel to Intellectual arithmetic
Boston

Published by Hilliard, Gray & Co., 1834
185mm. 1–245 (5)pp.
In a contemporary leather binding, red lettering-piece.
Karpinski p.244; cf. Checklist 23894 ('New York, Pub-
lished by Roe Lockwood; Boston, Hilliard, Gray and Co.')

75
COLBURN Warren 1793–1833
A Key, containing answers to the examples in the Sequel
to intellectual arithmetic
Boston
Hilliard, Gray, Little and Wilkins, 1830
179mm. 1–70pp.
Booksellers' label on pastedown *Sold by W.P. Gray…
Fredericksburg, Va.*
Bound in leather-backed tan paper boards (front joint
cracked).
¶ The earliest edition of this *Key* listed by Karpinski is
dated 1823.
Karpinski p.244; Checklist 943; ERL 4511

76
COLBURN Warren 1793–1833
First lessons in arithmetic on the plan of Pestalozzi. With
some improvements. Stereotype edition
Boston
Published by Cummings, Hilliard, & Co.; Stereotyped by
T.H. & C. Carter, 1823
144mm. 1–12, 1–160pp.
Bound in contemporary leather-backed marbled paper
boards (leather decayed, upper cover detached).
¶ 'The most successful child's arithmetic, popular to the
end of the century' (Karpinski). The first edition had been
published in 1821.
Karpinski p.237 (title-page reproduced); Checklist 12200

77
COLBURN Warren 1793–1833
Intellectual arithmetic, upon the inductive method of
instruction
Watertown, New York
Published by Knowlton & Rice; Stereotyped at the Boston
Type and Stereotype Foundry Late T.H. Carter & Co.,
1827
143mm. 1–178pp.
Bound in leather-backed marbled paper boards.
¶ A revision of *First lessons in arithmetic on the plan of
Pestalozzi*, first printed in 1826. The title-page is headed
'Colburn's First Lessons'.
Karpinski p.237; Checklist 28536

78

COLBURN Warren 1793–1833

Intellectual arithmetic, upon the inductive method of instruction

Hallowell, Maine

Glazier and Co.; Boston: Hilliard, Gray, Little, and Wilkins; Stereotyped at the Boston Type and Stereotype Foundry, 1828

146mm. 1–172 (6)pp.

Endpaper inscribed *Martha Esterbrook… 1834 Ipswich. Mass.* Bound in leather-backed paper boards, text of title-page on upper cover, advertisements printed on lower cover (leather worn, covers soiled).

Karpinski p.237; Checklist 32758

79

COLBURN Warren 1793–1833

Intellectual arithmetic, upon the inductive method of instruction

Watertown, New York

Published by Knowlton & Rice; Stereotyped at the Boston Type and Stereotype Foundry Late T.H. Carter & Co., 1830

145mm. 1–178pp.

Red ink stamp on title-page *Claude A. Nichols… N.Y.* Bound in contemporary marbled paper boards, original leather back reinforced with adhesive cloth.

Karpinski p.238; Checklist 941

80

COLBURN Warren 1793–1833

Intellectual arithmetic, upon the inductive method of instruction

Boston

Hilliard, Gray, & Co.; Stereotyped at the Boston Type and Stereotype Foundry, 1836

152mm. 1–172pp.

Endpaper inscribed *Miss Mary E. Spofford Book… 1842.* Bound in contemporary leather-backed marbled paper boards (leather decayed).

Karpinski p.238; Checklist 36805

81

COLBURN Warren 1793–1833

Intellectual arithmetic, upon the inductive method of instruction

Hallowell, Maine

Glazier, Masters, & Smith; Boston: Hilliard, Gray, & Co.; Stereotyped at the Boston Type and Stereotype Foundry, 1836

149mm. 1–172pp., advertisements ('Improved school books') 6pp.

Inscribed *F.W. Goodale*; exlibris *Phillips Academy* [Exeter] *Currier Historical Collection*, released 1956.

Bound in contemporary leather-backed tan paper boards, text of title-page on upper cover, advertisements ('Glazier, Masters, & Smith… Kennebec-Row, Hallowell') printed on lower cover (leather decayed).

Karpinski p.239; Checklist 36804; ERL 4499

82

COLBURN Warren 1793–1833

Intellectual arithmetic, upon the inductive method of instruction. Stereotyped edition

Portland, Maine

R.H. Sherburne; Stereotyped at the Boston Type and Stereotype Foundry, 1842

152mm. 1–172pp.

Endpaper inscribed *Isabell Wingate, Shotham, N.H.* Bound in contemporary leather-backed tan paper boards, text of title (but imprint Sanborn, Sherburne & Co., 1841) on upper cover, advertisements ('Schoolbooks printed by Sanborn, Sherburne & Co.') printed on lower cover (leather back decayed, lower cover rubbed).

¶ Karpinski records no edition with cover date 1841.

Karpinski p.239; Checklist 42/1175

83

COLBURN Warren 1793–1833

Intellectual arithmetic, upon the inductive method of instruction

Boston

William J. Reynolds & Co.; Stereotyped at the Boston Type and Stereotype Foundry, [undated; *circa* 1845]

152mm. 1–172 (4)pp.

Endpaper inscribed *Anna H. Hill Lowell, Mass.*

Bound in leather-backed tan paper boards, text of title-page on upper cover, advertisements printed on lower cover (backstrip worn, upper cover nearly detached).

¶ An advertisement printed at end is dated June 1845. In this copy, the street address of the publisher ('20 Cornhill') is printed on the title-page and the first twelve pages paginated in Roman numerals. Another undated edition published by Reynolds has that street address on upper cover only and first twelve pages paginated in Arabic numerals (cf. BAI 18, p.233).

Cf. Karpinski p.239, an edition by Reynolds with publication date 1845 inferred

84
COLBURN Warren 1793–1833
Intellectual arithmetic, upon the inductive method of instruction
Boston
Brown, Taggard & Chase, [undated; after 1849]
152mm. 1–160pp. including preliminary advertisements ('Publications of Brown, Taggard & Chase')
Bound in contemporary leather-backed boards with tan paper covers, text of title-page on upper cover, advertisements printed on lower cover (spine worn, covers rubbed).
¶ The copyright notice printed in this edition is dated 1849. This edition not listed by Karpinski

85
COLBURN Warren 1793–1833
An Introduction to algebra upon the inductive method of instruction
Boston
Cummings, Hilliard, and Company (Cambridge: University Press, Hilliard & Metcalf), 1825
195mm. 1–12, 1–372pp.
Bound entirely uncut in contemporary boards, printed lettering-piece on spine (upper cover lacking).
¶ The copyright of this first edition was entered June 24, 1825.
Karpinski p.262 (title-page reproduced); Simon pp.22–23; Checklist 20114

86
COLBURN Warren 1793–1833
An Introduction to algebra upon the inductive method of instruction
Boston
Cummings, Hilliard, and Company; Printed at Treadwell's Power Press; Stereotyped at the Boston Type and Stereotype Foundry, late T.H. Carter and Co., 1826
198mm. 1–276pp., advertisements 'Improved school books' 2pp.
In a contemporary leather binding (covers detached).
Karpinski p.262; Simon p.23; cf. Checklist 24153 (imprint: Boston, Hilliard, Gray, Little and Wilkins)

87
COLBURN Warren 1793–1833
An Introduction to algebra upon the inductive method of instruction
Boston
Published by Hilliard, Gray & Co., 1833
187mm. 1–276pp. advertisements ('Improved school books') 2pp.
Ownership inscription *William H. Gilman, Exeter Academy,*

N.H., Commenced at the beginning of the Fall term 1841 Sept.
In a contemporary leather binding, black lettering-piece.
Karpinski p.263; Simon p.23; Checklist 18326; ERL 4263

88
COLBURN Warren 1793–1833
An Introduction to algebra, upon the inductive method of instruction
Boston
Published by Hilliard, Gray & Co., 1838
185mm. 1–276pp.
Endpaper inscribed *John M. Veasey Exeter 1840.*
In a contemporary leather binding, black lettering-piece.
Karpinski p.263; Simon p.23; Checklist 49784; ERL 4264

89
COLBURN Warren 1793–1833
An Introduction to algebra, upon the inductive method of instruction
Boston
Published by T. Wiley, Jr., 1848
183mm. 1–276pp. advertisements 8pp.
In a contemporary leather binding, black lettering-piece.
Karpinski p.263; Simon p.23

90
COLBURN Warren 1793–1833
A Key containing the answers to the examples in the Introduction to algebra upon the inductive method of instruction
Boston
Hilliard, Gray, Little and Wilkins; Stereotyped at the Boston Type and Stereotype Foundry, 1829
204mm. 1–50pp.
Label on paste-down *Little & Cummings Booksellers Albany.*
Bound in leather-backed tan paper boards (upper cover detached).
¶ The copyright of this *Key* was entered May 11, 1827.
Karpinski p.263; Checklist 38215

91
COLBURN Warren 1793–1833
A Key containing the answers to the examples in the Introduction to algebra upon the inductive method of instruction
Boston
Hilliard, Gray, Little and Wilkins; Stereotyped at the Boston Type and Stereotype Foundry, 1830
204mm. 1–50pp.
Bound in leather-backed tan paper boards (upper cover detached).
cf. Karpinski p.263 (other editions)

92

[COLBURN Zerah 1804–1840]

A Memoir of Zerah Colburn; written by himself. Containing an account of the first discovery of his remarkable powers; his travels in America and residence in Europe; a history of the various plans devised for his patronage; his return to this country, and the causes which led him to his present profession; with his peculiar methods of calculation

Springfield, Massachusetts

Published by G. and C. Merriam (G. & C. Merriam, Printers... Springfield), 1833

183mm. 1–204pp., portrait

In a contemporary leather binding, black lettering-piece.

¶ Only edition. The author was a mathematical prodigy and from 1835 professor of languages in Norwich University, Vermont (*DAB*, IV, pp.283–284).

Karpinski p.348 (title-page reproduced); Checklist 18332

93

COLUMBIAN...

The Columbian arithmetician; or new system of theoretical and practical arithmetic, in three parts: performed in simple and compound numbers; adapted to the commerce of the United States; and designed for the instruction of youth. By an American

Haverhill, Massachusetts

Printed by William B. Allen, 1811

176mm. 1–216pp.

Bound in leather-backed boards, covered by marbled printers' waste.

¶ A copyright for this first edition was entered February 18, 1811.

Karpinski pp.182–183 (title-page reproduced); AB 22580 (as 206pp.)

94

COMPLETE...

A Complete ready reckoner, in dollars and cents, to which are added, forms of notes, bills, receipts, petitions, &c. Together with a set of useful tables, containing a rate of interest from one dollar to twelve thousand, by the single day; with a table of wages, and board by the week and day

Philadelphia

Published by W.A. Leary; New York: Nafis and Cornish, 1847

132mm. 1–178pp.

Bound in contemporary leather-backed marbled paper boards.

¶ The printed copyright notice naming Michael Kelly as proprietor is dated 1839. An edition without imprint, dated 1839, is listed by Karpinski; further editions dated

1843 and 1850 are reported to RLIN.

Cf. Karpinski p.409 (apparently without 'Philadelphia, Published by W.A. Leary' in imprint)

95

CORNELL Stephen

The Traders ready reckoner, containing, a marketing table; an interest table; a table for casting wages by the day and month; and a table for casting gross weight

Hudson, New York

Printed for the author by Ashbel Stoddard, 1819

174mm. 1–186pp., folding letterpress table

Endpaper inscribed *Mrs A.M. Pratt* [?] *Nebraska.*

In a contemporary leather binding (front joint cracked).

¶ The author's 'Preface' is dated at Clinton, December 18, 1818, and the printed copyright notice November 26, [1818]. No other edition is listed by Karpinski or BAI 45, p.404.

Karpinski p.228 (title-page reproduced); AB 47731

96

CROSBY Alpheus 1810–1874

First lessons in geometry, upon the model of Colburn's first lessons in arithmetic... With an introduction, by Stephen Chase

Boston

J. Munroe & Co., *etc.* (Cambridge: Metcalf and Company, Printers to the University), 1847

166mm. (2) 5–164pp. (evidently complete), seven diagrams on 14pp.

Author's presentation inscription on endpaper *For Professor Loomis with the best regards of A.C.*; exlibris *Yale University Observatory. Bequest of Professor Elias Loomis 1889.*

Bound in leather-backed brown paper boards, text of title-page on upper cover, advertisements printed on lower cover.

¶ The advertisements printed on the lower cover are dated March, 1847. Preceding the work is 'An essay upon the study of geometry in common schools' by Stephen Chase (also published separately, at Hanover, New Hampshire, 1847).

Karpinski p.497, calling for three plates only (title-page reproduced)

97

CROSBY Alpheus 1810–1874

First lessons in geometry, upon the model of Colburn's first lessons in arithmetic... With an introduction, by Stephen Chase

Boston

J. Munroe & Co., *etc.* (Cambridge: Metcalf and Company, Printers to the University), 1847

166mm. (2) 5–164pp. (evidently complete), seven diagrams on 14pp.

Endpaper inscribed *W.C. Underhill, Auburn, N.H. Presented by your uncle Stephen Chase.*

Bound in leather-backed brown paper boards, text of title-page on upper cover, advertisements ('The publishers of this work have also the following by the same author…') printed on lower cover.

¶ The advertisements printed on the lower cover are dated July, 1847.

Karpinski p.497, calling for three plates only (title-page reproduced)

98
CURTIS George
A Treatise on Gunter's scale, and the sliding rule: together with a description and use, of the sector, protractor, plain scale, and line of chords… To these are added several useful logarithmick tables, tables of latitude and departure, and a table of natural radii, not known to have been heretofore published; also a table of round, and square timber
Whitehall, New York
Printed and published by E[rastus] Adams, 1824
179mm. 1–119 (1)pp.
Inscribed *P. Walker* on p.3.
Bound in contemporary leather-backed brown paper boards.
¶ The 'Recommendations' printed before the work are dated 1824. No other edition is listed by Karpinski or in the Checklist of American Imprints.
Karpinski p.256 (title-page reproduced); Checklist 15910

99
DABOLL Nathan 1750–1818
Daboll's schoolmaster's assistant; being a plain practical system of arithmetic: adapted to the United States. Fourth edition
New London, Connecticut
Printed by Cady & Eells; for Samuel Green, [undated; after 1805]
162mm. 1–228pp.
Pastedown inscribed *S. Harding's Book.*
In a contemporary leather binding (covers detached).
¶ 'The most popular American arithmetic between 1800 and 1850' (Karpinski). The specimen 'Inland bill of exchange' is dated June 1, 1805 (p.228). A fourth edition by Cady & Eells dated 1805 is also recorded (AB 8282).
Cf. Karpinski p.128, AB 8281 (both as 288pp.)

100
DABOLL Nathan 1750–1818
Daboll's schoolmaster's assistant; being a plain practical

system of arithmetic: adapted to the United States. Sixth Connecticut edition
New London, Connecticut
Printed by Ebenezer P. Cady, for Samuel Green, [undated; *circa* 1808]
160mm. 1–228pp.
Multiple inscriptions on endpapers *Samuel G.*, *Alfred* and *Elisha Allyn*, all apparently students at Groton school, once dated *1821*.
Bound in contemporary leather over wooden boards.
¶ One of the 'Recommendations' printed before the work is dated December 1807.
Cf. Karpinski p.128 (edition dated [1808]) and AB 14818 (dated [1808])

101
DABOLL Nathan 1750–1818
Daboll's schoolmaster's assistant: improved and enlarged. Being a plain practical system of arithmetic: adapted to the United States. First revised edition
New London, Connecticut
Printed and sold by Samuel Green, 1812
163mm. 1–240pp.
Title inscribed *Laura Rodgers.*
In a contemporary leather binding (front joint cracked).
¶ The copyright for a 'first revised edition' was entered October 21, 1811.
Karpinski p.128; AB 25206

102
DABOLL Nathan 1750–1818
Daboll's school-master's assistant, improved and enlarged. Being a plain practical system of arithmetic: adapted to the United States. Stereotype edition
Norwich, Connecticut
Published by Russell Hubbard; Hubbard & Marvin printers, 1818
163mm. 1–240pp.
Endpaper inscribed *Abner Austin's Book Wallingford… 1824.*
In a contemporary leather binding (joints cracked).
Karpinski p.128; Karpinski, Second supplement, p.176; AB 43796; ERL 4532

103
DABOLL Nathan 1750–1818
Daboll's schoolmaster's assistant, improved and enlarged. Being a plain practical system of arithmetic: adapted to the United States. Stereotype edition
Norwich, Connecticut
Published by Russell Hubbard; Hubbard & Marvin Printers, 1819
162mm. 1–240pp.

[STEREOTYPE PRINT.]

DABOLL'S
SCHOOLMASTER'S ASSISTANT.

IMPROVED AND ENLARGED,

BEING A PLAIN

PRACTICAL SYSTEM

OF

ARITHMETIC,

ADAPTED TO THE UNITED STATES.

BY NATHAN DABOLL.

WITH THE ADDITION OF

THE

PRACTICAL ACCOUNTANT;

OR,

FARMERS' AND MECHANICS'

BEST METHOD OF BOOK-KEEPING;

FOR THE EASY INSTRUCTION OF YOUTH

DESIGNED

AS A COMPANION TO DABOLL'S ARITHMETIC.

BY SAMUEL GREEN

ALBANY:

PUBLISHED BY OLIVER STEELE, 437 SOUTH MARKET-STREET

1828.

105. An unrecorded edition of Nathan Daboll's *Schoolmaster's assistant* (Albany, New York 1828)

Endpaper inscribed *Francis J. Thatcher's Book Norwich Conn... 1828*.

Bound in contemporary leather-backed marbled paper boards.

Karpinski p.128; AB 47766

104

DABOLL Nathan 1750–1818

Daboll's schoolmaster's assistant, improved and enlarged, being a plain practical system of arithmetic, adapted to the United States... With the addition of the practical accountant; or, farmer's and mechanics' best method of book-keeping; for the easy instruction of youth. Designed as a companion to Daboll's Arithmetic. By Samuel Green. Stereotype print

Albany, New York

Printed and published by E. & E. Hosford, 1825

157mm. 1–240, 1–6 (6)pp.

Endpaper inscribed *Lucius E. Maynard*.

In a contemporary leather binding (front joint broken).

Karpinski p.129; Checklist 20245; ERL 4533

105

DABOLL Nathan 1750–1818

Daboll's schoolmaster's assistant, improved and enlarged, being a plain practical system of arithmetic: adapted to the United States. With the addition of the practical accountant; or, farmer's and mechanics' best method of book-keeping; for the easy instruction of youth. Designed as a companion to Daboll's Arithmetic. By Samuel Green. Stereotype print

Albany, New York

Published by Oliver Steele, 1828

158mm. 1–240, 1–7 (5)pp.

Endpaper inscribed *Mehetabel Cynthia Chesebrough... Albany County 1830*.

Bound in contemporary leather (covers detached).

Cf. Karpinski p.129, Checklist 32876–32879 for other editions of this date published at New London, Middletown, Ithaca, and New York

106

DABOLL Nathan 1750–1818

Daboll's schoolmaster's assistant, improved and enlarged being a plain practical system of arithmetic, adapted to the United States. With the addition of the farmer's and mechanics' best method of book-keeping, designed as a companion to Daboll's Arithmetic. By Samuel Green

Utica, New York

Printed and sold by Gardiner Tracy, late Hastings & Tracy, 1832

151mm. 1–240, 1–7 (5)pp.

In a contemporary leather binding.

Cf. Karpinski p.130, Checklist 12056 (both recording imprint as Hastings & Tracy)

107

DABOLL Nathan 1750–1818

Daboll's schoolmaster's assistant, improved and enlarged. Being a plain practical system of arithmetic, adapted to the United States. With the addition of the farmer's and mechanics' best method of book-keeping, designed as a companion to Daboll's Arithmetic. By Samuel Green

Utica, New York

Printed and sold by Gardiner Tracy, 1835

158mm. 1–240, 1–6 (6)pp.

In a contemporary leather binding (spine lacking, lower cover detached).

Karpinski p.130; cf. Checklist 31240 (imprint: Utica, Mack, Andrus and Woodruff, 1835)

108

DABOLL Nathan 1750–1818

Daboll's complete schoolmaster's assistant: being a plain comprehensive system of practical arithmetic, adapted to the use of schools in the United States: exemplified and illustrated in a manner calculated to engage the minds of youth in their study, and impart to them a thorough knowledge of practical arithmetic. By Nathan Daboll, A.M. and David A. Daboll

New London, Connecticut

Bolles & Williams (E. Williams, Printer, New-London), 1843

156mm. 1–249 (1)pp.

Endpaper inscribed *Wm L. Adams*.

Bound in contemporary leather-backed blue paper boards, the text of the title-page on upper cover, advertisements printed on lower cover (joints cracked).

¶ 'This work may be regarded as an edition of Nathan Daboll's *Schoolmaster's Assistant* of 1800' (Karpinski). The editors were Nathan Daboll (1782–1863), son of the author, and his son, David Austin Daboll (1813–?). The copyright notice printed in this edition is dated 1836; the latest of the specimen notes, receipts, *etc.*, is dated 1837.

Cf. Karpinski p.381, listing editions published by Bolles dated 1836, 1845, 1849; no 1843 edition in Checklist

109

DABOLL Nathan 1750–1818

A Key to Daboll's arithmetic, containing correct solutions to all the examples and questions, at full length... To which is added a new method of solving the irreducible case of cubic equations, and applied to the extraction of the cube

root; also, 250 curious and abstruse, arithmetical, mathematical, and philosophical questions [by John D. Williams]
New York
Published by H. & S. Raynor (Stereotyped by Smith & Wright), 1842
161mm. 1–180pp.
In a contemporary leather binding, red lettering-piece.
¶ 'The learned, and those far advanced in the Science, will readily perceive that the following work was never intended for their use, but for the benefit of the assiduous school-boy…' (from the editor's 'Preface'). The preliminary 'Advertisement to the New Stereotype Edition' is dated February, 1837. Some of the appended 'questions' had been published in Williams' *The Mathematical companion* (New York 1828–1831).
Cf. Karpinski pp.130–131, earlier editions of the *Key* under H. & S. Raynor imprint; this edition not traced in Checklist

110
DAVIES Charles 1798–1876
Arithmetic, designed for academies and schools
Philadelphia
Published by A.S. Barnes and Co. (C. Sherman and Co., Printers… Philadelphia), 1842
167mm. 1–10, 21–340pp. (evidently complete)
Multiple ownership inscriptions of *William H. Jersey*, once dated *1845*.
Bound in contemporary leather-backed paper boards, text of title on upper cover, advertisements ('Davies' Course of mathematics') printed on lower cover.
¶ The author was professor of mathematics at the Military Academy, West Point, from 1823 to 1837, afterwards at Trinity College, Hartford, 1839–1841, and Columbia College 1857–1867. The present work is an enlarged and improved edition of his *Common school arithmetic* published in 1833. In this edition, the preface is dated at Hartford, 1840, and the copyright entered at New York, 1838. Martin claimed to possess Davies' *Arithmetic* in an edition published by Barnes at Hartford, dated 1838 (Greenwood & Martin p.837). Karpinski knew no edition of the work earlier than one published by A.S. Barnes in 1841.
Checklist 42/1412; cf. Karpinski p.425 (no edition dated 1842 listed)

111
DAVIES Charles 1798–1876
Arithmetic, designed for academies and schools
Philadelphia
Published by A.S. Barnes and Co., 1843
165mm. 1–10, 21–340pp. (complete)
Bound in contemporary leather-backed brown paper

boards, text of title-page on upper cover, advertisements ('Davies' Course of mathematics') printed on lower cover.
Karpinski p.425; Checklist 43/1442; ERL 4548

112
DAVIES Charles 1798–1876
Key to Davies' Arithmetic: with additional examples. For the use of teachers only
New York
Published by A.S. Barnes & Co., 1845
167mm. 1–278pp.
Bound in contemporary leather-backed tan paper boards, text of title on upper cover, advertisements ('Davies' Course of mathematics') printed on lower cover (backstrip lacking).
¶ The earliest *Key* listed by Karpinski was published by Barnes in 1844.
Karpinski p.427

113
DAVIES Charles 1798–1876
Key to Davies' arithmetic. For the use of teachers only
New York
Published by A.S. Barnes & Co.; Cincinnati: H.W. Derby & Co., 1849
165mm. 1–272pp.
Bound in contemporary leather-backed brown paper boards, text of title-page printed on upper cover (spine mostly lacking, lower cover missing).
¶ Promoted as a 'New and Improved Edition' on the printed cover.
Cf. Karpinski p.427, listing other editions

114
DAVIES Charles 1798–1876
The Common school arithmetic, prepared for the use of academies and common schools in the United States, and also for the use of the young gentlemen who may be preparing to enter the Military Academy at West Point
Hartford, Connecticut
Published by H.F. Sumner & Co., 1834
149mm. 1–270pp.
Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements ('Books published by H.F. Sumner & Co.') printed on lower cover (leather decayed, covers detached).
¶ The first edition of this work had been published at Hartford, by H.F. Sumner, in 1833.
Karpinski p.349; Checklist 24102

115
DAVIES Charles 1798–1876
Mental and practical arithmetic. Designed for the use of
academies and schools
Hartford, Connecticut
Published by Alfred S. Barnes (Stereotyped by Henry W.
Rees… New York), 1839
168mm. 1–334pp.
Bound in contemporary leather-backed blue paper boards,
text of title-page on upper cover, advertisements ('Davies'
Course of mathematics') printed on lower cover (joints
broken).
¶ Regarded by Karpinski as a revision of Davies' *Common
school arithmetic*.
Karpinski p.349; Checklist 55270

116
DAVIES Charles 1798–1876
Elementary geometry, with applications in mensuration
New York
Published by A.S. Barnes & Co. (C.A. Alvord, Printer…
New York), 1845
185mm. 1–216pp.
In a contemporary leather binding (backstrip lacking).
¶ A revision of Davies' *Elements of geometry, with applica-
tions in mensuration*, first published in 1841.
Cf. Karpinski p.427, listing other editions

117
DAVIES Charles 1798–1876
Elements of analytical geometry: embracing the equations
of the point, the straight line, the conic sections, and
surfaces of the first and second order
New York
Wiley & Long, Collins, Keys, & Co., *etc.* (Henry W. Rees,
Stereotyper… New-York), 1836
199mm. 1–352pp.
Endpaper inscribed *Charles J. Gilman Exeter N.H.* and title-
page blindstamped *The Phillips Exeter Academy Library
Exeter N.H.*
In a contemporary leather binding, red lettering-piece.
¶ A copyright for this first edition was entered August 12,
1836.
Karpinski p.381 (title-page reproduced); Checklist 37023

118
DAVIES Charles 1798–1876
Elements of analytical geometry: embracing the equations
of the point, the straight line, the conic sections, and
surfaces of the first and second order. Second edition.
Revised and corrected
Hartford, Connecticut

A.S. Barnes & Co.; New York: Wiley & Putnam, *etc.*
(Henry W. Rees, Stereotyper… New York), 1839
204mm. 1–352pp.
Endpaper inscribed *E. Loomis.* Exlibris *Yale University
Observatory Bequest of Professor Elias Loomis LLD 1889.*
In a contemporary leather binding.
¶ This 'second edition' also appeared wirh a title-page
dated 1838 (reproduced by Karpinski p.382).
Karpinski p.381; Checklist 55263

119
DAVIES Charles 1798–1876
Elements of descriptive geometry, with their application
to spherical trigonometry, spherical projections, and
warped surfaces
New York
A.S. Barnes & Co., 1856
218mm. 1–174pp., thirty-four plates
Endpaper inscribed *William H. Yeomans, Yale Scientific
School, New Haven.*
In a contemporary leather binding, black lettering-piece
(covers detached, spine worn).
¶ The first edition of this work had appeared in 1826.
Cf. Karpinski pp.269–270, listing earlier editions

120
DAVIES Charles 1798–1876
Elements of surveying, and navigation; with a description
of the instruments and the necessary tables. Fifth edition
Philadelphia
Published by A.S. Barnes and Co. (Stereotyped by Henry
W. Rees… New York), 1841
205mm. 1–188, 1–100pp., six plates
Endpaper inscribed *James W. Heard.*
In a contemporary leather binding (joints cracked).
¶ First printed as *Elements of surveying* in 1830.
Karpinski p.314; Checklist 41/1466

121
DAVIES Charles 1798–1876
Elements of the differential and integral calculus. Second
edition. Revised and corrected
Hartford, Connecticut
A.S. Barnes and Co.; New York: Wiley & Putnam, *etc.*
(Henry W. Rees, Stereotyper… New York), 1839
200mm. 1–283 (1)pp.
Endpaper inscribed *Edgar Haas.*
In a contemporary leather binding (upper cover detached).
¶ The first edition had been published in 1836.
Karpinski p.384; Checklist 55267

122

DAVIES Charles 1798–1876

First lessons in algebra, embracing the elements of the science

Hartford, Connecticut

A.S. Barnes & Co.; New York: Wiley & Putnam, *etc.* (Stereotyped by Henry W. Rees... New York), 1839

190mm. 1–252pp.

In a contemporary leather binding.

¶ The copyright for this work was entered October 10, 1838, and the first edition published with imprint 'A.S. Barnes & Co., Hartford', in 1838. The present edition is the next listed by Karpinski, though nowhere designated 'second edition'.

Karpinski p.404; Simon p.37; Checklist 55268

123

DAVIES Charles 1798–1876

First lessons in algebra, embracing the elements of the science

Philadelphia

Published by A.S. Barnes and Co., 21 Minor Street, [undated; after 1838]

187mm. 1–252pp.

In a contemporary leather binding.

¶ In this undated edition, the preface and copyright notice are both dated 1838. It is the third of the editions listed by Karpinski; Simon records no undated edition.

Karpinski p.405; cf. Checklist 50007 (edition dated 1838)

124

DAVIES Charles 1798–1876

Elementary algebra: embracing the first principles of the science

Philadelphia

Published by A.S. Barnes & Co. (C. Sherman, Printer... Philadelphia), 1844

185mm. 1–7 (1), 1–279 (1)pp.

In a contemporary leather binding, black lettering-piece.

¶ 'The contents of this work are identical with *First lessons* by the same author except for the addition of the Introduction and a chapter on the theory of logarithms' (Simon). Copies of this edition with New York added to the imprint were seen by Simon.

Karpinski p.405; Simon p.44; Checklist 44/1848

125

DAVIES Charles 1798–1876

Elementary algebra: embracing the first principles of the science

New York

Published by A.S. Barnes & Co.; Cincinnati: H.W. Derby

& Co. (C.A. Alvord, Printer), 1848

188mm. 1–7 (1), 1–279 (1)pp.

Endpaper inscribed *Ella M. Wiggin.*

In a contemporary leather binding, black lettering-piece (front joint split).

Karpinski p.405 (title-page reproduced); Simon p.44

126

DAVIES Charles 1798–1876

Elementary algebra: embracing the first principles of the science

New York

Published by A.S. Barnes & Co.; Cincinnati: H.W. Derby & Co. (F.C. Gutierrez, Printer... N.Y.), 1850

188mm. 1–7 (1), 1–279 (1)pp.

In a contemporary leather binding (covers detached, backstrip worn away).

Simon p.44; cf. Karpinski p.405, recording an edition dated 1850 with A.S. Barnes & Co. as sole publisher

127

DAVIES Charles 1798–1876

First lessons in arithmetic, designed for beginners

New York

Published by A.S. Barnes & Co., 1848

170mm. 1–168pp.

Bound in contemporary leather-backed orange paper boards, text of title-page (but dated 1847) on upper cover, advertisements ('Davies' Course of mathematics') printed on lower cover (upper cover detached).

¶ This work had been first printed in 1840. 'So much of the material followed that of Emerson's Part I that Emerson brought a suit for infringement of copyright. The case was eventually settled out of court' (Charles Carpenter, *History of American schoolbooks*, Philadelphia 1963, p.140).

Karpinski p.419

128

DAVIES Charles 1798–1876

Practical geometry: with selected applications in mensuration, in artificers' [*sic*] work and mechanics

Philadelphia

Published by A.S. Barnes and Co. (C. Sherman and Co., Printers... Philadelphia), 1842

194mm. 1–252pp.

Endpaper inscribed *Mary A.P. Dorrance... 1846.*

In a contemporary leather binding, black lettering-piece (covers detached).

¶ A revision of Davies' *First lessons in geometry*, originally printed in 1839.

Karpinski p.411; Checklist 42/1420

129
DAVIES Charles 1798–1876
The Logic and utility of mathematics, with the best meth-
ods of instruction explained and illustrated
New York
Published by A.S. Barnes & Co.; Cincinnati: H.W. Derby
& Co. (Stereotyped by Richard C. Valentine, New York.
F.C. Gutierrez, Printer), 1850
212mm. 1–375 (1)pp., advertisements ('A.S. Barnes &
Company's Publications') 4pp.
In the publisher's brown cloth binding, covers blocked in
blind, back lettered in gilt.
¶ A copyright for this first edition was entered July 3, 1850.
Karpinski p.537 (title-page reproduced)

130
DAVIES Charles 1798–1876
A Treatise on shades and shadows, and linear perspective
New York
Published by A.S. Barnes & Co., 1848
243mm. 1–159 (1)pp., twenty-one plates
Bound in contemporary blue leather-backed purple cloth
boards, back lettered in gilt.
¶ Originally published at New York, by J. and J. Harper,
1832.
Karpinski p.339

131
DAVIES Charles 1798–1876
The University arithmetic, embracing the science of
numbers, and their numerous applications
New York
Published by A.S. Barnes and Co. (Stereotyped by Richard
C. Valentine, New York. C.A. Alvord, Printer), 1846
185mm. 1–360pp.
In a contemporary leather binding (spine worn away).
¶ A copyright for this first edition was entered August 11,
1846.
Karpinski p.487

132
DAVIES Charles 1798–1876
The University arithmetic, embracing the science of
numbers, and their numerous applications
New York
Published by A.S. Barnes and Co. (Stereotyped by Richard
C. Valentine, New York. C.A. Alvord, Printer), 1847
183mm. 1–399 (1)pp.
Blindstamp on title-page *The Phillips Exeter Academy
Library Exeter N.H.*
In a contemporary leather binding, black lettering-piece.
Karpinski p.487; ERL 4569

133
DAY Jeremiah 1773–1867
An Introduction to algebra, being the first part of a course
of mathematics, adapted to the method of instruction in
the higher schools and academies in the United States
New Haven, Connecticut
Published by Howe & Spalding; Flagg & Gray, printers,
1819
204mm. 1–4, 1–219 (1)pp.
In a contemporary leather binding, red lettering-piece
(joints cracked).
¶ The author graduated Yale College in 1795 and from
1805 until the end of his life he was officially connected
with Yale (for twenty-nine years as president). In 1814
Day had published *An Introduction to algebra* intended for
use in the American colleges. The present work is the same
'with the omission of a few of the sections at the latter end
of the book. These it was supposed would not generally
be needed in private schools and academies' ('Preface').
The abridgement apparently met with little favour, since
there was no other edition.
Karpinski p.199 (title-page reproduced); Simon pp.19–20;
AB 47796

134
DAY Jeremiah 1773–1867
An Introduction to algebra, being the first part of a course
of mathematics, adapted to the method of instruction in
the American colleges. Seventeenth edition
New Haven, Connecticut
Published and sold by Hezekiah Howe & Co., *etc.*
(Stereotyped by Wm. Hagar & Co., N. York), 1835
209mm. 1–7 (1), 1–332pp., two plates
In a contemporary leather binding, black lettering-piece
(lower joint cracked).
¶ The *Introduction to algebra* was 'the first really usable text
prepared for American students' (Simon). The work was
printed sixty-seven times between 1814 and 1850 before
its author and Anthony Stanley produced a revised version,
which subsequently went through sixteen printings
between 1852 and 1869.

Day's *Course of mathematics* appeared in seven parts:
'each subject is published by itself, that the parts may be
purchased either separately or together' ('Advertisement').
Day wrote parts one through four; parts five and six were
written by Matthew Dutton (see below no.164).
Checklist 31283; cf. Karpinski p.201 and Simon p.16, list-
ing only 15th and 16th editions (both also dated 1835)

135
DAY Jeremiah 1773–1867
An Introduction to algebra, being the first part of a course of mathematics, adapted to the method of instruction in the American colleges. Twenty fourth edition
New Haven, Connecticut
Published and sold by Hezekiah Howe, *etc.* (Printed by Benjamin L. Hamlen. Stereotyped by Wm. Hagar & Co., New York), 1836
210mm. 1–7 (1), 1–332pp., two plates
Endpaper inscribed *S.M. Brinsmady* [?] *1836.*
In a contemporary leather binding, black lettering-piece (upper cover detached).
Karpinski p.201; Checklist 37043; this edition not listed by Simon p.16

136
DAY Jeremiah 1773–1867
An Introduction to algebra, being the first part of a course of mathematics, adapted to the method of instruction in the American colleges. Thirty-seventh edition
New Haven, Connecticut
Durrie & Peck; New York: Collins, Keese & Co. (Printed by B.L. Hamlen), 1839
210mm. 1–7 (1), 1–332pp., two plates
Endpapers inscribed *Wm Henry Gilman P. Ex Academy Exeter N.H… 1842*; blindstamp and exlibris of the Phillips Academy with annotation 'Presented by Gardiner Gilman Estate'.
In a contemporary leather binding (upper cover detached).
Karpinski p.201; Simon p.16; Checklist 55295

137
DAY Jeremiah 1773–1867
An Introduction to algebra, being the first part of a course of mathematics, adapted to the method of instruction in the American colleges. Forty-fifth edition
New Haven, Connecticut
Durrie & Peck; Philadelphia: Smith & Peck, 1842
207mm. 1–7 (1), 1–332pp., two plates
In a contemporary leather binding (joints cracked).
Karpinski p.201; Simon p.16; Checklist 42/1440

138
DAY Jeremiah 1773–1867
An Introduction to algebra, being the first part of a course of mathematics, adapted to the method of instruction in the American colleges. Forty-ninth edition
New Haven, Connecticut
Durrie & Peck; Philadelphia: Smith & Peck (Printed by B.L. Hamlen), 1844
206mm. 1–7 (1), 1–332pp., two plates

Exlibris *Yale University Observatory. Bequest of Professor Elias Loomis LLD 1889.*
In a contemporary leather binding (covers detached).
Checklist 44/1878; cf. Karpinski p.201 and Simon p.16 for other editions

139
DAY Jeremiah 1773–1867
A Key to Day's algebra: containing a correct exposition of all the problems and examples. Prepared by Artium Mathematicarum Amatore
New York
Published by Clark, Austin & Co., 1850
185mm. 1–127 (1)pp.
Bound in contemporary leather-backed brown cloth boards (spine lacking).
¶ A copyright for this *Key* was entered April 10, 1850.
Karpinski p.202

140
DAY Jeremiah 1773–1867
The Mathematical principles of navigation and surveying, with the mensuration of heights and distances. Being the fourth part of a course of mathematics. Adapted to the method of instruction in the American colleges. Second edition
New Haven, Connecticut
Printed and published by S. Converse, 1824
214mm. (4) 1–108 (12)pp., two plates only (of three)
Bound with other works (item nos.144, 146, 164) in contemporary half-leather (leather decayed, upper cover detached).
¶ The previous edition of this work had been published in 1817.
Karpinski p.212 (title-page reproduced); Checklist 15943

141
DAY Jeremiah 1773–1867
The Mathematical principles of navigation and surveying, with the mensuration of heights and distances. Being the fourth part of a course of mathematics, adapted to the method of instruction in the American colleges. Fourth edition
New Haven, Connecticut
Hezekiah Howe & Co., 1835
210mm. (4) 1–116pp., three plates
Endpapers inscribed *Charles Kimball… Kensington 1837* and *Began fall term 1837.*
In the publisher's tan paper boards, printed label pasted to the paper back 'Day's Navigation and Surveying', text of the title-page on the upper cover, publisher's advertisements printed on lower cover (joints partially split).
Karpinski p.212; Checklist 31285

142

DAY Jeremiah 1773–1867

A Practical application of the principles of geometry to the mensuration of superficies and solids. Being the third part of a course of mathematics, adapted to the method of instruction in the American colleges

New Haven, Connecticut

Oliver Steele, printer, 1811

237mm. (4) 1–96pp., two plates

In contemporary blue paper wrappers, text of title-page on upper cover, advertisement printed on lower cover.

¶ This work was first printed in 1811. The present copy is dated 1816 on the cover title and 1811 on the title-page; the copyright notice is dated March 2, 1816. Karpinski located copies at Yale and American Antiquarian Society. Karpinski p.183 (title-page reproduced); AB 22667 (as printed by D. Steele)

See illustration opposite

143

DAY Jeremiah 1773–1867

A Practical application of the principles of geometry to the mensuration of superficies and solids: being the third part of a course of mathematics, adapted to the method of instruction in the American colleges. The second edition

New Haven, Connecticut

Printed and published by S. Converse, 1825

235mm. (4) 1–96pp., two plates

Sewn and stabbed, as issued (a small portion only of the printed paper wrapper is preserved).

Karpinski p.185; Checklist 20273

144

DAY Jeremiah 1773–1867

A Practical application of the principles of geometry to the mensuration of superficies and solids: being the third part of a course of mathematics, adapted to the method of instruction in the American colleges. The second edition

New Haven, Connecticut

Printed and published by S. Converse, 1825

214mm. (4) 1–96pp., two plates

Bound with other works (item nos.140, 146, 164) in contemporary half-leather (leather decayed, upper cover detached).

Karpinski p.185; Checklist 20273

145

DAY Jeremiah 1773–1867

A Practical application of the principles of geometry to the mensuration of superficies and solids: being the third part of a course of mathematics, adapted to the method of instruction in the American colleges

New Haven, Connecticut

Published by Durrie and Peck; New York: Collins, Keese, and Co. (Stereotyped by Francis F. Ripley), 1839

216mm. (4) 1–96pp., two plates

Endpaper inscribed *Francis E. Loomis New Haven Ct* [18]64. In the publishers' cloth-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover.

Karpinski p.185; Checklist 55297

146

DAY Jeremiah 1773–1787

A Treatise of plane trigonometry. To which is prefixed a summary view of the nature and use of logarithms; being the second part of a course of mathematics, adapted to the method of instruction in the American colleges. The second edition, with additions and alterations

New Haven, Connecticut

Howe & Spalding; S. Converse, printer, 1824

214mm. (4) 1–155 (1)pp., three plates (no.2 damaged)

Ownership inscriptions of *N. S. Howe 1833, Haverhill Mass.* Bound with three other works (item nos.140, 144, 164) in contemporary half-leather (leather decayed, upper cover detached).

¶ First printed in 1815; a copyright for this revised edition was entered July 29, 1824.

Karpinski p.205; Checklist 15944

147

DAY Jeremiah 1773–1867

A Treatise of plane trigonometry. To which is prefixed a summary view of the nature and use of logarithms; being the second part of a course of mathematics, adapted to the method of instruction in the American colleges. Third edition, with additions and alterations

New Haven, Connecticut

Published and sold by Hezekiah Howe, *etc.*, 1831

218mm. (4) 1–155 (1)pp., three plates

Endpaper inscribed *P. Bigelow* [?] *Wesleyan University, Middletown, Ct.*

In the publishers' brown paper boards, text of title-page on upper cover, advertisements ('Text books at Yale College') printed on lower cover (paper spine abraded, joints broken).

¶ A copyright for this revised edition was entered in 1831. Karpinski p.205; Checklist 6805

148

DICKINSON Samuel Nelson 1801–1848

A Help to printers and publishers: being a series of calculations, showing the quantity of paper required for a given number of signatures in book work, and the number of

A PRACTICAL APPLICATION

OF

THE PRINCIPLES OF GEOMETRY

TO THE

MENSURATION

OF

SUPERFICIES AND SOLIDS.

BEING

THE THIRD PART

OF

A COURSE OF MATHEMATICS,

ADAPTED TO THE METHOD OF INSTRUCTION
IN THE AMERICAN COLLEGES.

BY JEREMIAH DAY,

Professor of Mathematics and Natural Philosophy in
Yale College.

NEW-HAVEN,
OLIVER STEELE, PRINTER.
1816.
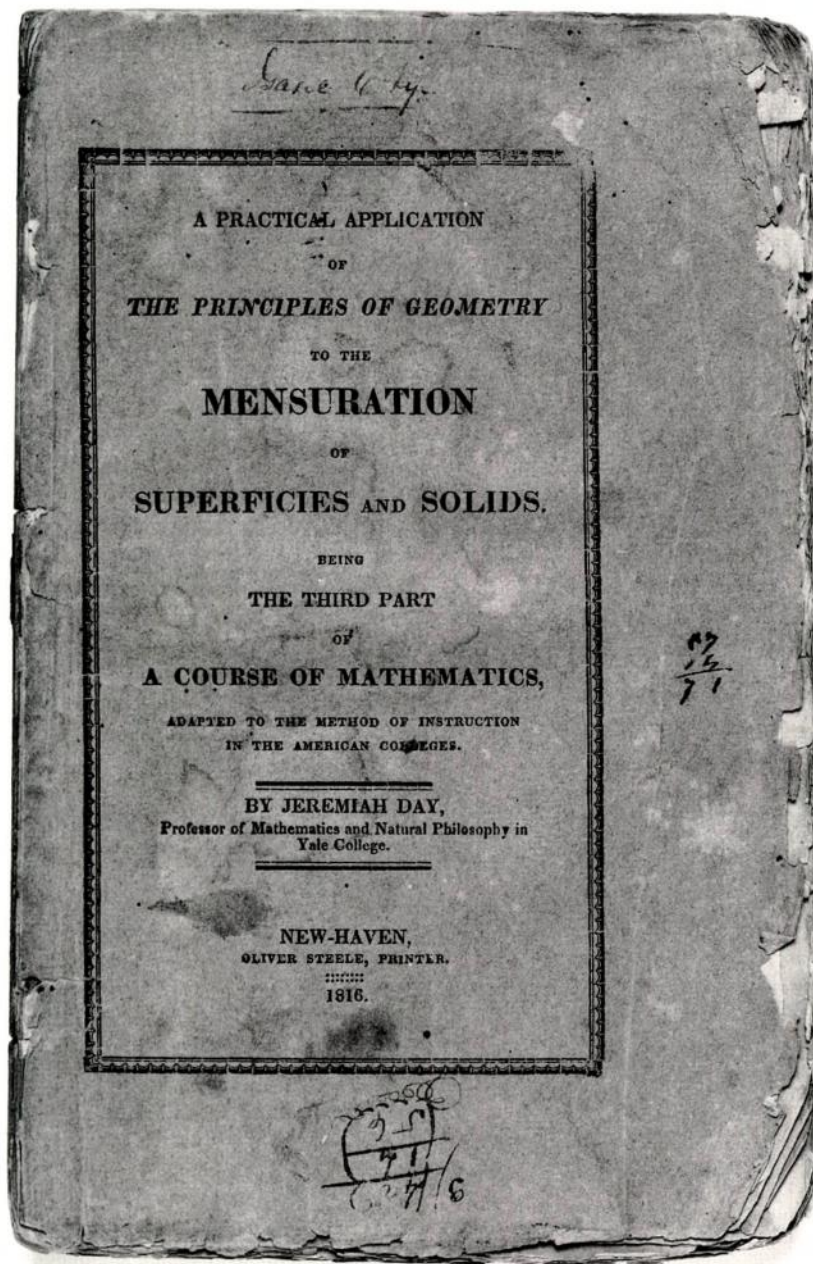
142. Jeremiah Day, *A Practical application of the principles of geometry to the mensuration of superficies and solids* (New Haven, Connecticut 1811; cover dated 1816)

tokens contained therein; carried out to an extent that will seldom, if ever, fail to embrace the largest jobs. Also an extensive table for job work, showing the quantity of paper required for a given number of bills, labels, duplicates of book work, etc. etc.

Boston

Printed and published [by the author], 1835

202mm. Advertisements ('Recommendations') 1–8pp., 1–8, (14), (2) 13–216 (2) 217–219 (13)pp.

In a contemporary maroon embossed cloth binding, in centre of upper cover gilt stamp (a lyre, on its base the owner's name *B. Bradley*).

¶ In this edition the 'Explantion of the table for job work' ends on p.219, where two paragraphs are printed (cf. BAI 15, p.342). The table bound thereafter (12 pages) is not present in the copies seen by the editors of the Checklist. Cf. Checklist 31362; not considered by Karpinski

149

DILWORTH Thomas ?–1780

The Schoolmaster's Assistant: being a Compendium of Arithmetic, both Practical and Theoretical. In five parts. Containing I. Arithmetic in Whole Numbers, wherein all the common Rules, having each of them a sufficient Number of Questions, with their Answers, are methodically and briefly handled. II. Vulgar Fractions, wherein several Things, not commonly met with, are there distinctly treated of, and laid down in the most plain and easy Manner. III. Decimals, in which, among other Things, are considered the Extraction of Roots; Interest, both Simple and Compound; Annuities, Rebate, and Equation of Payments. IV. A large Collection of Questions, with their Answers, serving to exercise the foregoing Rules; together with a few others, both pleasant and diverting. V. Duodecimals, commonly called Cross Multiplication; wherein that Sort of Arithmetic is thoroughly considered, and rendered very plain and easy; together with the Method of proving all the foregoing Operations at once by Division of several Denominations, without reducing them to the lowest Term mentioned. The Whole being delivered in the most familiar Way of Question and Answer, is recommended by several eminent Mathematicians, Accomptants, and Schoolmasters, as necessary to be used in Schools by all Teachers, who would have their Scholars thoroughly understand, and make a quick Progress in Arithmetic. To which is prefixt, an Essay on the Education of Youth; humbly offered to the Consideration of Parents. Third edition

Philadelphia

Printed and sold by Joseph Crukshank, 1781

170mm. 1–14 (10), 1–192pp., portrait (folding letterpress table lacking)

In a contemporary leather binding (covers detached).

¶ Dilworth's *Schoolmaster's assistant*, a reprint of an English work, became 'the most popular of the early arithmetics published in America. Up to 1850 no other arithmetic enjoyed so many revisions' (Karpinski). The first American edition was issued by Joseph Crukshank in 1773. In the present, third American edition, the 'Essay on the education of youth' occupies pp.9–14 of the preliminaries.

Karpinski p.75; SM 19404

150

DILWORTH Thomas ?–1780

The Schoolmaster's assistant: being a compendium of arithmetic, both practical and theoretical. In five parts… To which is prefixt, an essay on the education of youth; humbly offer'd to the consideration of parents. The twenty-third edition

Hartford, Connecticut

Printed and sold by Nathaniel Patten, 1786

165mm. (18) 9–198pp., portrait, folding letterpress table

Ownership inscriptions *David Burroughs 1792*, *Elizabeth* and *Catherine Edwards 1818*.

Bound in contemporary leather over wooden boards.

¶ The 'Essay on the education of youth' is printed among the preliminaries.

Karpinski p.75; SM 20335

151

DILWORTH Thomas ?–1780

The Schoolmaster's assistant: being a compendium of arithmetic, both practical and theoretical. In five parts… To which is prefixt, an essay on the education of youth; humbly offered to the consideration of parents. The latest edition

New York

Printed by John Buel, 1793

174mm. 1–16 (6), 1–192pp. including portrait (folding letterpress table lacking)

Multiple ownership inscriptions of *John* and *Sylvester Woodbridge*.

Bound in contemporary leather (covers detached).

¶ The 'Essay on the education of youth' occupies pp.11–16 of the preliminaries.

Karpinski p.75; SM 25400

152

DILWORTH Thomas ?–1780

The Schoolmaster's assistant: being a compendium of arithmetic, both practical and theoretical. In five parts

Wilmington, Delaware

Printed and sold by Peter Brynberg, 1796
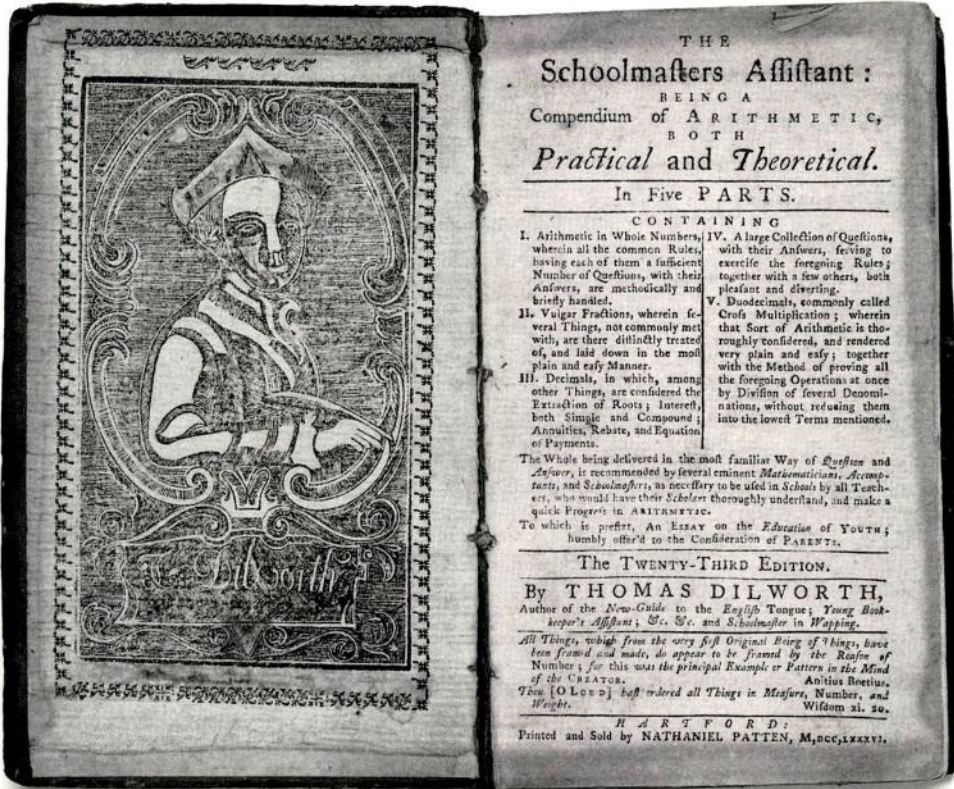
150. Thomas Dilworth, *The Schoolmaster's assistant* (Hartford, Connecticut 1786)

169mm. (6) 1–192pp. (lacking portrait and folding letter-press table)

In a contemporary leather binding (covers detached).

¶ The 'Essay on the education of youth' is not printed in this edition.

Karpinski p.75; SM 30352; Evald Rink, *Printing in Delaware 1761–1800* (Wilmington 1969), 403

153

DILWORTH Thomas ?–1780

The Schoolmaster's assistant: being a compendium of arithmetic, both practical and theoretical. In five parts… To which is prefixt, an essay on the education of youth; humbly offered to the consideration of parents

New York

Printed by Mott & Lyon, for S. Campbell, E. Duyckink,

and Co., *etc.*, 1796

170mm. 1–12 (6), 1–192pp. (lacking portrait)

In a contemporary leather binding (front joint cracked).

¶ The 'Essay on the education of youth' occupies pp.8–12 of the preliminaries.

Karpinski p.75; SM 30350

154

DILWORTH Thomas ?–1780

The Schoolmaster's assistant: being a complete system of practical arithmetic. Carefully revised and amended. To which is added, a compendious system of practical gauging… By Robert Patterson

Philadelphia

Printed and sold by John Bioren, 1802

173mm. (6) 1–219 (1)pp., portrait, two printed tables

In a contemporary leather binding (joints cracked).

¶ First edition of Robert Patterson's revision, for which a copyright was entered June 9, 1802. Patterson (1743–1824) had emigrated to Pennsylvania from Ireland in 1768, found employment as a teacher, and in 1774 was chosen principal of Wilmington Academy, Delaware. In 1779 he was appointed professor of mathematics in the University of Pennsylvania, which position he occupied for thirty-five years (*DAB*, XIV, pp.305–306). The 'Essay on the education of youth' is not reprinted.

Karpinski p.75 (title-page reproduced); AB 2147; ERL 4583

155

DILWORTH Thomas ?–1780
The Schoolmaster's assistant, being a compendium of arithmetic, both practical and theoretical. In five parts… To which is prefixt, an essay on the education of youth; humbly offered to the consideration of parents
New York
Printed by Lewis Nichols, for Thomas S. Arden, 1802
170mm. 1–14 (6), 1–196pp. including portrait
Endpaper inscribed *Lewis Brush… Smith town Long Island… 1805*.
In a contemporary leather binding (rebacked with leather at an early date).
¶ The 'Essay on the education of youth' occupies pp.8–14 of the preliminaries. The edition was shared with T.B. Jansen & Co. (AB 2146).
Karpinski p.75; AB 50288

156

DILWORTH Thomas ?–1780
The Federal calculator, or American schoolmaster's assistant and young man's companion. Being a compendium of federal arithmetic, both practical and theoretical. In five parts. Originally compiled by Thomas Dilworth… Revised, improved and adapted to the currency of the United States, by Daniel Hawley
Troy, New York
Printed by Obadiah Penniman & Co., 1803
168mm. 1–10 (2), 1–204pp. (pages 101–104 lacking)
Multiple ownership inscriptions, including *Henry H. Moffett… 1814* and *Anderson Fielding Moffett Jun., Shenandoah Country Virginia… 1816*.
In a contemporary leather binding, red lettering-piece.
¶ First edition of this revision by Daniel Hawley (copyright entered February 18, 1803).
Karpinski p.76 (title-page reproduced); AB 4088

157

DILWORTH Thomas ?–1780
The Schoolmaster's assistant: being a complete system of practical arithmetic. Carefully revised and amended. To which is added, a compendious system of practical gauging… By Robert Patterson. Second edition
Philadelphia
Printed and sold by John Bioren, 1805
167mm. 3–205 (1)pp. (lacking portrait)
In a contemporary leather binding (front joint cracked).
¶ Second edition of Patterson's revision. The 'Essay on the education of youth' is not reprinted.
Karpinski p.76; AB 8334

158

DILWORTH Thomas ?–1780
The Schoolmaster's assistant, being a compendium of arithmetic, both practical and theoretical. In five parts… To which is prefixt, an essay on the education of youth; humbly offered to the consideration of parents
Brooklyn, New York
Printed by Thomas Kirk, 1807
177mm. 1–5 (3), 1–196pp.
In a contemporary leather binding.
¶ The 'Essay on the education of youth' in fact is omitted from this edition.
Karpinski p.77; AB 12437

159

DILWORTH Thomas ?–1780
The Schoolmaster's assistant, being a compendium of arithmetic, both practical and theoretical. In five parts… To which is prefixt, an essay on the education of youth, humbly offered to the consideration of parents
Brooklyn, New York
Printed by Thomas Kirk, for himself and Samuel Wood, 1811
170mm. 1–5 (3), 1–194pp.
In a contemporary leather binding.
¶ The 'Essay on the education of youth' in fact is omitted from this edition.
Karpinski p.77; AB 22701

160

DILWORTH Thomas ?–1780
The Schoolmaster's assistant: being a complete system of practical arithmetic. Carefully revised and amended. To which is added, a compendious system of practical gauging… By Robert Patterson. Third edition
Philadelphia
Printed and sold by John Bioren, 1812
174mm. 1–211 (1)pp., portrait

Ownership inscriptions on endpapers *Matthew* and *Polly W. Pilson*, dated *1817*.

In a contemporary leather binding (upper cover detached).

¶ Third edition of Patterson's revision.

Karpinski p.77; AB 25270

161

DILWORTH Thomas ?–1780

The Schoolmaster's assistant, being a compendium of arithmetic, both practical and theoretical. In five parts… To which is prefixed, an essay on the education of youth; humbly offered to the consideration of parents

New York

Printed by T. & W. Mercein, 1815

169mm. 1–6 (4), 1–194pp.

In a contemporary leather binding.

¶ The 'Essay on the education of youth' in fact is omitted from this edition.

Karpinski p.78 (title-page reproduced); AB 34578

162

DILWORTH Thomas ?–1780

The Schoolmaster's assistant, being a compendium of arithmetic, both practical and theoretical. In five parts. A revised edition, with additions and improvements, adapted to the use of American schools, by R. Tagart

New York

Published by Daniel D. Smith at the Franklin Juvenile Bookstore, 1818

183mm. 1–200pp., advertisements ('American school class books') 2pp., portrait

Endpaper and fore-edge inscribed *Joseph Stackhouse, 1828*. In a contemporary leather binding (covers detached, probably associated).

¶ First edition of this new revision by R. Tagart. 'In this edition the publisher has had every rule and example revised; and many important additions interspersed throughout, necessary for the American arithmetician' (from the prefatory 'Advertisement').

Karpinski p.79 (title-page reproduced); AB 43861

163

[DUANE William 1760–1835]

An Epitome of the arts and sciences. Being a comprehensive system of the elementary parts of an useful and polite education: upon the plan of a similar work of R. Turner, L.L.D. of Magdelen College, Oxford. Augmented and improved, and adapted to the use of schools in the United States. Illustrated by various engravings of subjects in natural history. The first edition

Philadelphia

Printed by Wm. Duane, 1805

172mm. (4) 1–4 (2 blank) 1–288pp., fifteen woodcut and one engraved plates

In a contemporary leather binding, red lettering-piece (front joint cracked).

¶ A copyright for this first edition was entered December 13, 1804, to the publisher William Duane (*DAB*, V, pp.467–468). Arithmetic and geometry are discussed on pp.47–65. The work is based on Richard Turner's *An Abridgement of the arts and sciences* (New London, Connecticut 1796).

Karpinski p.157 (*q.v.* Anonymous) with title-page reproduced; Karpinski, Third supplement, p.198; AB 8399 (*q.v.* title)

164

DUTTON Matthew Rice 1783–1825

An Elementary treatise on conic sections, spherical geometry, and spherical trigonometry… Being the fifth and sixth parts of a course of mathematics adapted to the method of instruction in American colleges

New Haven, Connecticut

Published by Howe & Spalding; S. Converse, printer, 1824

214mm. 1–208 (2), 1–3 (1)pp., sixteen plates

Bound with other works (item nos.140, 144, 146) in contemporary half-leather (leather decayed, upper cover detached).

¶ A continuation of Jeremiah Day's *Course of Mathematics*. This is the first edition, published under a copyright entered March 17, 1824.

Karpinski p.257 (title-page reproduced); Checklist 16022

165

EATON Amos 1776–1842

Art without science: or, mensuration, surveying and engineering, divested of the speculative principles and technical language of mathematics. Second edition, much enlarged

Albany, New York

Printed by Websters and Skinners, 1830

221mm. 1–96pp.

Exlibris *Parker Cleaveland*; label on upper cover annotated *To Prof. Cleaveland. Price retail $0.75.*

Bound in contemporary cloth-backed marbled paper boards, printed label pasted to upper cover 'Eaton's Surveying and Engineering'.

¶ A revision by the author, professor at Rensselaer School, Troy, New York, of his *Art without science, or the art of surveying* published in 1802 (AB 1770). 'The 1830 volume, although styled on the title page "second edition, much enlarged", is, in effect, a new work' (Karpinski). The first owner, Parker Cleaveland (1780–1858), graduated Harvard 1795, and from 1805 until his death taught math-

ematics and natural philosophy at Bowdoin College (*DAB*, IV, pp.189–190).
Karpinski p.315 (title-page reproduced); Karpinski, First supplement, p.235; Checklist 1228

166

EMERSON Frederick 1788–1857
The North American arithmetic. Part first, containing elementary lessons
Baltimore
Published by Joseph Jewett; Boston: Lincoln and Edmands (Lyman Thurston & Co. Stereotypers), 1830
174mm. 1–46pp. only (pp.47–48 torn away)
In the publishers' cloth-backed paper boards, text of title-page on upper cover, advertisements ('New Book Stationery Store. Joseph Jewett') printed on lower cover (covers abraded).
¶ The author was a well-known teacher in Boston and at one time Superintendent of Schools. The first edition of 'Emerson's First Part' had been published by Lincoln and Edmands in 1829. A Part Second appeared in 1832 and a Part Third in 1834.
Checklist 1259; cf. Karpinski p.301, listing other imprints of this date; cf. ERL 4612 (imprint: Boston, Lincoln & Edmands, 1830)

167

EMERSON Frederick 1788–1857
The North American arithmetic. Part first, containing elementary lessons
Hallowell, Maine
Published by Glazier, Masters & Co.; Boston: Lincoln & Edmands; Stereotyped by Lyman Thurston and Co., Boston, 1830
170mm. 1–48pp.
Endpaper inscribed *Levi Kirk... 1831*.
In the publishers' cloth-backed tan paper boards, text of title-page on upper cover, the lower cover unprinted.
Cf. Checklist 1260, an edition stereotyped by Lyman Thurston, but with title-page imprint: Philadelphia, Published by Uriah Hunt; Lincoln & Edmands, Boston, 1830; cf. Karpinski p.301, listing other imprints of this date (no Hallowell edition of any date listed)

168

EMERSON Frederick 1788–1857
The North American arithmetic. Part first, for young learners. Stereotype edition
Philadelphia
Hogan and Thompson, [undated; after 1838]
178mm. 1–48pp.
Endpaper inscribed *Lydia Holmes*.

Bound in contemporary cloth-backed pink paper boards, text of title-page on upper cover, advertisements printed on lower cover.
¶ The copyright notice printed in this edition is dated 1838. The publishers' notice states: 'This book is adopted in the Public Schools of the cities of Boston, Salem, Portland, Providence, New York, Philadelphia, and Louisville, by orders of the respective Boards of School Committee and Trustees'.
Karpinski p.303; cf. Checklist 50204 (dated [1838])
See illlustrations opposite and page 16

169

EMERSON Frederick 1788–1857
The North American arithmetic. Part second, uniting oral and written exercises, in corresponding chapters
New York
Collins and Hannay (Stereotyped by Lyman Thurston and Co., Boston), 1832
189mm. 1–190 (2)pp.
Blindstamp on title-page *Fred S. Collins Bookseller... Boston*.
Bound in contemporary leather-backed green paper boards, text of title-page on upper cover, 'Publishers' apology' (dated January) printed on lower cover (leather decayed, upper cover detached).
¶ A copyright for this work was entered January 7, 1832. Two editions dated 1832 are listed by Karpinski, one printed at Boston, by Lincoln and Edmands, the other at Philadelphia, by French and Perkins. In 1834 this book displaced Colburn's *First lessons* and *Sequel* in the Boston schools (cf. Greenwood & Martin p.833).
Checklist 12283; cf. Karpinski p.339 (other editions)

170

EMERSON Frederick 1788–1857
The North American arithmetic. Part second, uniting oral and written exercises, in corresponding chapters
Windsor, Vermont
Nathan C. Goddard, 1841
180mm. 1–190 (2)pp.
Bound in contemporary leather-backed paper boards, text of title-page on upper cover, 'Recommendations' printed on lower cover (leather decayed, front joint cracked).
Karpinski p.339; Checklist 41/1766

171

EMERSON Frederick 1788–1857
Key to the North American arithmetic. Part second and part third. For the use of teachers
Philadelphia
Hogan and Thompson (Stereotyped at the Boston Type
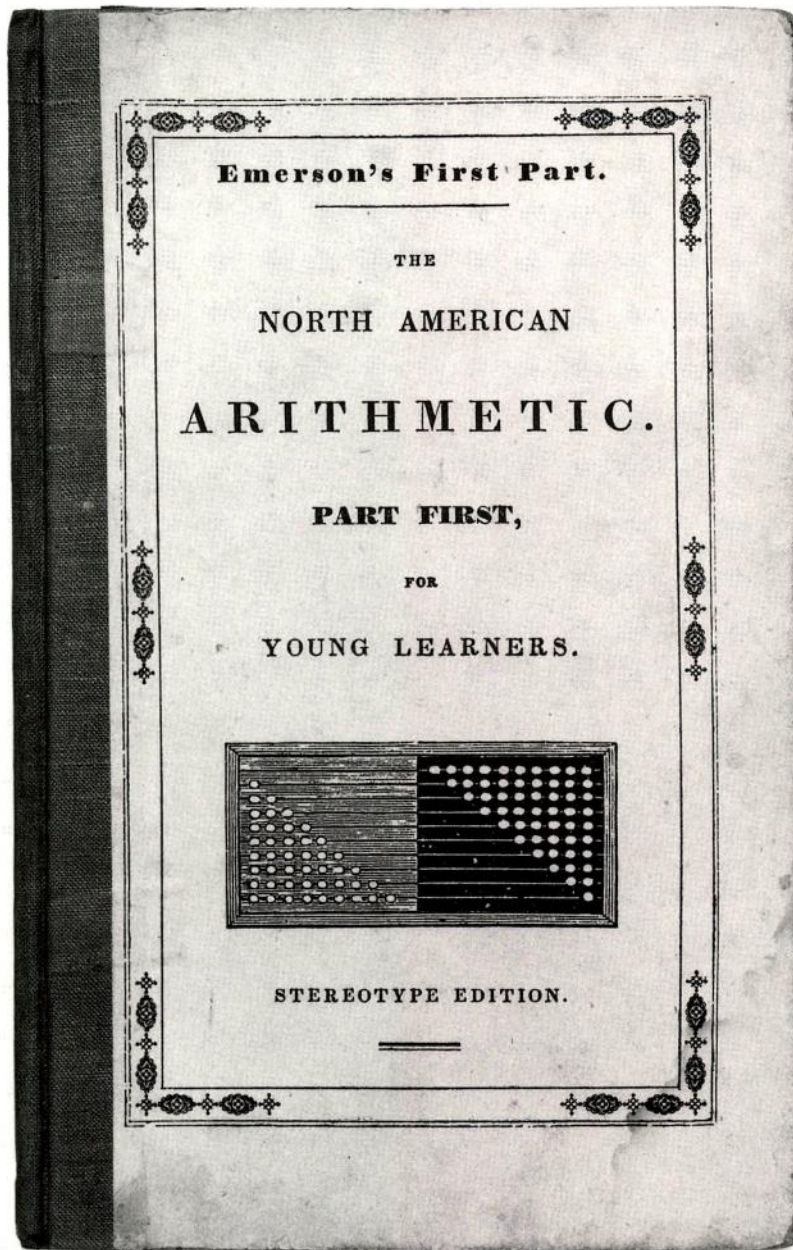
168. Frederick Emerson, *The North American arithmetic. Part first, for young learners* (Philadelphia *circa* 1838)

and Stereotype Foundry), 1841
187mm. 1–70pp.
Bound in contemporary leather-backed paper boards.
¶ The earliest edition of this *Key* known to Karpinski is Boston 1834. The printed copyright notice is dated 1838. Karpinski p.360; cf. Checklist 41/1762–1763 (Boston editions dated 1841)

172
EMERSON Frederick 1788–1857
Key to the North American arithmetic. Part second and part third. For the use of teachers
Philadelphia
J.B. Lippincott & Co.; Boston: Shepard, Clark & Brown (Stereotyped at the Boston Type and Stereotype Foundry), [undated; after 1844]
183mm. 1–72pp.
Multiple ownership inscription *James Brine* on endpaper. Bound in contemporary leather-backed blue paper boards (leather attacked by insects).
¶ According to Karpinski, editions of this *Key* published 1837–1844 should comprise 70pp., and those published thereafter 72pp. The copyright is dated 1838.
Cf. Karpinski p.360 (other editions)

173
EMERSON Frederick 1788–1857
The North American arithmetic part third, for advanced scholars
Philadelphia
William Marshall & Co.; Boston: Russell, Odiorne, & Metcalf, 1835
184mm. 1–288pp.
Two ownership inscriptions of *Robert Friekey*, dated *1836* and *1837*.
In a contemporary leather binding, red lettering-piece.
¶ The title-page is headed 'Emerson's Third Part'. The work was copyrighted in 1834.
Karpinski p.359; cf. Checklist 31512 (imprint: Boston, Russell, Odiorne, & Co.; Philadelphia, Hogan & Thompson, 1835)

174
EMERSON Frederick 1788–1857
The North American arithmetic. Part third, for advanced scholars
Boston
American Stationers' Company, John B. Russell, 1837
183mm. 1–288pp.
In a contemporary leather binding, black lettering-piece (joints broken).
Karpinski p.360; Checklist 44171

175
EULER Leonhard 1707–1783
An Introduction to the elements of algebra, designed for the use of those who are acquainted only with the first principles of arithmetic. Selected from the algebra of Euler [by John Farrar]
Cambridge, Massachusetts
Printed by Hilliard and Metcalf, at the University Press, 1818
217mm. 1–12, 1–218pp.
In a contemporary leather binding (leather decayed, the detached upper cover probably associated).
¶ A copyright for this first edition was entered February 9, 1818. 'We have here the first use in America of an algebra translated from a foreign language. This is the most complete and scholarly work to be used in any American school up to and for a long period after this time' (Simon). Karpinski p.215 (title-page reproduced); Simon pp.16–17; AB 43962

176
EULER Leonhard 1707–1783
An Introduction to the elements of algebra, designed for the use of those who are acquainted only with the first principles of arithmetic. Selected [by John Farrar] from the Algebra of Euler. Third edition
Boston
Hilliard, Gray, Little, and Wilkins (Cambridge: Hilliard, Metcalf, and Company), 1828
222mm. 1–12 (including half-title), 1–213 (1)pp.
Bound with another work (item no.262) in contemporary leather.
¶ This edition issued under a copyright dated September 13, 1828.
Karpinski p.217; Simon p.18; Checklist 33087

177
FARRAR John 1779–1853
An Elementary treatise on mechanics, comprehending the doctrine of equilibrium and motion, as applied to solids and fluids, chiefly compiled, and designed for the use of the students of the university at Cambridge, New England. Second edition, revised and corrected
Boston
Hilliard, Gray and Company (Cambridge: Charles Folsom, Printer to the University), 1834
230mm. 1–7 (1), 1–434pp., ten plates
Bound in contemporary cloth-backed paper boards, spine lettered 'Cambridge Mechanics'.
¶ 'The works principally used in preparing this treatise are those of Biot, Bézout, Poisson, Francoeur, Gregory, Whewell, and Leslie' (from the prefatory 'Advertisement').

The previous edition had been published at Boston in 1825. The author was Hollis professor of mathematics and natural philosophy at Harvard 1807–1836.

Karpinski p.263; Checklist 24403

178

FARRAR John 1779–1853

An Elementary treatise on the application of trigonometry to orthographic and stereographic projection, dialling, mensuration of heights and distances, navigation, nautical astronomy, surveying and levelling; together with logarithmic and other tables; designed for the use of the students of the university at Cambridge, New England
Cambridge, Massachusetts
Printed at the University Press by Hilliard & Metcalf, 1822
242mm. 1–8 (including blank pp.3–4), 1–153, 73pp., nine plates
Bound in contemporary blue paper boards (upper cover detached).

¶ A copyright for this first edition was entered May 17, 1822. A second copy is bound with no.264.

Karpinski p.246 (title-page reproduced); Checklist 8684; ERL 5223 (q.v. Anonymous)

179

FARRAR John 1779–1853

An Elementary treatise on the application of trigonometry to orthographic and stereographic projection, dialling, mensuration of heights and distances, navigation, nautical astronomy, surveying and levelling; together with logarithmic and other tables; designed for the use of the students of the university at Cambridge, New England.
Second edition
Boston
Hilliard, Gray, Little, and Wilkins (Cambridge: Hilliard, Metcalf, and Company, Printers to the University), 1828
245mm. 1–8, 1–155, (77, including 4 blank)pp. (lacking half-title 'Topography' pp.1–2 of preliminaries), nine plates
Bound in contemporary blue paper boards (paper backstrip and lower cover missing).

¶ A copyright for this first edition was entered May 17, 1822. A second copy is bound with item no.265.

Karpinski p.246; Checklist 33150

180

FENNING Daniel

The American youth's instructor; or, a new and easy guide to practical arithmetic. Wherein the rudiments of common arithmetic, vulgar and decimal fractions, the extraction and use of the square and cube roots, &c. are so easily treated of, and so plainly demonstrated, that any

person may, of himself (in a short time) become acquainted with every thing necessary to the knowledge of business. To which is added a postscript for the use of country youths in particular... The whole designed for such as have hitherto neglected or have not had the opportunity of being acquainted with figures
Dover, New Hampshire
Printed by Samuel Bragg, 1795
159mm. 1–4, 1–260, 1–7 (1)pp.
In a contemporary leather binding, black lettering-piece.

¶ First edition. The final eight pages with caption title 'Federal Money' evidently were not bound in the copies collated by Karpinski (cf. SM 47419, Bristol 9095).

Karpinski p.111 (title-page reproduced); SM 28665; A.S.W. Rosenbach, *Early American Children's Books* (Portland, Maine 1933), no.191

181

FENNING Daniel

The Ready reckoner; or, trader's useful assistant, in buying and selling all sorts of commodities either wholesale or retail... To which is added, a table of simple and compound interest. The sixth edition
Boston
John W. Folsom for J. Boyle, E. Batelle, & B. Larkin, [undated; 1785–1786]
170mm. (4) 1–166pp. (pages 15–16 lacking)
Bound in contemporary leather drawn over wooden boards.

¶ Karpinski believed this to be the first American edition, however editions in English and German had been printed at Germantown, Pennsylvania, in 1774 (SM 13274–13275). Folsom's address in the imprint is 'No.2, Ann-Street'. He was at this address in 1785–1786 only.

Karpinski p.54 (title-page reproduced); Karpinski, Second supplement, p.174; SM 44682 (Bristol 6064, dated 1785?)

182

FENNING Daniel

The Ready reckoner or trader's sure guide, adapted to the use of all who deal by wholesale or retail, exhibiting, at one view, the amount or value of any number or quantity of goods or merchandize, from one up to ten thousand, at the various prices from one farthing to one pound
Philadelphia
Printed by Jacob Johnson, 1794
161mm. 1–195 (1)pp.
In a contemporary leather binding.

Karpinski p.55 (title-page reproduced); SM 26968

AN
EXPLANATION
OF THE
WORK.

First, Upon the Top of the Leaf you will find in every Page the Price of the Commodity, from half a Farthing per Ounce, Pound, Yard, Ell, or any other Denomination.

2. Every Page is divided into 4 Columns or Divisions; in the narrow Columns stands value of, or numbers, and in the wide Columns, (opposite to every respective Number) is shewn the Amount that such a Number comes to, according to the Price fix'd at the Top or Head of the Page.

For Example.

Suppose I wanted to know what 35 Yards of Linnen come at 16 Pence 3 Farthings per Yard, or Ells, or 35 Pounds of any Thing at the same Price—I open the Book till I find 16 Pence 3 Farthings on the Top of the Leaf; and looking in the narrow Column for the Number 35, I find right against it in the wide Column 2l. 8s. 10d. 1f. the Answer.

[1]

¾ of a Penny or half a Farthing.

Value of	l.	s.	d.	f.	q.	Value	l.	s.	d.	f.	q.
2	0	0	0	1	0	of 51	0	0	6	1	2
3	0	0	0	1	2	52	0	0	6	2	0
4	0	0	0	2	0	53	0	0	6	2	2
5	0	0	0	2	2	54	0	0	6	3	0
6	0	0	0	3	0	55	0	0	6	3	2
7	0	0	0	3	2	[56]	0	0	7	0	0
8	0	0	1	0	0	57	0	0	7	0	2
9	0	0	1	0	2	58	0	0	7	1	0
10	0	0	1	1	0	59	0	0	7	1	2
11	0	0	1	1	2	60	0	0	7	2	0
12	0	0	1	2	0	61	0	0	7	2	2
13	0	0	1	2	2	62	0	0	7	3	0
14	0	0	1	3	0	63	0	0	7	3	2
15	0	0	1	3	2	64	0	0	8	0	0
16	0	0	2	0	0	65	0	0	8	0	2
17	0	0	2	0	2	66	0	0	8	1	0
18	0	0	2	1	0	67	0	0	8	1	2
19	0	0	2	1	2	68	0	0	8	2	0
20	0	0	2	2	0	69	0	0	8	2	2
21	0	0	2	2	2	70	0	0	8	3	0
22	0	0	2	3	0	80	0	0	10	0	
23	0	0	2	3	2	[84]	0	0	10	2	
24	0	0	3	0	0	90	0	0	11	1	
25	0	0	3	0	2	100	0	1	0	2	
26	0	0	3	1	0	[112]	0	1	2	0	
27	0	0	3	1	2	200	0	2	1	0	
[28]	0	0	3	2	0	300	0	3	1	2	
29	0	0	3	2	2	400	0	4	2	0	
30	0	0	3	3	0	500	0	5	2	2	
31	0	0	3	3	2	600	0	6	3	0	
32	0	0	4	0	0	700	0	7	3	2	
33	0	0	4	0	2	800	0	8	4	0	
34	0	0	4	1	0	900	0	9	4	2	
35	0	0	4	1	2	1000	0	10	5	0	
36	0	0	4	2	0	2000	1	0	10	0	
37	0	0	4	2	2	3000	1	11	3	0	
38	0	0	4	3	0	4000	2	1	8	0	
39	0	0	4	3	2	5000	2	12	1	0	
40	0	0	5	0	0	6000	3	2	6	0	
41	0	0	5	0	2	7000	3	12	11	0	
42	0	0	5	1	0	8000	4	3	4	0	
43	0	0	5	1	2	9000	4	13	9	0	
44	0	0	5	2	0	10000	5	4	2	0	
45	0	0	5	2	2	20000	10	8	4	0	
46	0	0	5	3	0	30000	15	12	6	0	
47	0	0	5	3	2	40000	20	16	8	0	
48	0	0	6	0	0	50000	26	0	10	0	
49	0	0	6	0	2	60000	31	5	0	0	
50	0	0	6	1	0	70000	36	9	2	0	

B

181. Daniel Fenning, *The Ready reckoner; or, trader's useful assistant* (Boston *circa* 1785–1786)

183
FENNING Daniel
The Ready reckoner, or, the trader's useful assistant, in buying and selling all sorts of commodities, either wholesale or retail... To which is added, a table of simple and compound interest. The eleventh edition. Compared with the last edition by Nicolas Pike
Newburyport, Massachusetts
Printed by Edmund M. Blunt, 1794
200mm. 1–158 (*i.e.* 160, pages 151–152 being repeated)
Bound in contemporary leather drawn over wooden boards (joints cracked)
Karpinski p.55; SM 26967

184
FENNING Daniel
The Federal ready reckoner; or trader's valuable guide, in purchasing and selling all kinds of articles, by wholesale and retail. Calculated in the federal currency. Shewing, at one view, the amount of any number, or quantity of articles, goods, &c., from one mill, or the tenth part of a cent, to two dollars, in dollars, cents and mills
Worcester, Massachusetts
Printed by Leonard Worcester, 1795
153mm. 1–139 (1)pp.
In a contemporary leather binding.
¶ An adaptation to federal money of *The Ready reckoner, or trader's useful assistant*. The printed copyright notice is dated May 11, 1795, and names Leonard Worcester as proprietor of the work.
Karpinski p.55; SM 28666; Nichols 276

185
FENNING Daniel
The Ready reckoner, or trader's useful assistant, adapted to the use of all who deal by wholesale or retail. Exhibiting at one view, the amount or value of any number or quantity of goods or merchandize, from one up to ten thousand, at the various prices from 1 farthing to 1 pound. To which are prefixed, I. A Table of interest at six per cent. II. A Table of the weight and value of coins... III. A Table shewing the amount of cents, &c.
York, Pennsylvania
Printed by Salomon Myer, for Matthew Carey, Philadelphia, 1798
162mm. 1–191 (1)pp.
In a contemporary leather binding (upper cover nearly detached).
Karpinski p.55; SM 33730

186
FENNING Daniel
The Ready reckoner, or trader's useful assistant in buying and selling all sorts of commodities, either wholesale or retail... To which is added, sundry useful tables
New York
Printed for Evert Duyckinck by Lewis Nichols, 1803
165mm. 1–189 (3)pp.
In a contemporary leather binding (old rebacking).
Karpinski p.55; AB 4196

187
FENWICK George
Fenwick's arithmetical essay, or, a plain and concise mode of acquiring, in a short time, a complete knowledge of arithmetic. The whole adapted to the present times
Alexandria, Virginia
Printed by Cotton & Stewart, [1810]
175mm. 1–257 (5)pp. (lacking pages 255–256 and last leaf of 'Table of Contents')
In a contemporary leather binding, red lettering-piece (upper cover detached).
¶ Only edition.
Karpinski pp.180–181 (title-page reproduced); AB 20108; ERL 4633

188
FISHER George
The American instructor; or, young man's best companion. Containing, spelling, reading, writing and arithmetic, in an easier way than any yet published; and how to qualify any person for business, without the help of a master. Instructions to write variety of hands, with copies both in prose and verse. How to write letters on business or friendship. Forms of indentures, bonds, bills of sale, receipts, wills, leases, releases, &c. Also merchants' accompts, and a short and easy method of shop and book-keeping; with a description of the several American Colonies. Together with the carpenter's plain and exact rule; showing how to measure carpenters, joiners, sawyers, bricklayers, plaisterers, plumbers, masons, glasiers, and painter's work. How to undertake each work, and at what price; the rates of each commodity, and the common wages of journeymen; with Gunter's line, and Coggeshal's description of the sliding rule. Likewise the practical gauger made easy; the art of dialing, and how to erect and fix any dial; with instructions for dyeing and colouring, and making colours. To which is added, The Poor Planter's Physician. With instructions for marking on Linnen; how to pickle and preserve; to make divers sorts of wine; and many excellent plasters and medicines, necessary in all families. And also Prudent advice to young tradesmen and dealers. The

whole better adapted to these American Colonies, than any other book of the like kind. The twelfth edition, revised and corrected

New York

Printed and sold by H. Gaine, 1760

162mm. 1–5 (1), 1–378pp., one plate (damaged)

Endpapers inscribed *James* and *John Moore*.

In a contemporary leather binding.

¶ The first American edition had been published at Philadelphia in 1748 (designated 'ninth edition' in succession to the London printings). The title-page of the present edition heralds this as the twelfth edition, however in the publisher's advertisement it is called the thirteenth edition. Karpinski p.60; SM 8736

189

FISHER George

The American instructor: or, young man's best companion. Containing, spelling, reading, writing, and arithmetick in an easier way than any yet published; and how to qualify any person for business, without the help of a master… To which is added the poor planter's physician… Also prudent advice to young tradesmen and dealers

Boston

Printed for John Boyle and J.D. M'Dougall, 1779

162mm. 1–6, 1–378pp., one plate

Endpaper inscribed *Jonas Houghton His Book.*

In a contemporary leather binding (upper cover detached).

Karpinski p.61; SM 16524 (no plate called for)

190

FISHER George

The Instructor: or, American young man's best companion. Containing, spelling, reading, writing, and arithmetick, in an easier way than any yet published; and how to qualify any person for business, without the help of a master… General observations for gardening every month in the year… To which is added, the family's best companion… And a compendium of the sciences of geography and astronomy; containing a brief description of the different parts of the earth, and a survey of the celestial bodies. Also, several very useful tables

Walpole, New Hampshire

Printed by Isaiah Thomas and David Carlisle, *etc.*, 1794

175mm. 1–384pp., six plates (including frontispiece)

Endpaper inscribed with family history of Jeremiah Morgan Jr., died April 12, 1839.

In a contemporary binding of leather over wooden boards.

¶ Pages 68–162 are devoted to arithmetic.

Karpinski p.62, calling for five plates; SM 27706, calling for five plates

See illustrations pages 4 and 29

191

FISHER George

The Instructor, or American young man's best companion: containing instructions for reading, writing, arithmetic, merchants' accounts, mensuration, gauging, the art of dialling, dying and making colours, pickling, preserving, and the art of making several sorts of wines. Also a compendium of the sciences of geography and astronomy, with several very useful tables. To which is added some general observations on gardening for every month in the year, &c.

Philadelphia

Printed by John Bioren for John Conrad & Co., *etc.*, 1801

172mm. 1–346pp., frontispiece and five plates

Endpaper inscribed *G. Alex. Emery.*

In a contemporary leather binding, red lettering-piece (upper cover detached).

Karpinski p.62 (title-page reproduced); AB 498

192

FISHER George

The Instructor, or American young man's best companion, improved: containing instructions for reading, writing, (including the English grammar); arithmetic, merchants' accounts, mensuration, gauging according to the most modern and approved practice, and the art of dialling. Also, a compendium of the sciences of geography and astronomy, a short description of steam engines, and a table of specific gravities of bodies with rules for ascertaining the same. To which is added the rudiments of drawing, with several very useful tables, &c.

Philadelphia

Printed and sold by John Bioren, 1810

182mm. 1–300pp., frontispiece and six plates

Multiple ownership inscriptions of *George B.* and *Harriett G. Atwell.*

In a contemporary leather binding.

Karpinski p.62; AB 20118

193

FLINT Abel 1765–1825

A System of geometry and trigonometry: together with a treatise on surveying; teaching various ways of taking the survey of a field; also to protract the same and find the area. Likewise rectangular surveying; or, an accurate method of calculating the area of any field arithmetically, without the necessity of plotting it. To the whole are added several mathematical tables, necessary for solving questions in trigonometry and surveying; with a particular explanation of those tables and the manner of using them

Hartford, Connecticut

Printed for Oliver D. Cooke by Lincoln & Gleason, 1804

218mm. 1–168pp., four plates

Endpaper inscribed *Edward Wolcott… 1807.*

In a contemporary leather binding (front joint split).

¶ The copyright notice in this first edition is dated October 30, 1804.

Karpinski pp.152–153 (title-page reproduced); AB 6311

194

FLINT Abel 1765–1825

A System of geometry and trigonometry: together with a treatise on surveying. Second edition

Hartford, Connecticut

Printed for Oliver D. Cooke, by Lincoln & Gleason, 1808

222mm. 1–168pp., four plates

In a contemporary leather binding (front joint split).

Karpinski p.153; AB 15023

195

FLINT Abel 1765–1825

A System of geometry and trigonometry: together with a treatise on surveying. Third edition

Hartford, Connecticut

Published by Oliver D. Cooke; Samuel T. Armstrong, Printer, Boston, 1813

220mm. 1–168pp., four plates

Endpaper inscribed *Pliny Harris, Winthrop… 1816.*

In a contemporary leather binding, red lettering-piece.

Karpinski p.153; AB 28521

196

FLINT Abel 1765–1825

A System of geometry and trigonometry: together with a treatise on surveying… To the whole are added several mathematical tables, necessary for solving questions in trigonometry and surveying; with a particular explanation of those tables, and the manner of using them. Fourth edition, revised and corrected

Hartford, Connecticut

Published by Cooke & Hale, 1818

215mm. 1–80, 1–88pp., four plates

In a contemporary leather binding, red lettering-piece (joints split, top compartment of spine lacking).

¶ A new copyright was entered September 25, 1818.

Karpinski p.153; AB 44054

197

FLINT Abel 1765–1825

A System of geometry and trigonometry: together with a treatise on surveying. Fifth edition, with important additions, by George Gillet

Hartford, Connecticut

Published by Oliver D. Cooke & Co., 1825

202mm. 1–104, 1–137 (1)pp.

Multiple ownership inscriptions *William J. Bradner, New Burghe, Goshen College, 1833.*

In a contemporary leather binding, black lettering-piece.

¶ First printing of Gillet's revision.

Karpinski p.153; ERL 5227; cf. Checklist 20536 (imprint: Hartford, Printed for Oliver D. Cooke by Lincoln & Gleason)

198

FOWLER Abijah 1808–1860?

The Federal instructor, or youth's assistant, containing the most concise and accurate rules for performing operations in arithmetic, adapted to the easy and regular instruction of youth. For the use of schools, &c. By Abijah & Josiah Fowler. Fourth edition – enlarged and corrected

'Illinois

Published for Izaak Woods; Printed at the "Republican" Office, St. Louis', 1839

150mm. 1–156 (6)pp. including two errata slips

In a contemporary leather binding (back abraded).

¶ 'There is no wasted space in this book… It contains upwards of 1,300 problems. The rules are short, and the explanations shorter' (Greenwood & Martin p.834). The first edition was printed at Knoxville, Tennessee, in 1834; two further editions are listed by Karpinski: a 'third edition, enlarged and corrected', published at Knoxville in 1837; and a 'first stereotyped edition, revised by M. Gibson', published at Jonesborough, without date (but 1836, according to BAI 47, p.262).

Cf. Karpinski p.361, for other editions; this edition not in Checklist

199

FRANCOEUR Louis Benjamin 1773–1849

An Introduction to linear drawing. Translated from the French of M. Francoeur, and adapted to the use of publick schools in the United States. By William B. Fowle

Boston

Cummings, Hilliard, and Company (James Loring, Printer), 1825

176mm. 1–7 (1), 1–64pp., one plate

Title-page inscribed *J. Barnes Jr.*

In a contemporary leather binding.

¶ First edition of this translation by William Bentley Fowle (1795–1865), principal of the Female Monitorial School, Boston. Pages 47–64 are 'Problems in Arithmetick and Geometry'.

Checklist 20546; not considered by Karpinski

200

FRANCOEUR Louis Benjamin 1773–1849

An Introduction to linear drawing; translated from the French of M. Francoeur; with alterations and additions to adapt it to the use of schools in the United States. To which are added, the elements of linear perspective; and questions on the whole. By William B. Fowle. Third edition

Boston

Hilliard, Gray, Little, and Wilkins, 1830

178mm. 1–6 (2), 1–54 (12) 55–86 (2)pp., three plates

Endpaper inscribed *Mr. Elwell from his Friend Lewis Warriner Oct. 31. 1832.*

In a contemporary leather binding.

¶ Pages 69–86 are 'Problems in arithmetic and geometry'.

Checklist 1433; not considered by Karpinski

201

FRASER Donald 1755?–1820

The Young gentleman and lady's assistant; partly original, but chiefly compiled from the works of the most celebrated modern authors; calculated to instruct youth in the principles of useful knowledge: in five parts… To which is annexed – a short system of practical arithmetic; wherein every example is wrought at large, and the whole, including the money of the United States, rendered easy to the meanest capacity. This work, is divided into small sections for the convenience of schools

New York

Printed by Thomas Greenleaf, 1791

158mm. 1–12, 1–273 (1)pp., subscription list 22pp.

Ownership inscriptions of *Margaret* and *Jacob Ten Eyck*, latter dated *1791.*

In a contemporary leather binding (lower joint split).

¶ The 'Concise System of Practical Arithmetic' occupies pp.224–264. A copyright for this first edition was entered April 30, 1791. According to Evans, 'An edition of two thousand copies was sold in eighteen months'.

Karpinski pp.95, 97 (title-page reproduced); SM 23387; Batschelet 526

202

FREEMAN Samuel 1743–1831

The Town officer: or the power and duty of selectmen, town clerks, town treasurers, overseers of the poor, assessors, constables, collectors of taxes, surveyors of highways, surveyors of lumber, fence viewers, clerks of the market, measurers of wood, and other town officers. As contained in the laws of the Commonwealth of Massachusetts. With a variety of forms, for the use of such officers. To which are added, the power and duty of towns, parishes and plantations, and a plain and regular method to keep accounts of the expenditures of monies voted by a town; upon an inspection of which, the state of its finances may at any time be known. The third edition, corrected, improved and greatly enlarged

Boston

Printed by I. Thomas and E.T. Andrews, 1794

170mm. 1–240pp.

Bound in 19th-century leather-backed marbled paper boards (upper cover detached).

¶ This work contains tables for exchange, calculating interest, measuring a load of wood, *etc.*, and a section on book-keeping (pp.173–199). The two previous editions had been published at Portland, Maine, in 1791, and at Boston in 1793.

SM 27016; not considered by Karpinski

203

GEORGE Noah J.T. ?–1849

The Gentleman's pocket companion: or, a series of valuable tables and useful forms of writing. Compiled from the most approved authors

Concord, New Hampshire

Printed by Hill and Barton, 1831

113mm. 1–128pp.

Bound in contemporary leather-backed marbled paper boards (upper cover lacking).

¶ Included are tables of interest and 'for reducing English to American money'. Only this edition is recorded in the BAI (14, p.184).

Checklist 7240; not in Karpinski

204

GIBSON Robert ?–1761?

A Treatise of practical surveying; which is demonstrated from its first principles. Wherein every thing that is useful and curious in that art, is fully considered and explained. Particularly three new and very concise methods for determining the areas of right-lined figures… With alterations and amendments, adapted to the use of American surveyors [Bound with, as usual:] Mathematical tables: difference of latitude and departure: logarithms, from 1 to 10,000. Artificial sines, tangents, and secants. The seventh edition

Philadelphia

Printed for Joseph Crukshank, 1796

205mm. 1–8, 1–288pp., (3) 1–90, (1) 1–60pp., thirteen plates

Endpaper inscribed *Abraham L. Pennock 1799* and *James Cox.*

In a contemporary leather binding (back split, upper cover detached).

¶ The first edition of this work published in America was issued by Joseph Crukshank in 1785 and designated the 'fourth', following the sequence of the English editions.

THE

FEDERAL INSTRUCTOR,

OR

YOUTH'S ASSISTANT,

Containing the most concise and accurate Rules for performing operations in

ARITHMETIC,

ADAPTED TO THE EASY AND REGULAR INSTRUCTION OF YOUTH.

FOR THE USE OF SCHOOLS, &c.

FOURTH EDITION—ENLARGED AND CORRECTED.

BY ABIJAH AND JOSIAH FOWLER,

TEACHERS OF ARITHMETIC.

PUBLISHED FOR IZAAK WOODS,
ILLINOIS.

Printed at the "Republican" Office, St. Louis.
1839.

The fifth and sixth American editions also were printed by Crukshank, in 1789 and 1792. The appended *Mathematical tables* usually accompany the early editions of Gibson's work (cf. Karpinski pp.82–83, listing editions dated 1785, 1790, 1792, 1794, 1796). John Robertson (1712–1776) is sometimes credited with their compilation (cf. BAI 23, p.111).

Karpinski p.83, calling for only twelve plates; SM 47790 (Bristol 9556), calling for thirteen plates

205

GIBSON Robert ?–1761?

The Theory and practice of surveying; containing all the instructions requisite for the skilful practice of this art… The whole corrected, newly arranged, and greatly enlarged with useful selections, and a new set of accurate mathematical tables. By D.P. Adams

New York

Published by Evert Duyckinck, 1814

216mm. (4) 1–324, 1–184pp., thirteen plates

Endpapers inscribed *Chauncy Clark* and *Wm. A. Brown… East Hampton, Ct. 1824.*

In a contemporary leather binding, red lettering-piece.

¶ This revision by D.P. Adams had been first printed in 1811.

Karpinski p.84, apparently calling for fourteen plates; AB 31580

206

GIBSON Robert ?–1761?

The Theory and practice of surveying; containing all the instructions requisite for the skilful practice of this art… Newly arranged, improved, and enlarged, with useful selections, and a new set of accurate mathematical tables. By James Ryan

New York

Published by Evert Duyckinck, G. Long, Printer, 1821

219mm. 1–5 (3), 1–360, 1–184pp., frontispiece and fourteen plates

In a contemporary leather binding, remains of black lettering-piece (joints cracked).

¶ The first edition of Ryan's revision had been published in 1812. A copyright for this edition was entered June 20, 1821.

Karpinski p.84, Checklist 5453

207

GOODFELLOW J.

The Merchant's and ship-master's ready calculator, and the complete pocket assistant, for all persons concerned in the freight of goods. Comprehending an accurate set of tables, exhibiting at one view, the solid contents of all kinds of packages and casks, according to their several lengths, breadths, and depths. Also, rules for determining the contents of all sorts of casks in wine and beer measure. Carefully revised and corrected

New York

Printed and published by George Long, 1816

262mm. (4) 1–193 (3)pp.

In a contemporary leather binding (joints cracked).

¶ This set of tables was first printed in 1804 (Karpinski p.155). The 1816 reprint was shared among three New York publishers, George Long, Evert Duyckinck, and Samuel A. Burtus (BAI 48, p.43).

Karpinski, Second supplement, p.176; AB 37734

208

GOUGH John 1721–1791

Practical arithmetick, in four books… Adapted to the commerce of Ireland as well as that of Great Britain; and now fitted to the commerce of America. For the use of schools. By John Gough. Carefully revised by Robert Telfair

Baltimore

Printed by Warner and Hanna, 1803

163mm. 1–347 (1)pp.

In a contemporary leather binding, red lettering-piece (joints cracked).

¶ Gough's *Practical Arithmetick* revised by Thomas Telfair was first published at Wilmington, Delaware, in 1798, and reprinted there in 1800. In this third edition the 'Appendix to algebra by W. Atkinson' is expunged (Simon p.9).

Karpinski p.121; AB 4296

209

GOUGH John 1721–1791

A System of practical arithmetick, in four books, agreeably to Telfair's edition of Gough's arithmetick: to which is added a great variety of rules adapted to the commerce of the United States with the various nations of the world, as well as of the different individual states with each other.

Second edition

Baltimore

Printed by William Warner, 1817

170mm. 1–342pp.

In a contemporary leather binding, red lettering-piece.

¶ A further revision of Gough's *Practical Arithmetick*, based on Telfair. The anonymous revision was first published at Baltimore, by Warner, in 1807–1808; our edition is the second printing.

Karpinski p.121 (title-page reproduced); AB 40943

210

GRAY James 1770–1824

The Arithmetical tutor, being a plain and easy introduction to the science of arithmetick... Revised by an American teacher, and adapted to the currency of the United States

Burlington, New Jersey

Printed and published by D. Allinson & Co., 1812

157mm. 1–119 (1)pp. (lacking pp.9–10)

Bound in contemporary leather-backed marbled paper boards (upper cover detached).

¶ Only edition. 'The principal design of this publication is to initiate youth in the fundamental rules of Arithmetick, and to be of easy purchase to the scholar' (from the prefatory 'Advertisement').

Karpinski p.191 (title-page reproduced); AB 25556

211

GREENLEAF Benjamin 1786–1864

Introduction to the national arithmetic, on the inductive system; combining the analytic and synthetic methods with the cancelling system; in which the principles of arithmetic are explained and illustrated in a familiar manner. Designed for common schools. Improved, stereotype edition

Boston

Robert S. Davis, and Gould, Kendall, & Lincoln, *etc.*, 1845

182mm. 1–196pp. (pages 51–52, 57–58 lacking), advertisements ('Approved School Books') 2pp.

Multiple ownership inscriptions of *Charles E. Lowe, Exeter, N.H., 1845.*

In the publishers' leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover (leather and covers worn, front joint split).

¶ This work, first published in 1842, is a smaller version of the author's *National arithmetic* and is modelled after it closely. Revised editions were published in 1848 and 1856. The first owner of this volume, Charles Lowe (1828–1874), son of a cotton mill owner at Exeter, attended Phillips Academy, and matriculated at Harvard graduating salutatorian in the class of 1847 (*DAB*, X, pp.450–451).

Karpinski p.437

212

GREENLEAF Benjamin 1786–1864

Mental arithmetic, upon the inductive plan; for beginners

Boston

Robert S. Davis, and Gould, Kendall & Lincoln; New York: Collins, Brother & Co., *etc.*, 1849

160mm. 1–72pp.

Bound in contemporary cloth-backed blue paper boards, text of title-page on upper cover, advertisements

('Standard school books published by Robert S. Davis') printed on lower cover.

¶ This work had been first published in 1845. Its author graduated Dartmouth College 1813, settled at Bradford, Massachusetts, where he was preceptor of the Bradford Academy 1814–1836 and head of the Bradford Teachers' Seminary 1839–1848 (*DAB*, VII, p.581).

Karpinski p.473

213

GREENLEAF Benjamin 1786–1864

The National arithmetic, combining the analytic and synthetic methods, in which the principles of arithmetic are explained in a perspicuous and familiar manner; containing also, practical systems of mensuration, gauging, geometry, and book-keeping, forming a complete mercantile arithmetic, designed for schools and academies

Boston

Published by Robert S. Davis and Gould, Kendall and Lincoln (Printed by William A. Hall & Co.), 1835

190mm. 1–4, 13–344pp. (complete), *Key*: 1–7 (1)pp.

Endpapers inscribed *Sarah A.* and *Mary J. Hardy, Boxford, Mass.*

In a contemporary leather binding, black lettering-piece.

¶ A copyright for this first edition was entered November 17, 1835. The author later reported the edition was exhausted within a year (Walter S. Monroe, *Development of arithmetic as a school subject*, Washington, DC 1917, p.97). The three copies recorded by Karpinski are dated 1836.

Cf. Karpinski p.388 and Checklist 37787 (same imprint, but dated 1836)

214

GREENLEAF Benjamin 1786–1864

The National arithmetic, on the inductive system; combining the analytic and synthetic methods, in which the principles of arithmetic are explained in a perspicuous and familiar manner; containing also practical systems of mensuration, guaging, geometry, and book-keeping; forming a complete mercantile arithmetic. Designed for schools and academies. Improved stereotype edition

Boston

Published by Robert S. Davis, and Gould, Kendall, and Lincoln (Cambridge, Stereotyped by Folsom, Wells and Thurston, Printers to the University), 1838

188mm. 1–314pp., advertisements ('Approved school books printed and sold by Robert S. Davis') 10pp.

Contemporary printed label on paste-down *Sold by N. March, Bookseller, Portsmouth*; ownership inscription *Miss Sophia Emery... 1839.*

In a contemporary leather binding.

Karpinski p.388; Checklist 50628

215

GREENLEAF Benjamin 1786–1864

The National arithmetic, on the inductive system; combining the analytic and synthetic methods, together with the cancelling system; forming a complete mercantile arithmetic New stereotype edition, revised, enlarged, and much improved

Boston

Robert S. Davies, and Gould, Kendall & Lincoln, *etc.*, 1848
185mm. 1–360pp.

Endpaper inscribed *S.G. Hilliard.*

In a contemporary leather binding (joints cracked).

¶ In the list of 'Standard Boston School Books' printed on the verso of the title-page, the 'Eighteenth improved stereotype edition' of this book is advertised. Karpinski says the present edition elsewhere was 'advertised as the twenty-fifth edition'.

Karpinski p.389

216

GREGORY Olinthus Gilbert 1774–1841

Mathematics for practical men: being a common-place book of principles, theorems, rules, and tables, in various departments of pure and mixed mathematics, with their application; especially to the pursuits of surveyors, architects, mechanics, and civil engineers. Second American from the second London edition. Corrected and improved

Philadelphia

E.L. Carey and A. Hart (T.K. & P.G. Collins), 1837
222mm. 1–12, 1–427 (1)pp., three plates

Ownership inscription on endpaper dated 1839.

In a contemporary leather binding (joints cracked).

¶ The first and second London editions appeared in 1825 and 1833 respectively. The first American edition was published by Carey and Hart in 1834; our 'second American edition' was issued with title-pages dated 1836, 1837, and 1838, and the work was published again in 1848, 1852, and 1868. The section on algebra occupies pages 58–103.

Karpinski p.362; Simon p.32 (issues dated 1837 and 1838); cf. Checklist 37796 (issue dated 1836)

217

GREGORY Olinthus Gilbert 1774–1841

Mathematics for practical men: being a common-place book of principles, theorems, rules, and tables, in various departments of pure and mixed mathematics, with their application; especially to the pursuits of surveyors, architects, mechanics, and civil engineers. Second American from the second London edition. Corrected and improved

Philadelphia

E.L. Carey and A. Hart (Printed by T.K. and P.G. Collins), 1838

210mm. 1–12, 1–427 (1)pp., three plates

Ownership inscriptions of *A. Gilman* and *Charles J. Gilman, Exeter, N.H. 1842*; blindstamp of *The Phillips Exeter Academy Library Exeter N.H.*

In a contemporary leather binding, black lettering-piece (front joint cracking).

Karpinski p.362 (title-page reproduced); Simon p.32; Checklist 50632

218

GREGORY Olinthus Gilbert 1774–1841

Mathematics for practical men: being a common-place book of principles, theorems, rules, and tables, in various departments of pure and mixed mathematics, with their application; especially to the pursuits of surveyors, architects, mechanics, and civil engineers. Second American from the Second London edition, corrected and improved

Philadelphia

Published by Carey and Hart (Printed by T.K. & P.G. Collins), 1848

225mm. 1–12, 1–427 (1)pp., three plates

Blindstamp *Rhode Island* [State] *College Library*, with their *Discarded* inkstamp.

Bound in modern buckram.

Cf. Karpinski p.362, previous editions

219

GRIER William

The Mechanic's calculator; comprehending principles, rules, and tables in the various departments of mathematics and mechanics; useful to millwrights, engineers, and artisans in general. From the fifth Glasgow edition

Philadelphia

Thomas Wardle (C. Sherman & Co., Printers), 1842
191mm. 1–308pp., three plates

Endpaper inscribed *Jabez Edwards, Lowell, Mass… 1848 Price $1.00.*

In a contemporary green cloth binding, spine lettered in gilt.

¶ The earliest American edition is Philadelphia, Thomas Wardle, 1839.

Karpinski p.412; Checklist 42/2122

220

GROUT Jonathan 1761–1820

The Pupil's guide to practical arithmetic, containing all the rules, which occur in common business. Calculated upon the method both of pounds, shillings, and pence, and federal money. For the use of schools. Second edition

Sutton, Massachusetts

Printed by Sewall Goodridge, for Elijah Burbank, Worcester, 1809

137mm. 1–107 (1)pp.

Bound in contemporary leather-backed wooden boards, covers finished with blue paper (leather decayed, front joint split).

¶ The first edition had been published at Worcester, by Daniel Greenleaf, in 1802.

Karpinski p.145; AB 17690

221

GRUND Francis Joseph 1805–1863

An Elementary treatise on geometry, simplified for beginners not versed in algebra. Part I, containing plane geometry, with its application to the solution of problems. Second edition

Boston

Published by Carter, Hendee and Babcock; Baltimore, Charles Carter, 1830

177mm. 1–8, 1–238pp.

Endpaper inscribed *James A. Langley, Boston.*

In a contemporary leather binding.

¶ A revision of the author's *First lessons in plane geometry* published at Boston, by Carter and Hendee, in 1830 (copyright entered January 26–February 10, 1830). A copyright for the revised work, designated 'second edition', was entered December 4, 1830. A *Part II. Containing solid geometry* appeared in 1831 (ERL 5231).

Karpinski p.315 (title-page reproduced); Checklist 1704

222

GRUND Francis Joseph 1805–1863

Key to the exercises in algebra, for the use of the teacher

Boston

Carter, Hendee and Co., 1833

184mm. (2), 1–92pp.

In a contemporary leather binding.

¶ Grund's *Exercises in algebra* were printed by Carter, Hendee and Company in 1833 (Simon p.31). A copyright for this *Key* was entered November 5, 1833.

Karpinski p.351; Checklist 19142

223

GUMMERE John 1784–1845

A Treatise on surveying, containing the theory and practice. To which is prefixed a perspicuous system of plane trigonometry. The whole clearly demonstrated and illustrated by a large number of appropriate examples. Particularly adapted to the use of schools. Fourth edition, improved

Philadelphia

Published by John Richardson and Kimber & Sharpless, 1825

215mm. 1–216pp., eight plates

In a contemporary leather binding, red lettering-piece.

¶ The author taught school 1814–1833 at Burlington, New Jersey, drawing pupils from all parts of the Union (*DAB*, VIII, p.49). His *Treatise on surveying* was first printed at Philadelphia in 1814; the copyright for this revised edition was entered September 2, 1825.

Bound with, as often, *Mathematical tables: difference of latitude and departure; logarithms, from 1 to 10,000; and artificial sines, tangents, and secants. Stereotype edition, carefully revised and corrected* (Philadelphia, Published by John Richardson, Stereotyped by J. Howe, 1825). Authorship of these tables is variously credited to John Robertson, Zachariah Jess, and Gummere himself (cf. BAI 48, p.171; 49, p.355).

Karpinski pp.202, 199 (*Mathematical tables*); Checklist 20771, 20770 (*Mathematical tables*); ERL 5233

224

GUMMERE John 1784–1845

A Treatise on surveying, containing the theory and practice: to which is prefixed a perspicuous system of plane trigonometry. The whole clearly demonstrated and illustrated by a large number of appropriate examples, particularly adapted to the use of schools. Sixth edition, improved

Philadelphia

Kimber & Sharpless, 1832

220mm. 1–216pp. (pages 137–208 lacking), seven plates (of eight, no.4 lacking), 1–152pp. (*Mathematical tables*)

Endpaper inscribed *The Property of Theodore Arrosmith, Menoham, Morris Co. N.J. 1832.*

In a contemporary leather binding, red lettering-piece.

¶ A copyright for this revised edition was entered February 3, 1832. Appended: *Mathematical tables: difference of latitude and departure; logarithms, from 1 to 10,000; and artificial sines, tangents, and secants. Stereotype edition, carefully revised and corrected* (Philadelphia, Published by Kimber and Sharpless; Stereotyped by J. Howe, 1829).

Karpinski pp.202, 199 (*Mathematical tables*); Checklist 12768, 38870 (*Mathematical tables*)

225

GUMMERE John 1784–1845

A Treatise on surveying, containing the theory and practice: to which is prefixed a perspicuous system of plane trigonometry. The whole clearly demonstrated and illustrated by a large number of appropriate examples, particularly adapted to the use of schools. Fourteenth edition, carefully revised, and enlarged by the addition of articles on the theodolite, levelling, and topography

Philadelphia

Thomas, Cowperthwait & Co.; Kimber & Sharpless, 1846

225mm. (2) 5–6 (2) 9–266pp. (evidently complete), eleven plates, 1–152pp. (*Mathematical tables*)

In a contemporary leather binding.

¶ The printed copyright is dated May 3, 1838. Appended: *Mathematical tables: difference of latitude and departure; logarithms, from 1 to 10,000; and artificial sines, tangents, and secants. Stereotype edition, carefully revised and corrected* (Philadelphia, Thomas, Cowperthwait & Co.; Kimber & Sharpless, 1846).

Karpinski pp.203, 199 (*Mathematical tables*); cf. ERL 5235 (copy of a 'Fourteenth edition' dated 1849)

226
GUMMERE John 1784–1845
A Complete key to Gummere's Surveying; in which the operations of all the examples, not solved in that work, are exhibited at large. Principally designed to facilitate the labour of teachers, and to assist those who have not the opportunity of their instruction. By Samuel Alsop
Philadelphia
Published by Kimber and Sharpless (Stereotyped by J. Fagan, Philadelphia), 1837
225mm. 1–84pp., four plates
Ownership inscription *Lunford L. Ludwig* on p.3.
In a contemporary leather binding (joints cracked).
¶ First edition of Samuel Alsop's *Key*.
Karpinski p.203; Checklist 42760

227
[GUMMERE John 1784–1845]
Mathematical tables: difference of latitude and departure; logarithms, from 1 to 10,000; and artificial sines, tangents, and secants. Stereotype edition, carefully revised and corrected
Philadelphia
Published by Kimber and Sharpless; Stereotyped by J. Howe, New York, 1829
228mm. 1–152pp.
Endpaper inscribed *F.L. Bristol… 1834*.
Bound in contemporary cloth-backed brown paper boards.
¶ 'These tables were commonly issued with editions of Gummere's *Treatise on surveying*' (Karpinski). A second copy of this edition is bound with item no.224.
Karpinski p.199 (*q.v.* Anonymous); BAI 48, p.171 (naming Gummere as 'possible author'); Checklist 38870

228
HACKLEY Charles William 1809–1861
A Treatise on algebra, containing the latest improvements. Adapted to the use of schools and colleges. Third edition
New York
Harper & Brothers, publishers, 1849
232mm. 1–15 (1), 1–503 (1)pp., advertisements 4pp.

In a contemporary leather binding (decayed, covers detached).
¶ The first and second editions had appeared in 1846. This third edition was first issued in 1847.
Karpinski p.489; Simon p.55

229
HASSLER Ferdinand Rudolph 1770–1843
Elements of analytic trigonometry, plane and spherical
New York
Published by the author; James Bloomfield, Printer, 1826
235mm. 1–192pp., one plate
Inkstamp of *Wesleyan University Library Duplicate checked… 1935*.
Bound in contemporary cloth-backed brown paper boards (covers detached).
¶ The copyright notice printed in this first edition is dated June 10, 1826. Hassler emigrated from Switzerland to the United States and was acting professor of mathematics at the Military Academy, West Point, from 1807–1810. In 1817 he was appointed Superintendent of the U.S. Coast Survey.
Karpinski p.273 (title-page reproduced); Checklist 24812

230
HASSLER Ferdinand Rudolph 1770–1843
Elements of arithmetic, theoretical and practical; adapted to the use of schools, and to private study
New York
Printed and published by James Bloomfield, 1826
158mm. 1–215 (1)pp.
In a contemporary leather binding (joints cracked).
¶ A copyright for this first edition was entered October 6, 1826. 'Taken as a whole, the author places theory before practice, and illustrates with very few problems' (Greenwood & Martin p.827).
Karpinski p.274 (title-page reproduced); Checklist 24813; ERL 4774

231
HASSLER Ferdinand Rudolph 1770–1843
Elements of the geometry of planes and solids. With four plates
Richmond, Virginia
Published by the author; Shepherd & Co. Printers, 1828
230mm. 1–159 (1)pp., four plates
Bound in contemporary cloth-backed brown paper boards.
¶ A copyright for this first edition was entered July 12, 1828.
Karpinski p.291 (title-page reproduced); Checklist 33498

232

HAWNEY William

Hawney's complete measurer: or, the whole art of measuring. Being a plain and comprehensive treatise on practical geometry and mensuration. Corrected and improved by T. Keith. Third edition. With an appendix containing rules and examples for finding the weight and dimensions of balls and shells, with their appropriate quantities of powder. Revised and corrected by John D. Craig

Baltimore

Published by F. Lucas, Jr. and Neal, Wills & Cole; S.P. Child & Co., Printers, 1813

168mm. 1–11 (1), 1–307 (7)pp.

Endpaper inscribed *Gerard B. Stuart*.

In a contemporary leather binding, red lettering-piece.

¶ The first American edition, revised by Thomas Keith, had been published at Philadelphia in 1801 and reprinted there in 1807. This is the first printing of John Craig's corrected revision.

Karpinski p.137; AB 28720

233

HAYWARD James 1786–1866

Elements of geometry upon the inductive method. To which is added an introduction to descriptive geometry

Cambridge, Massachusetts

Hilliard and Brown; Philadelphia: Uriah Hunt (Cambridge: E.W. Metcalf and Company, Printers to the University), 1829

195mm. 1–16 (2), 1–172pp., eleven plates

Title-page inscribed *A. Wadsworth Longfellow Boston 1837*.

Bound in contemporary cloth-backed tan paper boards, printed paper lettering-piece (cloth decayed, covers detached).

¶ The copyright of this first edition was entered November 2, 1829.

Karpinski p.304 (title-page reproduced); Checklist 38944

234

HILL Thomas 1818–1891

An Elementary treatise on arithmetic, designed as an introduction to Peirce's course of pure mathematics, and as a sequel to the arithmetics used in the high schools of New England

Boston

James Munroe and Company (Cambridge: Metcalf and Company, Printers to the University), 1845

184mm. (2) 1–6, 1–85pp., advertisements 3pp.

Endpaper inscribed *Edw. C. Guild… 1849*; exlibris *Phillips Library of Harvard College Observatory* stamped *1888* with *Harvard College Library* release stamp.

Bound in cloth-backed brown paper boards, text of title-page on upper cover, advertisements ('Peirce's Course of Natural Philosophy') printed on lower cover.

¶ First edition of 'one of the most singular, as well as one of the most interesting, arithmetics ever published in the English language' (Greenwood & Martin p.849). The author graduated Harvard 1843 with particular distinction in mathematics (his instrument for calculating eclipses won the Scott medal of the Franklin Institute). In the preface he states 'It is not the design of this treatise to make arithmetic easy, nor to give such practical skill as may be useful in business'. For many years the work was specially required for admission to Harvard College.

Karpinski pp.473–474 (title-page reproduced)

235

HILL Thomas 1818–1891

First lessons in geometry

Boston

Hickling, Swan and Brewer; Cleveland: Ingham & Bragg (Stereotyped by Hobart & Robbins… Boston), 1858

165mm. 1–144pp.

Bound in contemporary leather-backed tan paper boards, text of title-page on upper cover, advertisements ('School books published by Hickling, Swan and Brewer') printed on lower cover (leather decayed, upper cover detached).

¶ The author's preface is dated at Waltham, Massachusetts, November 1854. The first edition was printed at Boston in 1855 (ERL 5245; BAI 49, p.47).

No edition in Karpinski

236

HILTON Nathan T.

Practical arithmetic: or a complete exercise-book, for the use of schools

Exeter, New Hampshire

Printed and sold by Norris & Sawyer, for the author, 1807

175mm. 1–216pp.

Endpaper inscribed *Albert King… 1824*.

Bound in leather-backed wooden boards, sides covered by blue paper.

¶ Only edition.

Karpinski p.170 (title-page reproduced); AB 12753

237

HOLBROOK Nelson M.

The Child's first book in arithmetic

Portland, Maine

Sanborn & Carter (Stereotyped by Hobart and Robbins… Boston; Engravings by William Jay Baker, Portland), [undated; after 1849]

74mm. 1–112pp.
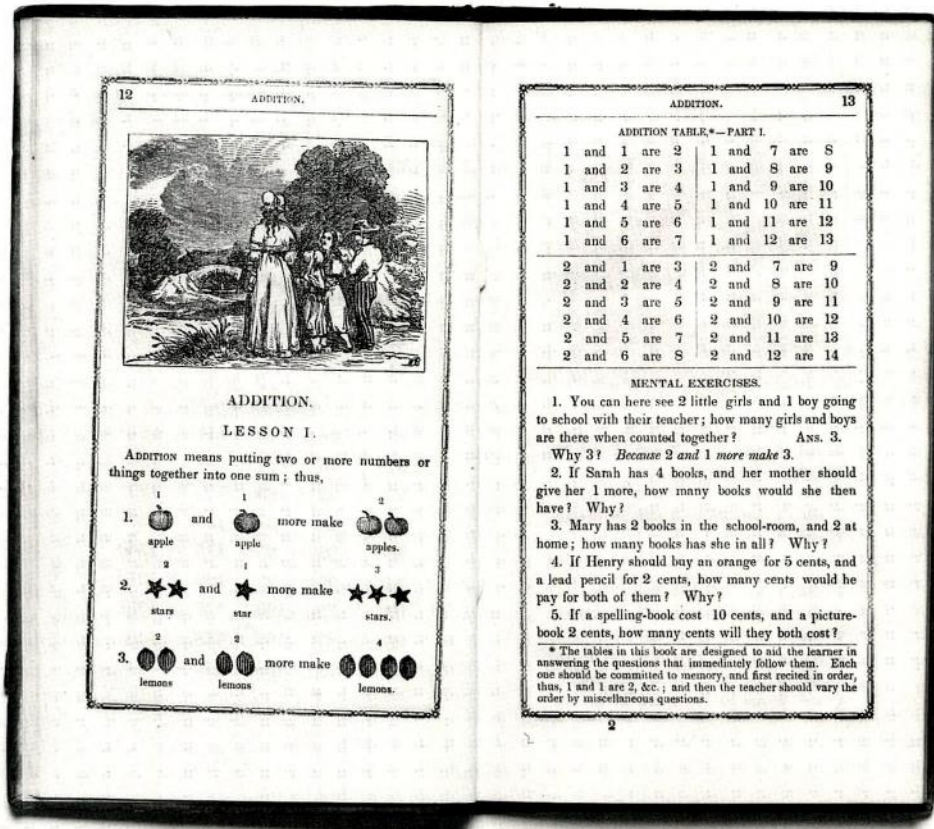
237. Nelson Holbrook, *The Child's first book in arithmetic* (Portland, Maine *circa* 1849)

Inkstamps on endpaper *Joel Perham Jr.* and *Book No.122*. Bound in cloth-backed tan paper boards, title on upper cover, advertisements printed on lower cover.

¶ This is one of the undated editions mentioned, but not listed by Karpinski. The copyright notice and author's preface are dated 1849.

Karpinski p.525

See illustration above

238

HOLBROOK Josiah 1788–1854

Easy lessons in geometry, intended for infant and primary schools: but useful in academies, lyceums, and families.

Second edition

Boston

Published by Peirce and Williams, 1829

143mm. 1–36pp.

In the publisher's tan paper wrappers, text of title-page on upper cover (emended to read 'Second edition, with additions'), advertisements ('Apparatus for schools, academies, and lyceums') printed on lower cover.

¶ The printed copyright notice is dated December 27, 1828. Karpinski suspected an edition was issued in that year, but could locate no copy.

This book was to be used in conjunction with 'Infant School apparatus' – printed diagrams and geometrical solids – also for sale by the publishers. 'The first step to be taken with a child, is to place him before the sheet of diagrams, and to lead him to learn his definitions from that, more than from the book... After a few exercises upon

the diagrams, the child should have the solids placed before him, and learn the definitions, and answer the questions from actual examination of them, depending on them and on his own resources, and not upon the book or his teacher for any step of his progress' (from 'Directions to Teachers'). Karpinski p.304 (title-page reproduced); Checklist 39010

See illustration opposite

239
HOLBROOK Josiah 1788–1854
Easy lessons in geometry, intended for infant and primary schools, but useful in academies, lyceums, and families. Tenth edition
Boston
Carter, Hendee and Co.; Lancaster Press, 1835
153mm. 1–36pp.
In the publishers' blue paper wrapper, text of title-page on upper cover, advertisements ('Apparatus for schools, lyceums, and academies') printed on lower cover. Karpinski p.305; Checklist 32187

240
HOLBROOK Josiah 1788–1854
First lessons in geometry, for the use of families, schools, and lyceums
New York
N.B. Holmes, *etc.*, 1833
140mm. 1–52pp.
In the publisher's tan paper wrappers, text of title-page on upper cover, advertisement (for Holbrook's 'Improved Apparatus') printed on lower cover.
¶ The copyright of this first edition was entered August 8, 1833.
Cf. Checklist 19350 and Karpinski p.352, with imprint reversed: Boston, Brown & Peirce; New York, N.B. Holmes, *etc.* (title-page reproduced)

241
HUTTON Charles 1737–1823
A Course of Mathematics. In two volumes. For the use of academies, as well as private tuition… Vol. I [only, of two]. From the fifth and sixth London editions, revised and corrected by Robert Adrain
New York
Published by Samuel Campbell, *etc.* (George Long, Printer), 1818
214mm. 1–15 (1), 1–583 (1)pp., four plates
Inkstamp *U.S. Military Academy West Point*; multiple ownership inscriptions of *Nicolas* and *A. Tillinghast* and *R. Holmes… 1821*.
In a contemporary leather binding, black lettering-piece.
¶ The first and second American editions had been
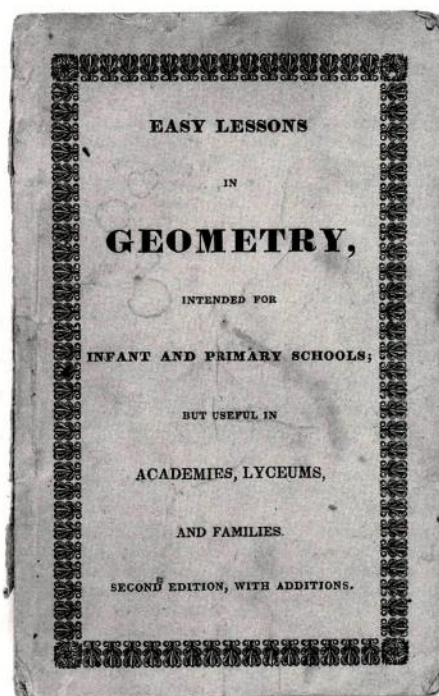
238. Josiah Holbrook, *Easy lessons in geometry* (Boston 1829)

published at New York in 1812 and 1816 respectively. The present edition is designated 'third edition' in an 'Advertisement'. An edition published in 1822 is similarly designated 'third American edition: from the fifth, sixth, and seventh London editions' (title-page). The editor, Robert Adrain (1755–1843), was 'the most outstanding mathematician in America in his time' (David Eugene Smith, in *DAB*, I, pp.109–110). He was professor of mathematics 1809–1813 at Queen's College, New Brunswick, New Jersey, and thereafter at Columbia College, New York. Karpinski p.192; Simon p.15; AB 44405

242
HUTTON Charles 1737–1823
A Course of Mathematics. In two volumes. For the use of academies, as well as private tuition… Vol. II [only, of two]. From the fifth and sixth London editions. Revised and corrected by Robert Adrain
New York
Published by Samuel Campbell, *etc.* (George Long, Printer), 1812

210mm. 1–5 (3), 1–558 (42)pp.

Inkstamp *U.S. Military Academy West Point*; multiple ownership inscriptions of *R. Holmes 1821*.

In a contemporary leather binding, black lettering-piece.

¶ The first American edition, revised by Robert Adrain. The copyright for it was entered August 10, 1812.

Karpinski p.192 (title-page reproduced); AB 25706

243

HUTTON Charles 1737–1823

A Course of mathematics; for the use of academies as well as private tuition. In two volumes. The fifth American, from the ninth London edition, with many corrections and improvements by Olinthus Gregory…With the additions of Robert Adrain… The whole corrected and improved

New York

W.E. Dean, Printer, *etc.*, 1831

217mm. (4) 1–612pp., (4) 1–640pp.

Contemporary ownership stamps in each volume *Geo. Chamberlain*.

The two volumes uniformly bound in contemporary leather.

¶ First edition of this revision by Olinthus Gregory (1774–1841). A copyright for it was entered February 22, 1831.

Karpinski p.192 (title-page reproduced); Simon p.15; Checklist 7331

244

JACKSON Isaac Wilbur 1804–1877

An Elementary treatise on optics

New York

Published by A.S. Barnes & Co.; Albany: D.S. Durrie; Cincinnati: H.W. Derby & Co. (Riggs, Printer, Schenectady), 1848

228mm. (4) 1–7 (1), 1–259 (1)pp., eleven plates

Endpaper inscribed *A.D. Strong, Brown University, Spring 1854, Prof. H. Day*.

In a contemporary embossed brown cloth binding.

¶ First edition.

Karpinski p.510

245

JACKSON Isaac Wilbur 1804–1877

Elements of conic sections. Third edition

Albany, New York

Published by Gray and Sprague (J. Munsell, Printer and Stereotyper Albany), 1850

223mm. (4) 1–96pp., six plates (most of plate 2 torn away)

In a contemporary embossed green cloth binding.

¶ A copyright for this revised edition was entered

September 3, 1850. The first edition had been published at Albany in 1838.

Karpinski p.406

246

JACKSON William

Book-keeping in the true Italian form of debtor and creditor by way of double entry; or, practical book-keeping, exemplified from the precepts of the late ingenious D. Dowling… With the addition of computations in exchange, and tables shewing the proportion that the weights and measures of the principal cities in Europe bear to each other

New York

Printed by Sage and Clough for Evert Duyckinck, 1804

218mm. 1–8, 1–288pp., two folding tables

Multiple ownership inscriptions, the earliest of *John Devereux* dated *1811*.

In a contemporary leather binding (decayed, cover detached).

¶ The first American edition had been published at Philadelphia in 1801. Duyckinck shared the present edition with T.B. Jansen & Company (AB 50446) and M'Dermut & Thompson (AB 50447).

Karpinski, Third supplement, p.199; cf. AB 6545 (imprint: New York, C. Brown, 1804)

247

[JAUDON Daniel 1767–1826]

A Short system of polite learning: being a concise introduction to the arts and sciences. Adapted for schools

Litchfield, Connecticut

Thomas Collier, 1797

147mm. 1–112pp.

Bound in contemporary leather-backed wooden boards, covers finished with grey paper.

¶ The section on mathematics occupies pp.43–47.

Karpinski, Third supplement, p.198; SM 32316; Trumbull 1369

248

[JAUDON Daniel 1767–1826]

A Short system of polite learning, being an epitome of the arts and sciences: for the use of schools. The second American edition improved

Philadelphia

Published by Johnson and Warner, 1809

145mm. 1–214pp., frontispiece and one plate

Multiple ownership inscriptions of *Richard Allen Esq.*, once dated *1846*.

In a contemporary leather binding (lower joint broken, lower cover abraded).

¶ The copyright notice printed in this edition is dated February 19, 1806. The section on mathematics occupies pages 75–80.

Karpinski, Third supplement, p.198; AB 17832

249

[JAUDON Daniel 1767–1826]

A Short system of polite learning, being an epitome of the arts and sciences; designed for the use of schools. By an eminent writer of Philadelphia. Ninth American edition, improved

Philadelphia

Published by M'Carty & Davis; Stereotyped by J. Howe, 1826

142mm. 1–198pp.

Endpapers inscribed *Magdalenae R. Harsen… 1830.*

In a contemporary leather binding, red lettering-piece.

¶ The section on mathematics occupies pages 81–84.

Karpinski, Third supplement, p.198; Checklist 24976

250

JELLEFF Joseph

Jelleff & Hull's patent pocket interest tables, at 6 per cent. New stereotype edition. Carefully revised and corrected

Cooperstown, New York

Printed and sold by H. & E. Phinney; Utica: I. Tiffany, 1837

105mm. (2) 5–46pp. (evidently complete)

Sewn, as issued.

¶ The printed copyright notice is dated 1828 and names Joseph Jelleff and Bennet B. Hull as proprietors. An edition of their *Patent pocket interest tables, at seven percent* is known (Karpinski p.291; Checklist 44984), but not the present tables.

Not in Karpinski, not traced in Checklist

251

JESS Zachariah

The American tutor's assistant, improved: or, a compendious system of decimal, practical arithmetic comprising the usual methods of calculation, with the addition of federal money, and other decimals, dispersed through the several rules of that useful science. Adapted for the easy and regular instruction of youth in the United States. Sixth edition, revised and corrected

Wilmington, Delaware

Printed and sold by Peter Brynberg, 1811

165mm. (4) 1–204pp.

Multiple ownership inscriptions, principally *Jacob Strickler, Newmarket, Shenandoah County, Va., 1817.*

In a contemporary leather binding.

¶ The first edition had been published in 1799.

Karpinski p.123; AB 23115
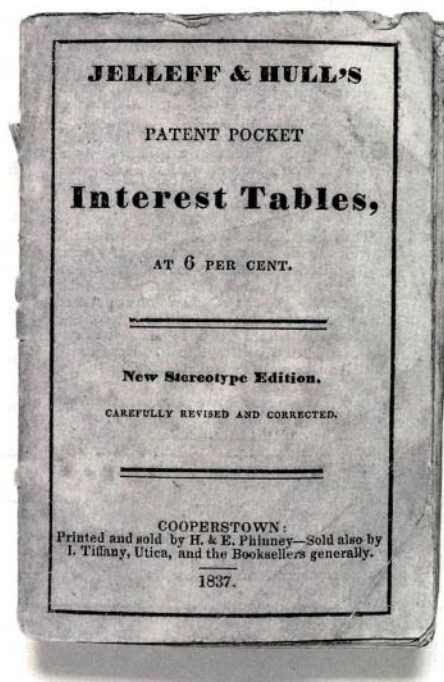
250. An unrecorded edition

252

JESS Zachariah

The American tutor's assistant, improved: or, a compendious system of decimal, practical arithmetic; comprising the usual methods of calculation, with the addition of federal money, and other decimals, dispersed through the several rules of that useful science. Adapted for the easy and regular instruction of youth in the United States… Containing, also, a course of book keeping by single entry. Stereotyped edition

Baltimore

Published by Cushing & Sons; Stereotyped by D. & G. Bruce, New York, [undated; *circa* 1818]

168mm. 1–188, 1–2, 1–10, (12), (4)pp.

In a contemporary leather binding (front joint cracked).

¶ The copyright notice printed in this edition is dated June 3, 1818.

Karpinski p.124; BAI 49, p.355; not traced in Checklist

253

JESS Zachariah

The American tutor's assistant, improved: or, a compendious system of decimal, practical arithmetic; comprising the usual methods of calculation, with the addition of

federal money, and other decimals. Dispersed through the several rules of that useful science. Adapted for the easy and regular instruction of youth in the United States. Containing also, a course of book keeping by single entry
Philadelphia
Printed and published by M'Carty & Davis; Stereotyped by D. & G. Bruce, New York, 1821
168mm. 1–188pp. (pages 17–20 lacking), 1–2, 1–10, (14)pp.
Inscribed *Mary Ann E. Bowman's Arithmetic.*
Bound in contemporary leather-backed brown paper boards.
Karpinski p.124; Checklist 5721

254
Jess Zachariah
A Compendious system of practical surveying, and dividing of land: concisely defined, methodically arranged, and fully exemplified. The whole adapted for the easy and regular instruction of youth, in our American schools
Wilmington, Delaware
Printed by Bonsal and Niles for the compiler, 1799
209mm. 1–5 (3), 1–212pp., 1–91 (1), (2) 1–60pp.
In a contemporary leather binding (covers detached).
¶ First edition, bound with Robertson's *Tables of difference of latitude and departure*, as usual.
Karpinski p.124 (title-page reproduced); SM 35670, 36236 (Robertson); Evald Rink, *Printing in Delaware 1761–1800* (Wilmington 1969), 512, 514 (Robertson); Batschelet 707

255
Joerres Lewis
The Plain calculator; being an elementary arithmetic, based on the inherent properties of numbers
Philadelphia
Manly, Orr, and Lippincott, 1842
155mm. 1–106, 1–56pp.
Bound in contemporary leather-backed tan paper boards, text of title-page on upper cover, advertisement printed on lower cover.
¶ First edition, including an 'Analytical table of factors from 1 to 10,000'.
Karpinski p.438 (title-page reproduced); Checklist 42/2676

256
Kelt Thomas
The Mechanic's text-book and engineer's pocket guide: containing a concise treatise on the nature and application of mechanical forces… To which is added, valuable hints to the young mechanic on the choice of a profession; misdirection of industry; intellectual cultivation, and the

studies and morals of the mechanic, etc., etc. By John Frost
Boston
Phillips, Sampson and Company, 1849
190mm. 1–403pp. (*i.e.* 405, pp.10–11 being repeated), advertisements 7pp.
Booksellers' label on pastedown *Sold by Blum & Son, Salem, N.C*
In the publishers' embossed cloth binding (spine decayed, hinges broken).
¶ First edition. 'This work includes sections on practical geometry, decimal arithmetic, mensuration, instrumental arithmetic (slide rule), mechanics, and logarithms' (Karpinski).
Karpinski p.525

257
Kett Henry 1761–1825
Elements of general knowledge, introductory to useful books in the principal branches of literature and science. Designed chiefly for the junior students in the universities, and the higher classes in schools. Two volumes in one
Baltimore
Published by P. Byrne, Jun. and for sale by P. Byrne, Philadelphia, 1812
192mm. 1–12, 1–257 (1)pp., (2) 1–219 (1)pp.
Exlibris *Presented to the Historical Society of Delaware by Wm. Dean, – From the Library of his father – Joseph Dean. Newark, Del., February 1882* with red ink stamp *Historical Society of Delaware.*
In a contemporary leather binding (covers detached).
¶ Two chapters of the second volume (pp.44–58) are devoted to mathematics. The first American edition had been printed at Philadelphia in 1805.
Karpinski p.158 (title-page reproduced); AB 15785

258
Kinne William 1781/4?–1848
A Short system of practical arithmetic, compiled from the best authorities; with demonstrations of the rules. To which is annexed a short plan of bookkeeping. The whole designed for the use of schools
Hallowell, Maine
Published by Ezekiel Goodale; Nathaniel Cheever, printer, 1807
170mm. 1–173pp., advertisements ('Hallowell Bookstore') 3pp.
Multiple ownership inscriptions of *John Whittens, Bloomfield Maine*, earliest dated *1813*.
In a contemporary leather binding, black lettering-piece (upper cover nearly detached).
¶ 'This compilation, the design of which is to furnish our public Schools with a methodical, plain and comprehen-

sive system of practical Arithmetic, has been made prin-
cipally from the works of Hutton, Ludlam, and Bezout,
with such alterations as the case seemed to require' (from
an 'Advertisement'). The copyright of this first edition was
entered September 10, 1807. The author graduated at Yale
in 1804 and subsequently became teacher in Maine.
Karpinski p.171(title-page reproduced); AB 12869

259
KINNE William 1781/4?–1848
A Short system of practical arithmetic, compiled from the
best authorities; with demonstrations of the rules. To
which is annexed a short plan of book keeping. The whole
designed for the use of schools. Second edition
Hallowell, Maine
Published by Ezekiel Goodale; N. Cheever, Printer, 1809
170mm. 1–177pp., advertisements ('Hallowell Bookstore')
3pp.
Bound in contemporary leather-backed wooden boards,
sides covered by marbled paper (paper substantially worn
away, upper cover cracked).
Karpinski p.171; AB 17873; ERL 4811

260
KINNE William 1781/4?–1848
A Short system of practical arithmetic, compiled from the
best authorities; to which is annexed a short plan of book-
keeping, the whole designed for the use of schools. Fifth
edition, with questions on every part of arithmetic, and a
compendious system of tax making. Revised, corrected,
and greatly enlarged by Daniel Robinson
Hallowell, Maine
Printed and published by Glazier & Co., 1825
170mm. 1–240pp.
In a contemporary leather binding, black lettering-piece.
¶ This revision by Daniel Robinson (1777–1866) had been
first printed in 1822. The title-page of the present edition
is headed 'Improved edition with questions' and the
'Advertisement to the fifth edition' printed on title-page
verso is dated August 22, 1825.
Karpinski p.172; Checklist 21123

261
KINNE William 1781/4?–1848
A Short system of practical arithmetic, compiled from the
best authorities; to which is annexed a short plan of book-
keeping. The whole designed for the use of schools. Tenth
edition, with questions on every part of arithmetic, and a
compendious system of tax making. Revised, corrected
and greatly enlarged by Daniel Robinson
Hallowell, Maine
Glazier, Masters and Smith, 1836

175mm. 1–240pp.
Bound in contemporary leather-backed boards, text of
title-page (but dated 1835) on upper cover, advertisements
printed on lower cover, remains of a contemporary pink
paper protective wrapper (leather decayed, front joint
cracked).
¶ The printed cover is dated 1835 and the title-page 1836.
Karpinski p.172; this edition not traced in Checklist

262
LACROIX Silvestre François 1765–1843
An Elementary treatise on arithmetic… Translated from
the French with such alterations and additions as were
found necessary in order to adapt it to the use of American
students. By John Farrar. Third edition, corrected and
somewhat enlarged
Cambridge, Massachusetts
Printed by Hilliard and Metcalf, 1825
222mm. 1–12, 1–144pp.
Title-page inscribed *Presented to N. Haskell by Charles
Proctor New York March 1840* and later inscription transfer-
ring the volume from Nehemiah Haskell to John H.
Cogswell.
Bound with another work (item no.176) in contempo-
rary leather, black lettering-piece.
¶ The first edition of Farrar's translation had been
published in 1818. This revised edition was issued under
a copyright dated June 21, 1825.
Karpinski p.220; Checklist 21143

263
LACROIX Silvestre François 1765–1843
An Elementary treatise on arithmetic, taken principally
from the arithmetic of S.F. Lacroix, and translated from
the French with such alterations and additions as were
found necessary in order to adapt it to the use of American
students. By John Farrar. Fourth edition, revised and
corrected
Cambridge, Massachusetts
Hilliard, Gray, and Company (Charles Folsom, printer to
the University), 1834
233mm. 1–12, 1–145 (1)pp.
Endpaper inscribed *Cyrus Woodman… 1877.*
Bound in contemporary cloth-backed boards.
Karpinski p.220; Checklist 25253

264
LACROIX Silvestre François 1765–1843
An Elementary treatise on plane and spherical trigonom-
etry, and on the application of algebra to geometry; from
the mathematics of Lacroix and Bézout. Translated from
the French [by John Farrar] for the use of the students of

the university at Cambridge, New England
Cambridge, Massachusetts
Printed by Hilliard & Metcalf, 1820
223mm. 1–4 (2), 1–162pp., five plates
Engraved armorial exlibris *George Merrick*; printed 'Regulations' of the Hallowell Social Library pasted to endpaper and on upper cover.
In a contemporary leather binding, sides wrapped with paper (covers detached).
¶ The copyright of this first edition was entered March 7, 1820. Bound at end is John Farrar's *An Elementary treatise on the application of trigonometry* published by Hilliard and Metcalf in 1822 (see item no.178 for a second copy).
Karpinski p.233 (title-page reproduced); Checklist 1893

265
LACROIX Silvestre François 1765–1843
An Elementary treatise on plane and spherical trigonometry, and on the application of algebra to geometry; from the mathematics of Lacroix and Bézout. Translated from the French [by John Farrar] for the use of the students of the university at Cambridge, New England. Second edition
Cambridge, Massachusetts
Printed by Hilliard & Metcalf, 1826
230mm. 1–4 (2), 1–165 (1)pp., five plates
Exlibris *Wesleyan University Library*.
In a contemporary leather binding.
¶ Pages 163–165 in this second edition provide a 'Key to the more difficult formulas'. Bound at end is Farrar's *An Elementary treatise on the application of trigonometry* published at Boston by Hilliard, Gray, Little, and Wilkins, in 1828 (a second copy is item no.179).
Karpinski p.234; Checklist 27744; ERL 5224

266
LACROIX Silvestre François 1765–1843
Elements of algebra. Translated from the French [by John Farrar] for the use of the students of the university at Cambridge, New England
Cambridge, Massachusetts
Printed by Hilliard and Metcalf, *etc.*, 1818
218mm. 1–12, 1–268 (2)pp.
Exlibris *George Merrick* and printed 'Regulations' of the Hallowell Social Library.
Bound with another work in contemporary leather, remains of green paper wrapper.
¶ First edition of Farrar's translation, 'the first work translated by an American for use in American colleges' (Simon). Bound with, as usual, A.M. Legendre's *Elements of geometry*, published by Hilliard and Metcalf in 1819 (a second copy is item no.269).

Karpinski p.220 (title-page reproduced), calling for no plates, but for a further eight pages of 'Questions for practice in Lacroix's Algebra'; Simon p.18, wrongly calling for twelve plates (these belong to the appended work by Legendre), but no 'Questions for practice'; AB 44533

267
LACROIX Silvestre François 1765–1843
Elements of algebra… Translated from the French for the use of the students of the university at Cambridge, New England. By John Farrar. Third edition
Cambridge, Massachusetts
Hilliard, Gray, Little and Wilkins (E.W. Metcalf and Co., Cambridge, Printers to the University), 1831
248mm. 1–13 (1), 1–298pp.
Endpaper inscribed *William W. Wood. Huntington Academy January 1832*; another inscription by *Henry Lawrence Wood* presenting the volume to Phillips Exeter Academy, dated 1959.
Bound in contemporary blue paper boards, printed lettering-piece 'Lacroix Algebra' on tan paper spine (covers detached).
Karpinski p.220; Simon p.19; Checklist 7880

268
LEAVITT Dudley 1772–1851
Elements of arithmetick, made easy. Being an original introduction to that science, for the use of schools, and particularly designed for that class of learners who wish to acquire a competent knowledge of figures with the greatest ease, in the shortest time, and at the least expense
Exeter, New Hampshire
Published by Timothy Gridley; I. & W.R. Hill, Printers, Concord, 1813
143mm. 1–107 (1)pp.
Exlibris *Charles H. Bell*.
Bound in contemporary leather-backed thin wooden boards, sides covered by blue paper.
¶ Only edition. The author, who describes himself as 'Teacher of Mathematics and Natural Philosophy', issued more than fifty almanacs (*DAB*, XI, pp.80–81).
Karpinski p.197 (title-page reproduced); AB 28922

269
LEGENDRE Adrien Marie 1752–1833
Elements of geometry… Translated from the French [by John Farrar] for the use of the students of the university at Cambridge, New England
Cambridge, Massachusetts
Printed by Hilliard and Metcalf, 1819
212mm. 1–15 (1), 208pp., twelve plates
Title inscribed *William N. Johnson 1823*.

In a contemporary leather binding, red lettering-piece.
¶ First edition of Farrar's translation. Another copy of this work is bound with item no.266.
Karpinski p.228 (title-page reproduced); AB 48468

270

LEGENDRE Adrien Marie 1752–1833
Elements of geometry… Translated from the French, for the use of the students of the university at Cambridge, New England. By John Farrar. New edition, improved and enlarged
Boston
Hilliard, Gray, and Company (Stereotyped at Boston Type and Stereotype Foundry), 1833
227mm. 1–15 (1), 1–235 (1)pp., sixteen plates
Endpaper inscribed *John G. Gilman Exeter N.H. 1836*.
Bound in contemporary leather-backed marbled paper boards (front joint cracked).
Karpinski p.229; Checklist 19724

271

LEGENDRE Adrien Marie 1752–1833
Elements of geometry and trigonometry, from the works of A.M. Legendre. Revised and adapted to the course of mathematical instruction in the United States, by Charles Davies [translated from the French by Thomas Carlyle for David Brewster]
New York
Published by A.S. Barnes & Co.; Cincinnati: H.W. Derby & Co. (J.P. Jones & Co., Stereotypers), 1853
205mm. 1–370, 1–62pp.
In a contemporary leather binding, black lettering-piece (upper cover lacking).
¶ The first edition of this translation had been published at Edinburgh in 1824. Davies's revised edition was first printed in 1834.
ERL 5207; cf. Karpinski p.293 (cited)

272

LENHART William
Useful tables relating to cube numbers. Calculated and arranged… Designed to accompany… The Mathematical miscellany, vol. I
New York
Printed by William Osborn, 1838
220mm. (2) 1–16pp.
Inscribed *O. Root Ham[ilton] Coll. Oneida Co. N.Y.*
Bound with another work (item no.288) in contemporary leather-backed marbled paper boards.
¶ This work is customarily appended, as here, to *The Mathematical Miscellany, volume I* (1836), and is 'Designed to accompany his general investigation of the equation

$X_3+Y_3+(X+Y)$ $(X_2–XY+Y_2)$, published there at page 114'.
Karpinski p.407 (title-page reproduced); Checklist 51243

273

LEONARD Charles Elbredge
The Mechanical principia; containing all the various calculations on water and steam power, and on the different kinds of machinery used in manufacturing; with tables showing the cost of manufacturing different styles of cotton goods
New York
Leavitt, Trow & Co., 1848
190mm. 1–23 (1), (2) 11–197 (1)pp.
In the publishers' embossed brown cloth binding, back lettered in gilt.
¶ 'The tables showing the cost per yard of manufacturing different styles of goods from different prices of cotton, were predicated upon the yearly results of a large number of factories… The table which contains the calculated power of belts we believe is the first which has appeared of its kind' (from the author's 'Preface').
Not considered by Karpinski

274

LEONARD George, Jr.
A Practical treatise on arithmetic, wherein every principle taught is explained in a simple and obvious manner; containing numerous questions, and combining the useful properties of former works, with the modern improvements. Being a complete system. To which is added, a description of book-keeping, with examples for practice
Boston
George W. Light, 1839
174mm. 1–347 (1)pp.
Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover, black lettering-piece.
¶ First edition of this popular work.
Karpinski p.414; Checklist 56802

275

LEWIS Enoch 1776–1856
The Practical analyst; or, a treatise on algebra, containing the most useful parts of that science, illustrated by a copious collection of examples: designed for the use of schools. Second edition
Philadelphia
Kimber and Sharpless; Adam Waldie, Printer, 1831
182mm. 1–166pp.
Endpaper inscribed *Peter Strode 1834*.
In a contemporary leather binding, red lettering-piece.

¶ 'The following work was undertaken from a persuasion that the books in algebra, used in our schools, were none of them entirely adapted to the wants of a large class of pupils…' (from the author's preface). Lewis, a native of Pennsylvania and a Quaker, taught school for forty-five years, at Philadelphia and New Garden, Pennsylvania, and Wilmington, Delaware (*DAB*, XI, pp.211–212). This work was previously printed in 1826.

Karpinski p.276; Simon pp.23–24; Checklist 7958

276

LEWIS Enoch 1776–1856

The Practical analyst; or, a treatise on algebra, containing the most useful parts of that science, illustrated by a copious collection of examples: designed for the use of schools. Third edition

Philadelphia

Kimber and Sharpless; Adam Waldie, Printer, 1840

180mm. 1–166 (2)pp. including errata

Endpapers inscribed *Jesse Cheyney… 1852.*

In a contemporary leather binding, red lettering-piece.

¶ A copyright for this third edition was entered May 19, 1840.

Karpinski p.277; Simon p.24; Checklist 40/3987 (*q.v.* Alonzo Lewis, 1794–1861)

277

LITTLE Ezekiel 1762–1840

The Usher. Comprising arithmetic in whole numbers; federal money; decimal and vulgar fractions; a description and use of Coggeshall's sliding rule; some uses of Gunter's scale; superficial and solid measuring; geometrical definitions and problems; surveying; the surveyor's pocket companion, or trigonometry made easy; a table of sines; a table of tangents; miscellany; tables of the weight and value of gold coins. Calculated and designed for youth

Exeter, New Hampshire

Printed by H. Ranlet, 1799

182mm. 1–240pp. including list of subscribers' names

The subscription list is emended by hand, adding at end *Joseph Barrett Esq., York.*

In a contemporary leather binding, red lettering-piece (upper cover detached).

¶ First edition. The author's address 'To the Reader' is dated at Kensington, March 1, 1799.

Karpinski p.125 (title-page reproduced); SM 35734; Batschelet 710

278

LOOMIS Elias 1811–1899

Elements of analytical geometry and of the differential and integral calculus. Nineteenth edition

New York

Harper & Brothers, 1871

232mm. 1–12, 9–286pp. (complete), advertisements ('Loomis's Mathematical Series') 1p.

In a contemporary leather binding (spine worn away).

¶ The printed copyright notice is dated 1858. The author graduated Yale College 1830, was a tutor there 1833–1836, and in 1844 became professor of natural philosophy in the City University of New York (*DAB*, XI, p.398).

No edition in Karpinski

279

LOOMIS Elias 1811–1899

A Treatise on algebra. Second edition

New York

Harper & Brothers, 1847

240mm. 1–10, 1–314pp., advertisements 6pp.

In a contemporary leather binding, black lettering-piece.

¶ A work 'adapted to the wants of students generally in the American colleges', previously printed in 1846. A copyright for this second edition was entered November 29, 1847.

Karpinski p.490; Simon pp.55–56

280

LOVE John *fl.* 1688

Geodaesia: or, the art of surveying, and measuring land made easy. Shewing, by plain and practical rules, to survey, protract, cast up, reduce or divide any piece of land whatsoever; with new tables for the ease of the surveyor in reducing the measure of land: moreover, a more facile and sure way of surveying by the chain, than has hitherto been taught. As also, to lay out new lands in America, or elsewhere: and how to make a perfect map of a river's mouth or harbour; with several other things never before published in the English language. The thirteenth edition, adapted to American surveyors

New York

Printed and sold by Samuel Campbell, 1796

192mm. (8) 1–189, (16) 1–3, (36), 1–7 (1)pp.

In a contemporary leather binding (upper cover detached).

¶ This is the second edition published in America, following one designated 'twelfth edition' (in succession to the London printings) which Samuel Campbell had published in 1793. Pages 16–43 are on geometry; trigonometry and logarithms also are considered.

Karpinski p.103; SM 30704

MARMADUKE MULTIPLY.

BOSTON:
MUNROE AND FRANCIS.
1841.

3

Twice 1 are 2.

This book is something new.

283. An unrecorded edition of *Marmaduke Multiply* (Boston 1841)

281

McDonald Alexander 1752?–1792

The Youth's assistant: being a plain, easy, and comprehensive guide to practical arithmetic. Containing, all the rules and examples necessary for such a work. The second edition
Litchfield, Connecticut
Printed by Thomas Collier, 1789
156mm. 1–103 (1)pp.
Bound in contemporary leather-backed wooden boards, sides covered by blue paper (paper removed from covers).
¶ The first edition of this work had been printed in 1785.
Karpinski p.85; SM 21928; Trumbull 1048

282

Maginness James 1780?–1829

A New, copious, and complete system of arithmetic, for the use of schools and counting-houses in the United States of America; or arithmetical instructor; containing a general course of mercantile examples, together with a variety of speculative matters, well adapted to amuse, and at the same time improve the understanding
Harrisburg, Pennsylvania
Printed for the author by William Greer, 1821
170mm. 1–372pp.
In a contemporary leather binding, red lettering-piece (joints cracked).
¶ 'This is a much better book than the ordinary ones of the period' (Greenwood & Martin p.823). The printed copyright notice in this edition is dated July 30, 1821, and the author's 'Preface' September 20, 1821. An edition dated 1820 also is recorded.
Karpinski p.234 (title-page reproduced); Checklist 5903; ERL 4835

283

Marmaduke Multiply
[Multiplication tables in verse]
Boston
Munroe and Francis, 1841
140mm. 70pp. (paginated 2–71), hand-coloured illustration on every page
Bound in contemporary blue cloth, upper cover lettered in gilt 'Marmaduke Multiply.'.
¶ This work was originally published in England, 1816–1817, as *Marmaduke multiply's merry method*. The first known American edition, as *Marmaduke multiplier for children, with many engravings*, was published by Munroe and Francis in 1837 (Karpinski, Second supplement, p.175). Cf. Karpinski p.469 (edition dated 1845 only) and BAI 23, p.42 (undated Munroe and Francis edition, in light green wrappers); not traced in Checklist

284

Marsh Christopher Columbus 1806–1884

The Art of single-entry book-keeping, improved by the introduction of the proof or balance: designed for the use of merchants, clerks, and schools; comprising a series of mercantile transactions, arranged to form a complete course of practical instruction; adapted to the wholesale and retail business of the United States. Fourth edition, revised and corrected
New York
Published by J.C. Riker (Stereotyped by Redfield & Savage... New York), 1844
218mm. 1–128pp.
Bound in contemporary leather-backed paper boards.
Checklist 44/4044; not considered by Karpinski

285

Mathematical Diary

The Mathematical diary: containing new researches, and improvements in the mathematics: with collections of questions proposed and resolved by ingenious correspondents. Conducted by James Ryan
New York
Published by James Ryan; J. Seymour, Printer, 1825–1832
200mm.
Sewn, as issued (printed wrappers fragile or defective).
¶ The *Mathematical diary* was begun by Robert Adrain and continued by James Ryan. Thirteen issues were published 1825–1832, of which present here are Number II (paginated 25–48), XI (pp.111–144), XIII (pp.6, 209–316).
Karpinski pp.591–592

286

Mathematical Miscellany

The Mathematical miscellany. Number I. Conducted by C. Gill, professor of mathematics in the Institute at Flushing, Long Island. Published at the Institute
New York
W.E. Dean, Printer, 1836
255mm. 1–56pp., printed letter of presentation dated March 24, 1836, and 'Meteorological observations' (4)pp.
Cover inscribed *Prof. A.W. Smith*.
In original yellow paper wrappers, upper cover printed 'The Mathematical Miscellany', lower cover unprinted.
¶ The *Mathematical miscellany* appeared semi-annually for four years, from 1836 to 1839. Edited by Charles Gill, 'it was well in advance of its predecessors and included among its contributors a better class of scholars than are found in the earlier periodicals' (David Eugene Smith, 'Early American mathematical periodicals', in *Scripta Mathematica* I (1932–1933), pp.277–285).
Karpinski p.598; Checklist 38900 (numbers I and II only)

287

MATHEMATICAL MISCELLANY

The Mathematical miscellany, number III. Published at the Institute, Flushing, L[ong] I[sland]
New York
Printed by William Osborn, [undated; 1837]
250mm. 129–194 (2)pp., one plate, a 'Notice to Subscribers' tipped in
Cover inscribed *Prof. J. Johnston*.
In original brown paper wrappers, title printed on upper cover, lower cover blank.
Karpinski p.598

288

MATHEMATICAL MISCELLANY

The Mathematical miscellany. Number I [through VI]. Conducted by C. Gill, professor of mathematics in the Institute at Flushing, Long Island. Published at the Institute
New York
W.E. Dean, Printer, 1836–1838
220mm. 1–56 (2), 57–128 (2), 129–194 (2), 197–268 (2), 269–343 (2), 343–412 (2)pp., one plate (with part III)
Endpaper inscribed *O. Root Ham. Coll. Oneida Co. N.Y.*
Bound in this copy is a steel-engraved view of Hamilton College (inserted as frontispiece) and a single leaf 'Examination problems. Junior Class. Hamilton College 1855', the verso of which is inscribed *Owen Root Jr 1st Prize*. Bound with another work (item no.272) in contemporary leather-backed marbled paper boards.
¶ The first volume of *The Mathematical miscellany* comprised six issues. A second volume, published in 1839 at St. Paul's College, New York, comprising issues VII and VIII, is not present.
Karpinski p.598; Checklist 38900 (numbers I–II only)

289

MECHANIC'S ASSISTANT...

The Mechanics' assistant, or universal measurer, containing a collection of tables of measures, weights and powers, adapted to the use of engineers, millwrights, iron founders, smiths, forgemen, rollers & slitters of iron, timber merchants, architects, surveyors, joiners, carpenters, masons, bricklayers, plumbers, glaziers, pump-makers, plaisterers, slaters, braziers, excise officers, brewers, liquor merchants, farmers, millers, and husbandmen. Also, examples, and use of the common slide rule. With an appendix; exhibiting the strength of beams, &c. And a correct method of calculating the horse powers of a steam engine
Providence, Rhode Island
Published by John Hutchens; Miller & Grattan, Printers, 1827
148mm. 1–58 (*i.e.* 59) (1)pp.

Endpaper inscribed *Wm Whitney... 1834 Schenectady*.
Bound in leather-backed tan paper boards, text of title-page printed on upper cover.
¶ Authorship of this work is variously attributed to 'Roberts' or 'Roberts, of Leeds'. A reissue of the 1827 edition in 1834 is suggested by an entry in BAI (53, p.227). The work apparently was reprinted at Philadelphia in 1828. Checklist 29711 (*q.v.* title); not considered by Karpinski

290

MERCHANT...

The Merchant and seaman's expeditious measurer; containing a set of tables, which show at one view, the solid contents of all kinds of packages and casks, according to their several lengths, breadths, and depths; also, rules for determining the contents of all sorts of casks, in wine and beer measure. Stereotype edition, corrected
New York
Published and sold by E. & G.W. Blunt; J.M. Elliott, Printer, 1847
250mm. (4) 1–196pp. including preliminary publishers' 'Advertisement' (2pp.)
Endpaper inscribed *Thomas L. Steward, San Francisco, Alta Cal., Aug. 12th 1849*.
In a contemporary leather binding, black lettering-piece (joints cracked).
¶ This set of forty-eight tables was first published in 1825 (Checklist 19773) and reprinted 1833, 1835, 1842, *etc.*, usually under the Blunt imprint (cf. BAI 23, p.373).
Not considered by Karpinski

291

MERRILL Phinehas 1767–1815

The Scholar's guide to arithmetic: being a collection of the most useful rules... To which is added, a short treatise on mensuration of planes and solids; with a sufficient number of practical questions at the end of each rule. Designed for the use of schools. The second edition, corrected and improved by the author
Exeter, New Hampshire
Printed by Henry Ranlet, [1795]
176mm. 1–106 (2)pp. (pages 43–48 abraded with loss of text)
Endpapers inscribed *Dudley Norris... Epping 1798, Josiah Norris 1800*, and *Nancy Norris*.
In a contemporary binding of leather-covered wooden boards.
¶ In this edition the author's 'Preface' is dated at Stratham, New Hampshire, December 1794. The first edition had been printed at Exeter in 1793.
SM 29070; cf. Karpinski p.103, listing only other editions dated 1793, 1794, 1798, *etc.*

292

MERRILL Phinehas 1767–1815

The Scholar's guide to arithmetic: being a collection of the most useful rules… To which is added, a short treatise on mensuration of planes and solids; with a sufficient number of practical questions at the end of each rule. Designed for the use of schools. The fourth edition, corrected and improved by the author

Exeter, New Hampshire

Printed by Henry Ranlet, 1802

180mm. 1–107 (1)pp.

Endpaper inscribed *Miss Hannah Woodman.*

Bound in contemporary cloth-covered wooden boards.

¶ The 'Preface' in this edition is dated by the author at Stratham, New Hampshire, November 1802.

Karpinski p.105; AB 2653

293

MERRILL Phinehas 1767–1815

The Scholar's guide to arithmetic. Being a collection of the most useful rules… To which is added, a short treatise on mensuration of planes and solids; with a sufficient number of practical questions at the end of each rule. Designed for the use of schools. Third Dover edition, revised, corrected, and improved

Dover, New Hampshire

Published by Jesse Varney; J.J. Williams, Printer, Exeter, 1819

172mm. 1–107 (1)pp.

Bound in contemporary leather-backed wooden boards, the sides covered with grey paper.

¶ The printed copyright notice for this new edition is dated January 16, 1819.

Karpinski p.105; AB 48680

294

MINIFIE William 1805–1880

A Text book of geometrical drawing, abridged from the octavo edition, for the use of schools

Baltimore

Published by Wm. Minifie & Co. (Stereotyped at the Boston Type and Stereotype Foundry, Fielding Lucas, Jr., Proprietor), 1849

189mm. 1–156pp., forty-seven plates only (frontispiece lacking), advertisements 10pp.

In a contemporary leather binding (spine decayed).

¶ The 'octavo edition' mentioned in the title was published under copyright entered January 10, 1849. A copyright for this abridgement was entered September 12, 1849. Eleven editions are listed in the BAI, the latest published 1882 (51, p.302).

Karpinski p.528

295

MOORE Samuel 1737?–1810

An Accurate system of surveying; in which is contained, I. Decimal fractions, in a plain, concise, and easy manner. II. The Extraction of the square-root. III. Plane trigonometry, rectangular and oblique. IV. An Exact method to cast up the contents of lands. V. Field surveying. The whole being performed without the use of scale and compasses, or a table of logarithms. In which is given, some account of the variation of the needle, and causes of its attraction

Litchfield, Connecticut

Printed by T. Collier, 1796

228mm. 1–10 (6), 1–131 (*i.e.* 132) (2)pp.

Endpapers inscribed *Hiram Wheeler's Book 1812* and *Bought in New York Pearl Street of Thomas Collins Price $1.35 cts.*

In a contemporary leather binding.

¶ The copyright for this first edition was entered August 20, 1796.

Karpinski pp.114–115 (title-page reproduced); SM 30810; Trumbull 1117; Batschelet 638

296

NEWELL John Lyman

The New American arithmetic, in the coin of the United States, denominated federal money; being a plain and easy method of computing by numbers, particularly adapted to the capacity of youth, illustrated and simplified, for the use of academies and schools in the United States

Hartford, Connecticut

Printed for the author (E. Clark, Printer, Middletown), 1822

180mm. 1–8 (2), 7–202 (2)pp. (complete)

Bound in contemporary leather-backed marbled paper boards.

¶ The printed copyright notice is dated November 20, 1822, and the author's preface September, 1821, at his 'Writing Academy, New-London'.

Karpinski p.247 (title-page reproduced); Checklist 9710; ERL 4873

297

NOYES James

The Federal arithmetic; or, a compendium of the most useful rules of that science, adapted to the currency of the United States. For the use of schools and private persons

Exeter, New Hampshire

Printed by Henry Ranlet for the author, 1797

171mm. 1–128pp. (pages 17–24 lacking)

In a contemporary binding of leather roughly stitched over thin wooden boards.

¶ First edition.

Karpinski p.119 (title-page reproduced); SM 32605

298

NOYES James

The Federal arithmetic... or, a compendium of the most useful rules of that science. Adapted to the currency of the United States. For the use of schools and private persons. Second edition. To which is added, rules in vulgar fractions, by another hand

Concord, New Hampshire

Printed by George Hough, 1808

163mm. 1–152 (2)pp.

Bound in contemporary leather-backed wooden boards, sides covered by blue paper (leather decayed).

Karpinski p.119 (title-page reproduced); AB 15788

299

[OKILL Mary]

Practical arithmetic. Prepared for the use of Mrs. Okill's female boarding-school

New York

Printed by Daniel Fanshaw, 1828

176mm. 1–251 (1)pp.

Ownership inscription on title-page and fore-edge *Miss S. Le Maire's Arithmetic*; red ink stamp on title-page *Mercantile Library New-York*.

In a contemporary leather binding (decayed, upper cover detached).

¶ The printed copyright notice, dated June 16, 1828, identifies Mary Okill as the proprietor of this work.

Karpinski p.556 (no copy located); Checklist 34863

See illustration opposite

300

[OLIVER Henry Kemble 1800–1885]

An Elementary treatise on the construction and use of the mathematical instruments usually put into portable cases

Boston

Perkins & Marvin, 1830

183mm. 1–68pp., six plates, errata slip inserted after title

Bound in contemporary cloth-backed brown paper boards, printed label on upper cover 'Construction and Use of Mathematical Instruments'.

¶ The printed copyright notice is dated April 22, 1830, and identifies the publishers as joint proprietor of the work. The introduction is subscribed Salem, April 1830, with the author's initials. A graduate of Dartmouth (1818), Oliver began his teaching career in Salem as usher of the Latin Grammar School; in 1827 he became first master of its high school, and in 1830 founded his own academy for boys. 'He had his senior classes compute the times of all the total eclipses visible in the United States for the last seventy years of the century' (*DAB*, XIV, pp.18–19).

Karpinski p.321 (title-page reproduced); Checklist 2898
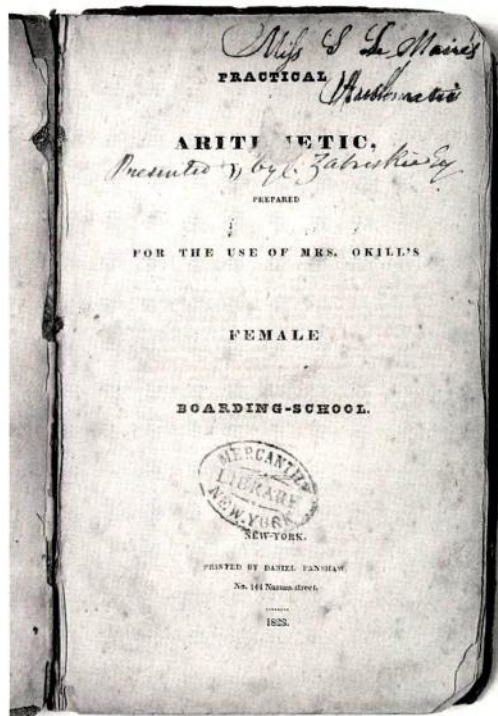
299. The second copy known

301

OSTRANDER Tobias

A Complete system of mensuration of superficies and solids, of all regular figures. Calculated for the use of schools, academies, and private learners. Third edition

New York

Published by M'Elrath, Bangs & Co.; Stereotyped by J.S. Redfield, 1834

205mm. 1–159 (1)pp.

In the publisher's tan paper boards, text of title-page on upper cover, advertisements printed on lower cover (spine discoloured, covers detached).

¶ This work was first printed in 1833; no 'second edition' is recorded by Karpinski.

Karpinski p.353; Checklist 26091

302

PALMER Thomas H. 1782–1861

The Teacher's manual: being an exposition of an efficient and economical system of education, suited to the wants of a free people

Boston

Marsh, Capen, Lyon, and Webb (Education Press), 1840
185mm. 1–263 (1)pp., advertisements ('The School Advertiser No.II August, 1839') 1–16 (8)pp.
In a contemporary green straight-grained cloth binding, spine lettered in gilt.
¶ The copyright notice printed in this edition is dated 1840. Chapter VIII (pp.140–182) is devoted to mathematics.
Checklist 40/5224; not considered by Karpinski

303
PARKE Uriah
The Farmers and mechanics practical arithmetic: containing the rules of arithmetic necessary in business. With their application to commercial and mechanical purposes, measuring, &c. Designed for the use of schools and men of business, and adapted to the federal currency of the U.S.
Hartford, Connecticut
Published by W.W. Reed (Stereotyped by J.A. James… Cincinnati), 1845
182mm. 1–178 (2)pp.
Bound in contemporary leather-backed brown paper boards, text of title-page printed on upper cover (abraded).
¶ This work had been first published in 1822. 'It is a savage attempt in 179 pages to compress farmers', merchants', and mechanics' arithmetical calculations into one small volume and still keep it a practical arithmetic after the process of condensation is completed. The chapter on mensuration and kindred topics is particularly strong' (Greenwood & Martin p.841).
Cf. Karpinski p.248, listing other editions

304
PEDDER James 1775–1859
The Farmers' land-measurer, or pocket companion, showing, at one view, the content of any piece of land, from dimensions taken in yards; with a set of useful agricultural tables
Philadelphia
Thomas, Cowperthwait & Co. (J. Fagan Stereotyper. T.K. and P.G. Collins, Printers), 1842
144mm. 1–144pp.
Ownership inscriptions *John Benge*, once dated *1843*.
In a contemporary leather binding (front joint cracked).
¶ A copyright for this edition was entered April 6, 1842. The work was reprinted as late as 1890 (*DAB*, XIV, pp.387–388).
Karpinski p.442 (title-page reproduced); not traced in Checklist

305
PEDDER James 1775–1859
The Farmers' land-measurer, or pocket companion, showing, at one view, the content of any piece of land, from dimensions taken in yards; with a set of useful agricultural tables
Philadelphia
Thomas, Cowperthwait & Co. (J. Fagan, Stereotyper. C. Sherman, Printer), 1843
145mm. 1–144pp.
Label on pastedown *Sold at Raynor's Bookstore, 76 Bowery, New York*; inscribed *Samuel T. Tabers Book Jan 1st 1860*.
In a contemporary leather binding, black lettering-piece.
¶ In this edition, the preliminary 'Advertisement' is dated December, 1841, and the printed copyright notice, 1842.
Checklist 43/4034; not in Karpinski

306
PEIRCE Benjamin 1809–1880
An Elementary treatise on algebra: to which are added exponential equations and logarithms
Boston
James Monroe and Company (Cambridge Press: Metcalf, Torrey and Ballou), 1837
185mm. 1–10, (2) 1–276pp., advertisements ('Text Books for the Use of Colleges and Academies') 1–12pp.
Presentation inscription from the author on endpaper.
In a contemporary leather binding (upper cover detached).
¶ The copyright of this first edition is dated October 24, 1837. The author graduated Harvard in 1829. For two years afterward he taught at Round Hill School, Northampton, Massachusetts, then for forty-nine years he was a member of the faculty at Harvard, initially as a tutor in mathematics in the College. From 1842 until his death he was Perkins professor of mathematics and astronomy (*DAB*, XIV, pp.393–397).
Karpinski p.398 (title-page reproduced); Simon p.36; Checklist 46155

307
PEIRCE Benjamin 1809–1880
An Elementary treatise on algebra: to which are added exponential equations and logarithms
Boston
James Monroe and Company, *etc.* (Cambridge: Stereotyped and printed by Metcalf, Keith, and Nichols, Printers to the University), 1843
188mm. 1–4, 1–284pp.
Endpaper inscribed *Wm Osgood, Cambridge 1847*.
In a contemporary leather binding, black lettering-piece.
¶ This is the third edition, though not designated as such.
Karpinski p.399; Simon p.36; Checklist 43/4037

308

PEIRCE Benjamin 1809–1880

An Elementary treatise on curves, functions and forces. Volume first; containing analytic geometry and the differential calculus. New edition

Boston and Cambridge, Massachusetts

James Munroe and Company, 1852

187mm. 1–5 (3), 1–301 (1)pp., fourteen plates

Inscribed *G.A. Wentworth*.

In a contemporary leather binding, black lettering-piece (covers detached).

¶ This 'Volume first' was originally published in 1841 and reprinted in 1846.

Cf. Karpinski p.429, listing previous editions

309

PEIRCE Benjamin 1809–1880

An Elementary treatise on curves, functions and forces. Volume second; containing calculus of imaginary quantities, residual calculus, and integral calculus

Boston

James Munroe and Company (Printed by Thurston, Torry, & Co.), 1846

187mm. 1–8, 1–290pp., one plate, advertisements ('Peirce's Course of Pure Mathematics') 2pp.

Presentation inscription by the author and below in another hand *Berlin Aug. 14th 1846*.

In a contemporary leather binding, black lettering-piece (joints cracked, spine defective).

¶ First edition of 'Volume second', protected by a copyright entered April 14, 1846.

Karpinski pp.491–492 (title-page reproduced); BAI 52, p.293 (set of volume I 1852 and volume II 1846, as here)

310

PEIRCE Benjamin 1809–1880

An Elementary treatise on plane and solid geometry

Boston

James Munroe and Company, *etc.* (Cambridge: Stereotyped and printed by Folsom, Wells, and Thurston, Printers to the University), 1841

187mm. 1–19 (1), 3–150pp. (complete), six plates

In a contemporary leather binding, black lettering-piece (front joint cracked).

¶ This work had been previously printed in 1837.

Karpinski p.399; this edition not traced in Checklist

311

PEIRCE Benjamin 1809–1880

An Elementary treatise on plane & spherical trigonometry, with their applications to navigation, surveying, heights and distances, and spherical astronomy, and partic-

ularly adapted to explaining the construction of Bowditch's Navigator, and the Nautical Almanac. Third edition, with additions

Boston

James Munroe and Company (Thurston, Torrey, & Company, Printers… Boston), 1845

187mm. 1–4, 1–449 (1)pp., five plates, advertisements ('Standard Classical and School Books… Published annually No.2') 14pp.

Title-page inscribed *Wm. James Potter*.

In a contemporary leather binding (upper cover detached).

¶ The first edition had been published in 1840. A new copyright was entered 1845.

Karpinski p.421

312

PEIRCE Benjamin 1809–1880

An elementary treatise on sound; being the second volume of a course of natural philosophy, designed for the use of high schools and colleges

Boston

James Munroe and Company (Cambridge press: Metcalf, Torry, and Ballou), 1836

218mm. 1–56, 1–220pp., four plates (of ten, only)

Endpaper inscribed *L.G. Clarke Har*[vard] *College… 1850*.

In a contemporary violet straight-grained cloth binding.

¶ First edition. This work is based on J.F.W. Herschel's treatise in a volume of *Encyclopaedia Metropolitana* (1830).

Karpinski p.392 (title-page reproduced); Checklist 39455

313

PEIRCE Charles, *Bookseller*

The Arts and sciences abridged, with a selection of pieces, from celebrated modern authors, calculated to improve the manners and refine the taste of youth; particularly designed and arranged for the use of schools. Second edition

Portsmouth, New Hampshire

Printed for the compiler; William Weeks, Printer, 1811

168mm. (8) 13–216pp. (complete, with pp.193–204 duplicated in this copy), advertisements ('School and Classical Books, for sale') 4pp.

Bound in contemporary leather-backed wooden boards, sides covered by blue paper.

¶ The section devoted to mathematics occupies pp.43–46.

AB 23646; not considered by Karpinski

314

PERKINS George Roberts 1810/12?–1876

The Elements of algebra, designed for the use of common schools: also serving as an introduction to the 'Treatise on algebra'

New York

D. Appleton and Co.; Utica: Hawley Fuller and Co. (Stereotyped by C. Van Benthuysen & Co. Albany, N.Y.), 1850

174mm. 1–251 (1)pp.

Exlibris *Yale University Observatory. Bequest of Professor Elias Loomis LLD 1889* overstamped *Duplicate*.

In a contemporary leather binding (spine decayed).

¶ This work, first printed in 1845, is 'the first American text in algebra to employ determinants' (Simon). 'As a mathematician, few of our countrymen outrank Professor Perkins' (Greenwood & Martin p.843). From 1831 to 1838 he taught at the Liberal Institute, Clinton, New York, and then he assumed control of the Utica Academy. In 1844 he was appointed teacher of mathematics in the State Normal School at Albany, which position he resigned in 1852.

Karpinski p.476; Simon pp.51–52

315
PERKINS George Roberts 1810/12?–1876
Higher arithmetic, designed for the use of high schools, academies, and colleges; in which some entirely new principles are developed, and many concise and easy rules given, which have never before appeared in any arithmetic. Second edition, revised and improved
Utica, New York
Published by Bennett, Backus, & Hawley; New York: Saxton & Miles, *etc.*, 1844
184mm. Advertisements ('Recommendations of Perkins' Mathematical Series') 12pp., 1–8, 11–278pp. (complete)
Cover inscribed *Wm G. Woodworth*, ink ownership stamp of same on endpaper.
In a contemporary leather binding (joints cracked).
¶ Perkins' series comprised a *Primary* (1850), *Elementary* (1849), and *Practical arithmetic* (1851), besides the present work, 'a finishing book for those wishing a thorough course'. 'I regard this as the best arithmetic that had been published in this country at that time. The edition I have is that of 1844. The first edition [Utica 1841] I never saw' (Greenwood & Martin p.843).

Karpinski p.429; Checklist 44/4882

316
PERKINS George Roberts 1810/12?–1876
A Treatise on algebra, embracing, besides the elementary principles, all the higher parts usually taught in colleges; containing moreover, the new method of cubic and higher equations, as well as the development and application of the more recently discovered theorem of Sturm
Utica, New York
O. Hutchinson; New York: Saxton & Miles (Grosh & Walker, Printers), 1842

215mm. Advertisements ('Recommendations') 1–8, 1–360pp.

Endpaper inscribed *Prof.* [Elias] *Loomis with respects of the Author*.

In a contemporary leather binding (spine decayed, lower cover missing).

¶ The copyright notice printed in this first edition is dated 1841 and the author's preface July, 1842. There the author claims 'This work will be found to contain, for the first time, I believe in any American school book. a demonstration and application of Sturm's theorem…'.

Karpinski p.442; Simon pp.44–45; not traced in Checklist

317
PHELPS Almira (Hart) Lincoln 1793–1884
The Fireside friend, or female student: being advice to young ladies on the important subject of education. With an appendix on moral and religious education, from the French of Madame de Saussure
Boston
Marsh, Capen, Lyon, and Webb (Education Press), 1840
188mm. 1–377 (1)pp., advertisements ('The School Advertiser No.II August, 1839') 1–16 (8)pp.
Printed *By-laws of the Lowell City School Library* pasted to endpaper, with their shelf-labels, *etc.*
In a contemporary green straight-grained cloth binding, title lettered in gilt on spine.
¶ A revision of *Lectures to Young Ladies, or Female Student* published at Boston in 1833. The author taught at Troy Female Seminary from 1823–1831. Returning to teaching in 1838, she became principal of the West Chester (Pennsylvania) Young Ladies' Seminary, later accepted a position at Rahway, New Jersey, and in 1841 at Patapsco Female Institute, Maryland (*DAB*, XIV, p.597).

The preface in our book is subscribed Rahway, April 1840, and the copyright notice also is dated 1840. Chapter XXII (pp.209–225) is devoted to mathematics. The appendix is taken from the author's separately published (1835) translation of Madame Necker de Saussure's *L'Education Progressive*.

Checklist 40/5371; not considered by Karpinski

318
PIKE Nicholas 1743–1819
A New and complete system of arithmetic. Composed for the use of the citizens of the United States. Second edition, enlarged. Revised and corrected, by Ebenezer Adams
Worcester, Massachusetts
Printed at the press of Isaiah Thomas, by Leonard Worcester, for said Thomas, 1797
204mm. 1–516pp.
In a contemporary leather binding, red lettering-piece.

¶ The first edition had been printed at Newburyport in 1788. This second edition was revised by Ebenezer Adams, a Dartmouth graduate (1791), preceptor of Leicester Academy, Massachusetts, from 1792 to 1806, and after 1810 professor of mathematics at Dartmouth (*DAB*, I, pp.56–57). 'As far as his other engagements would permit, the Author himself has aided in making the work as perfect as possible' (publishers' 'Preface to this edition').

Karpinski p.90, calling for an extra leaf numbered 5–6; Simon p.8; SM 32692; Nichols 342

See illustration page 9

319
PIKE Nicholas 1743–1819

A New and complete system of arithmetick. Composed for the use of the citizens of the United States. Third edition. Revised, corrected and improved, and more particularly adapted to the federal currency, by Nathaniel Lord
Boston
Published by Thomas & Andrews; J.T. Buckingham, Printer, 1808
205mm. 1–480pp.
In a contemporary leather binding, red lettering-piece (joints cracked).

¶ A copyright for this revision by Nathaniel Lord (1779–1852) was entered March 31, 1808. 'Application was made to the Author, requesting him to revise and improve the work for a new Edition; but he declined on account of want of health, and the Gentleman, whom we employed, was engaged by the Author's consent… [Nathaniel Lord] has received from Mr. Pike all the information and advice he desired' (from the publishers' 'Preface to this new improved edition', dated April 1808). The editor graduated Harvard College 1798.

Karpinski p.90; Simon p.8; AB 15951; ERL 4918

320
PIKE Nicholas 1743–1819

A New and complete system of arithmetick, composed for the use of the citizens of the United States. Fifth edition, revised, corrected, and improved, by Chester Dewey
Troy, New York
Published by William S. Parker & Son, *etc.*, 1832
210mm. 1–2 (2) 3–11 (1) 17–528pp. (complete)
Printed ticket *Sold by J. Hutchens, No.1 Market Street.*
In a contemporary leather binding, red lettering-piece ('Pike's Arithmetick Parker's Edition').

¶ The editor, Chester Dewey (1784–1867), was professor of mathematics at Williams College 1810–1827, then 1827–1836 principal of the Berkshire Gymnasium, Pittsfield, Massachusetts (*DAB*, V, pp.267–268). His revi-

sion had been first printed at Troy in 1822, when the 'Introduction to algebra' was expunged.

The present edition is designated 'fifth', however it is only the second printing of Dewey's revision (copyright entered November 21, 1831). 'The constant demand for this valuable work has induced the Proprietors to incur the expense of presenting it to the public in a more perfect form than heretofore, being printed from beautifully executed Stereo. Plates' (prefatory notice, dated at Troy, February 29, 1832).

Karpinski p.90; ERL 4919; not traced in Checklist

321
PIKE Nicholas 1743–1819

Abridgement of the new and complete system of arithmetick, composed for the use, and adapted to the commerce of the citizens of the United States. For the use of schools; and will be found to be an easy and sure guide to the scholar
Newburyport, Massachusetts
Printed by J. Mycall for Isaiah Thomas, 1793
165mm. 1–371 (1)pp.
In a contemporary leather binding.

¶ An abridgement by the author of his *New and complete system of arithmetick*, here in its first edition (copyright entered May 9, 1793). 'Pike's arithmetic, particularly in the abridged form, was the first widely popular treatise by a native American' (Karpinski). There were thirteen editions from 1793 to 1832. No treatment of algebra is contained in the *Abridgement*.

Karpinski p.105 (title-page reproduced); SM 20602

322
PIKE Nicholas 1743–1819

The New complete system of arithmetic, composed for the use of the citizens of the United States. Abridged for the use of schools. The third edition, corrected and enlarged
Worcester, Massachusetts
Printed at the press of Isaiah Thomas, by Leonard Worcester, for said Thomas, 1798
166mm. 1–352pp. (pages 13–24 partially torn away)
In a contemporary leather binding, red lettering-piece.

¶ Third edition of the *Abridgement*.

Karpinski p.105; SM 34380; Nichols 374

323
PIKE Nicholas 1743–1819

The New complete system of arithmetic, composed for the use of the citizens of the United States. Abridged for the use of schools. Fourth edition
Boston

Printed by D. Carlisle for Thomas & Andrews, *etc.*, 1802
169mm. (4) 9–352pp. (complete)
Endpaper inscribed *Ichabod Rollins... Bought at Gilmanton 1804.*
In a contemporary leather binding, covers patterned in blind.
¶ Fourth edition of the *Abridgement.*
Karpinski p.106 (title-page reproduced); AB 2898

324
PIKE Nicholas 1743–1819
The New complete system of arithmetick, composed for the use of the citizens of the United States. Abridged for the use of schools. Fifth edition
Boston
Printed by J.T. Buckingham for Thomas & Andrews, 1804
165mm. (4) 9–352pp. (complete)
Endpaper inscribed and stamped *Samuel Lyon.*
In a contemporary leather binding, black lettering-piece.
¶ Fifth edition of the *Abridgement.*
Karpinski p.106 (title-page reproduced); AB 7059

325
PIKE Nicholas 1743–1819
A New and complete system of arithmetick, composed for the use of the citizens of the United States. Seventh edition: abridged for the use of schools (under the direction of the author) from the third octavo edition... by Nathaniel Lord
Boston
Published by Thomas & Andrews; Buckingham & Titcomb, Printers, 1809
171mm. 1–300pp.
Endpaper inscribed *Esther R. Tuttle 1814.*
In a contemporary leather binding.
¶ First printing of the *Abridgement* in a revision by Nathaniel Lord (1779–1852) taken from the 'third octavo edition' published in 1808.
Karpinski p.106; AB 17931 (*q.v.* Lord)

326
PIKE Nicolas 1743–1819
Pike's system of arithmetick abridged: designed to facilitate the study of the science of numbers. Comprehending the most perspicuous and accurate rules, illustrated by useful examples. To which are added appropriate questions, for the examination of scholars; and a short system of book-keeping. By Dudley Leavitt
Concord, New Hampshire
Published by Jacob B. Moore, 1826
212mm. 1–200 (8)pp.
Endpaper inscribed *Geo. W. Whitehouse Book Franklin*

Academy Dover N.H... 1836.
Bound in contemporary leather-backed wooden boards, sides covered by marbled printers' waste (hinges cracked, portion of lower cover missing).
¶ First printing of the *Abridgement* in a revision by Dudley Leavitt (1772–1851).
Karpinski p.108; Checklist 25776

327
PIKE Stephen
The Teacher's assistant, or a system of practical arithmetic; wherein the several rules of that useful science, are illustrated by a variety of examples, a large proportion of which are in federal money. The whole designed to abridge the labour of teachers, and to facilitate the instruction of youth
Philadelphia
Published by Johnson and Warner, *etc.*; Griggs & Dickinson, Printers, 1813
172mm. (2) 1–198pp.
Successive ownership entries of *Enoch Egbert* and *Jonathan Hartz,* latter dated *1817.*
In a contemporary leather binding.
¶ This edition follows one published by Johnson and Warner in 1811.
Karpinski p.185; AB 29519

328
PIKE Stephen
The Teachers' assistant, or a system of practical arithmetic; wherein the several rules of that useful science, are illustrated by a variety of examples, a large proportion of which are in federal money. The whole designed to abridge the labour of teachers, and to facilitate the instruction of youth. A new edition, with corrections and additions by the author
Philadelphia
Published and sold by M'Carty & Davis; Stereotyped by L. Johnson, 1826
165mm. 1–198pp. (pages 3–16 lacking)
Multiple ownership inscription *Jacob Zigler 1829,* his manuscript multiplication table (to 12 × 12) pasted to an endpaper.
In a contemporary leather binding.
¶ A copyright for this revised edition had been obtained in 1824.
Karpinski p.186; Checklist 25778

329
PIKE Stephen
The Teachers' assistant; or a system of practical arithmetic; wherein the several rules of that useful science are illustrated by a variety of examples: a large proportion of which

are in federal money. The whole designed to abridge the labour of teachers, and to facilitate the instruction of youth. A new edition, with corrections and additions by the author
Philadelphia
Published and sold by M'Carty & Davis, 1831
162mm. 1–198pp.
Endpapers inscribed *Eli Knauers 1832*.
In a contemporary leather binding (upper cover detached).
Karpinski p.186; Checklist 8764

330
PIKE Stephen
A Complete key to the teacher's assistant, or system of practical arithmetic; compiled by Stephen Pike; in which the operation of all the examples necessary for the learner are exhibited at large, and solutions given to all the promis-cuous questions throughout the work. Principally designed to facilitate the labour of teachers, and assist those who have not the opportunity of their instruction. Compiled by F[rederic]. M'Kenney. Third edition, revised and adapted to the stereotype edition of the Teacher's Assistant
Philadelphia
Published by B. Warner, Lydia R. Bailey, Printer, 1823
175mm. 1–249 (1)pp., advertisements 2pp.
Ownership inscription *G.W. Morris, Staunton Va.* and inkstamp *Frank J. Barger*.
In a contemporary leather binding (joints cracked).
¶ This *Key* had been first printed in 1813 and reprinted 1819. The 'stereotype edition' of the *Teacher's assistant* mentioned on the title-page had been published by Benjamin Warner in 1820. The compiler, Frederic M'Kenney, also prepared *Keys* giving solutions to the problems in *The American tutor's assistant* (see below item no.438) and Titus Bennett's *New system of practical arith-metic* (1811).
Karpinski p.187; this edition not in Checklist

331
PIKE Stephen
A Complete key to the teachers' assistant, or system of practical arithmetic; compiled by Stephen Pike… Principally designed to facilitate the labour of teachers, and assist those who have not the opportunity of their instruction. Compiled by F[rederic]. M'Kenney. Fourth edition, revised and adapted to the new stereotype edition of the Teacher's Assistant
Philadelphia
Published by M'Carty & Davis, Stereotyped by L. Johnson, 1837
147mm. 1–252pp. including advertisements (2pp.)

Endpaper inscribed *John Funck* [?]… *1841*.
In a contemporary leather binding, black lettering-piece.
Karpinski p.187; this edition not in Checklist

332
PLAYFAIR John 1748–1819
Dissertation second: exhibiting a general view of the progress of mathematical and physical science, since the revival of letters in Europe [in two parts]
Boston
(Wells and Lilly), 1817, 1820
212mm. (2) 5–197 (1)pp., (2) 1–133 (1)pp.
Ownership inscription *C.P. White*.
Bound in contemporary leather-backed marbled paper boards, red lettering-piece (covers detached).
¶ Also bound in this volume are Dugald Stewart, *Disser-tation first: exhibiting a general view of the progress of metaphysical, ethical, and political philosophy since the revival of letters in Europe* (Boston 1817); and William T. Brande, *Dissertation third: exhibiting a general view of the progress of chemical philos-ophy from the early ages to the end of the eighteenth century* (Boston 1819).
Karpinski pp.212–213 (part I), 234 (part II); Checklist 2796

333
PLAYFAIR John 1748–1819
Elements of geometry, containing the first six books of Euclid, with a supplement on the properties of the circle, the intersections of planes, and the geometry of solids. Second American edition, with improvements
Boston
Printed by T.B. Wait and Sons, for F. Nichols, 1814
212mm. 1–28 (2), 1–315 (1), 1–52pp.
Endpaper inscribed *Edgar Haas*.
In a contemporary leather binding, red lettering-piece.
¶ The printed copyright notice is dated May 14, 1814, and the editor's 'Preface' at Boston, June 1814. The previous edition had been published in 1806. The 'Improvement' claimed on the title-page of this second edition is a 'Treatise on Plane Trigonometry, for the use of students' (52pp.).
Checklist 32520; cf. Karpinski p.163 (imprint: Philadelphia, Printed by T.B. Wait and Sons)

334
PLAYFAIR John 1748–1819
Elements of geometry: containing the first six books of Euclid, with a supplement on the quadrature of the circle and the geometry of solids; to which are added elements of plane and spherical trigonometry. From the last London edition, enlarged
New York

Published by James Eastburn and Co.; G. Long, Printer, 1819

212mm. 1–333 (1)pp.

Printed exlibris *John W. Erwin, Hamilton, O*[hio] with inscription *This book I used in school in 1823, John W. Erwin*; later inscription *Stanley F. Jablonski*. Printed bookbinder's label *John Cain Indianapolis, Indiana*, on paste-down.

In a contemporary leather binding, red and black lettering-pieces (latter with owner's name *John W. Erwin*); edges stained yellow.

¶ 'The phrase "from the last London edition, enlarged" appears on this and on subsequent editions except those of 1835 to 1838' (Karpinski).

Karpinski p.164; Checklist 47918 (*q.v.* Euclid); ERL 5290 (*q.v.* Playfair)

335
PLAYFAIR John 1748–1819

Elements of geometry: containing the first six books of Euclid with a supplement on the quadrature of the circle and the geometry of solids; to which are added elements of plane and spherical trigonometry. From the last London edition, enlarged

New York

Published by E. Duyckinck and George Long; G. Long, Printer, 1824

215mm. 1–333 (1)pp.

Ownership inscription of *William H. Gilman*; title-page blindstamped *The Phillips Exeter Academy Library, Exeter, N.H.*

In a contemporary leather binding, red lettering-piece.

Karpinski p.164; Checklist 17649

336
PLAYFAIR John 1748–1819

Elements of geometry: containing the first six books of Euclid, with a supplement on the quadrature of the circle, and the geometry of solids: to which are added, elements of plane and spherical trigonometry. A new edition, entirely remodelled, by James Ryan

New York

W.E. Dean, Printer and publisher, 1836

203mm. 1–8, 1–311 (1)pp. including preliminary advertisements (2pp.)

In a contemporary leather binding, black lettering-piece.

¶ This is the second printing of Ryan's revision. 'The alterations made are chiefly in the First and Third Books; the arrangement of those books is similar to that of Legendre, in his Elements of Geometry and Trigonometry… Several Theorems, Lemmas, Corollaries, and Scholiums, are interspersed throughout the whole work, not contained in any previous edition' (editor's 'Advertisement' dated New

York, January 1, 1835). The title-page is headed 'Dean's Stereotype Edition'.

Karpinski p.164; Checklist 39640

337
PLAYFAIR John 1748–1819

Elements of geometry: containing the first six books of Euclid, with a supplement on the quadrature of the circle, and the geometry of solids: to which are added, elements of plane and spherical trigonometry. A new edition, entirely remodelled, by James Ryan

New York

W.E. Dean, Printer and publisher, 1837

216mm. 1–8 (2), 1–311 (1)pp. including preliminary advertisements (2pp.)

Endpaper inscribed *Nathaniel Horn*.

In a contemporary leather binding, black lettering-piece (front joint split).

Karpinski p.164; Checklist 46329

338
PORTER James Henry

Porter's new system of mathematics, with the addition of a complete ready reckoner, for the use of farmers, mechanics, &c.

New York

Printed by William H. Colyer, 1841

182mm. 1–192pp.

In a contemporary leather binding, red lettering-piece (joints cracked).

¶ First edition (copyright dated May 22, 1841). 'The author of this method of calculation has shown a fixed rule, that will not be found in any system of arithmetic – a rule to find the pure proportion of all things' (from the author's 'Preface').

Karpinski p.429 (title-page reproduced); Checklist 41/4243

339
PORTER James Henry & Reuben

Porters' new system of mathematics: with the addition of a complete ready reckoner. For the use of farmers, mechanics, &c. Third edition

Hartford, Connecticut

Printed by John G. Wells, 1843

168mm. 1–72pp.

Bound in contemporary leather-backed marbled paper boards.

Karpinski p.429; Checklist 43/4136

340
PORTER James Henry
A New system of arithmetic and mathematics. Fourth
edition
New York
Piercy and Reed, Printers, 1845
180mm. 1–240pp. plus errata slip
Endpaper inscribed *B.H. Kimball.*
Bound in contemporary leather-backed marbled paper
boards (upper cover detached).
¶ This work is treated by Karpinski as another edition of
Porter's *New system of mathematics.*
Karpinski p.429; Checklist 43/4136; ERL 4926

341
POST John D.
An Arithmetic; theoretical and practical. On the plan of
Dr. Lardner. For the use of schools
Hartford, Connecticut
Brown and Parsons (Press of Elihu Geer, Hartford), 1842
172mm. 1–347 (1)pp. including preliminary blanks (4pp.)
Bound in leather-backed blue paper boards, text of title-
page on upper cover, advertisements (of Elihu Geer)
printed on lower cover (upper cover detached).
¶ The author's 'Preface' in this first edition is dated at
Meriden, November 1, 1842. The work cited in the title
is Dionysius Lardner's *A Treatise on arithmetic, practical and
theoretical* (London 1834).
Karpinski p.442 (title-page reproduced); Checklist
42/4114

342
PRESTON Lyman 1795–?
The Book-keeper's diploma: or, a full and lucid treatise
on the equation of payments
New York
Stereotyped by Francis F. Ripley, 1837
246mm. 1–32pp.
Ownership entry *Nath. Harris.*
Bound with two related works (item nos.343, 349) in
leather-backed marbled paper boards (back renewed with
cloth at an early date).
¶ Other editions of this, under title 'Equation of payments',
are included in various editions of Preston's *Treatise on
book-keeping.*
Checklist 46410; not considered by Karpinski

343
PRESTON Lyman 1795–?
Preston's cubical estimates of boxes, bales, and casks:
adapted to the use of merchants and carriers
New York

Stereotyped by A. Chandler, [*circa* 1837?]
246mm. (14)pp.
Bound with two related works (item nos.342, 349) in
leather-backed marbled paper boards (back renewed with
cloth at an early date).
Checklist 46412; not considered by Karpinski

344
PRESTON Lyman 1795–?
Preston's tables of interest at six per cent
New York
Printed by R. & G.S. Wood; Stereotyped by Conner &
Cooke, 1834
268mm. 1–220pp.
Bound with another work in contemporary leather-
backed marbled paper boards (leather decayed, upper
cover detached).
¶ Also in the volume is *Preston's complete time table: show-
ing the number of days from any date in any given month to any
date in any other month: embracing upwards of one hundred and
thirty thousand combinations of dates* (New York: Printed by
R. & G.S. Wood, Stereotyped by A. Chandler, 1834).
Cf. Karpinski p.365 and Checklist 26386 (both as 208pp.)

345
PRESTON Lyman 1795–?
Preston's tables of interest at six per cent
New York
Published by Huntington and Savage, 1850
252mm. 1–220pp.
Bound with other works in leather-backed cloth boards.
¶ The work is preceded by an authorial advertisement
('Self-defence', pp.1–4) and *Preston's complete time table:
showing the number of days from any date in any given month
to any date in any other month: embracing upwards of one hundred
and thirty thousand combinations of dates* (New York:
Huntington and Savage, 1850). At the end are tables of
Scantling and timber measure and *Premium on exchange; or,
paying a larger debt with a smaller sum.*
Cf. Karpinski p.306 (previous editions)

346
PRESTON Lyman 1795–?
Preston's tables of interest, computed at seven per cent,
allowing three hundred and sixty-five days to be a year:
the interest on dollars and cents being shown at one view.
Together with calculations of rebate, or discount
New York
Stereotyped by Francis F. Ripley, 1837
263mm. 1–107 (*i.e.* 111) (1)pp.
Bound with other works in contemporary leather-backed
marbled paper boards (leather decayed, covers detached).

¶ The work is preceded by *Preston's complete time table: showing the number of days from any date in any given month to any date in any other month: embracing upwards of one hundred and thirty thousand combinations of dates* (New York: Printed by R. & G.S. Wood, Stereotyped by A. Chandler, 1837). At the end, printed on bright yellow paper, are other tables published by Preston: *Premium on exchange; or, paying a larger debt with a smaller sum, Scantling and timber measure, accurately reduced to inch board measure*, neither with publishers' imprint.

Karpinski p.394; not traced in Checklist (cf. 46411, for *Complete time table*, 1837)

347
PRESTON Lyman 1795–?
Preston's tables of interest, computed at seven per cent, allowing three hundred and sixty-five days to be a year. The interest on dollars and cents being shown at one view. Together with calculations of rebate, or discount
New York
F.J. Huntington and Co., 1841
238mm. 1–107 (*i.e.* 139) (1)pp.
Endpaper inscribed *William P. Bliss, Schaghticoke, N.Y.*
Bound in contemporary leather-backed cloth boards.
¶ The work is preceded by *Preston's complete time table: showing the number of days from any date in any given month to any date in any other month:embracing upwards of one hundred and thirty thousand combinations of dates* (New York: F.J. Huntington and Co., 1841). At the end, as noted by Karpinski, are other tables published by Preston, each with irregular pagination: *Tables of interest at eight per cent* [etc.] (pp.218–219), *Improved note and bill table* (pp.214–215), *Scantling and timber measure, accurately reduced to inch board measure* (pp.1–28), *Premium on exchange; or, paying a larger debt with a smaller sum* (pp.1–16).
Karpinski p.394; Checklist 41/4282 (as 108, 6, 28, 16pp.)

348
PRESTON Lyman 1795–?
Preston's tables of interest showing the interest on any sum from one dollar to five hundred dollars, inclusive; proceeding from five hundred to one thousand dollars, by hundreds; and from one thousand to five thousand dollars, by thousands: computed at seven per cent., for each day, from one to thirty-one, inclusive: also, on sixty, sixty-three, ninety, and ninety-three days… Together with a perfect cent table, conveniently arranged, at the close of the work showing the interest on any part of a dollar, from the lowest term of time required, up to three years
Utica, New York
Printed for the author by William Williams, 1828
225mm. 1–96pp.

Bound in contemporary leather-backed blue paper boards (leather decayed, covers nearly detached).
¶ The author's 'Introduction' is dated at Utica, December 1827. This is the larger of two versions of Preston's *Tables*; the other extends to just forty-five pages (cf. Karpinski). Karpinski p.295; Checklist 34878

349
PRESTON Lyman 1795–?
Preston's treatise on book-keeping: or, arbitrary rules made plain: in two parts. Adapted to the use of academies and common schools, with varied examples; accompanied with detailed explanations: the first part being designed for the use of mechanics of all classes; the second arranged more particularly for the instruction of young men who contemplate the pursuit of mercantile business. Showing the method of keeping accounts by double-entry: embracing a variety of useful instruction relative to different kinds of business
New York
Robinson, Pratt & Co., 1837
246mm. 1–168pp.
Ownership inscriptions *Nathaniel Harris*.
Bound with two related works (item nos.342–343) in leather-backed marbled paper boards (back renewed with cloth at an early date).
Checklist 46414; not considered by Karpinski

350
PRICE Joseph M. ?–1868
Tables of sterling exchange; for converting sterling into currency, and currency into sterling; from par to twelve and one-half per cent premium. Increasing by one-eighth of one per cent. In which the value of every part of the pound, progressing by one penny, at all the different rates of exchange, is given at sight
New York
Published by William W. Rose (R.C. Valentine, Stereotyper), 1848
255mm. 1–105 (1)pp.
In a contemporary half-leather binding, embossed cloth covers, upper cover lettered 'Sterling Exchange: Price $1.50' (upper joint cracked).
¶ The 'Preface' is dated at New York, September, 1848, and the publisher's advertisement on the last page October 23, 1848. The printed copyright notice is dated 1848. An edition published by William W. Rose dated 1865 is recorded on RLIN.
Not considered by Karpinski

TO TEACHERS.

THE following work is intended for the benefit of teachers, and those pupils who desire a more extensive acquaintance with arithmetic than can be obtained from the treatises in general use. It is intended, likewise, to furnish such aid, in connection with Parts 2nd and 3d, as will enable persons of moderate ability to become thoroughly acquainted with the *principles* and practice of arithmetic, so as to teach successfully. Full solutions have been given to all the questions as far as Compound Numbers; after that, the method of working each example is explained by means of *signs*, in a manner so easily understood, that no one acquainted with the elementary rules, can fail in understanding the solution of every question in Part Third. There have also been added solutions to many of the more difficult questions in Part Second, (See pages 211 to 218.)

In the Appendix, (See pages 223 to 301,) there are several subjects with which all instructors should be acquainted. The subject of ABBREVIATIONS, and the PRUSSIAN SYSTEM OF CANCELING, has recently excited some interest, and, in the hands of those *properly acquainted with the principles of arithmetic*, may be used frequently with advantage. Canceling, in connection with the Rule of Cause and Effect, (See pages 292 to 293,) may, also, be used so as to dispense with many of the ordinary rules. It must be regarded, however, as being too much of a mechanical operation, and decidedly inferior, as a means of mental culture, to Analysis and Proportion.

The Examples for Practice on the Blackboard, (See pages 306 to 336,) have been inserted at the request of several of the best teachers in the Cincinnati Public Schools, where arithmetic is taught in a superior manner.

It has been a complaint with some respectable teachers, that answers should have been inserted to the examples in the Third Part. *It is desirable that a pupil should rely on the correctness of his reasoning for a true result*, rather than upon the answer in the book, or that contained in a Key. But when a pupil is required to explain, at the blackboard, the method of working an example, it is of little moment whether he has seen the answer before or not. See that he *understands the method* of obtaining the true result. The experience of many eminent teachers is, that the use of a book without answers, has an immoral effect on the pupils.* They will procure a key, or the answers, clandestinely. A superior pupil will obtain the answers correctly, and the other members of the class will derive them, either from him or those who have previously worked them. A well conducted school may use a book without answers, and in a short time there will be several manuscripts, written by the pupils, which will be privately lent by one pupil to another, and should the teacher rely upon the student's ability to solve the questions, merely because he has obtained the correct answers, he will be frequently disappointed. It is my firm conviction, founded on an experience of many years, that the only proper test of a learner's knowledge is, to place him at the blackboard to solve and explain the questions, and, with this test it is a matter of no consequence whether the treatise which he studies, contains answers or not.

After this work was printed, it was discovered that several questions, on page 329, were identical with those in a work published in Philadelphia. Lest it might be thought that these examples were copied from that work, it is proper to state that they were selected from Sammlung von Beispielen, Formeln, etc., von Meier Hirsch, Berlin, 1838. A part of the remaining examples are from Arithmetisches Exempelbuch, von Friederich Nraube, Hannover, 1837, and Problems D'Arithmetique, par M. Saigey, Paris, 1836.

In the preparation of this volume, the chief object has been to assist my brethren of the Teachers' Profession, in successfully teaching arithmetic.

* A celebrated Boston Teacher once said, that an Arithmetic without answers, tended to make the pupils both rogues and liars.

4

A KEY TO

RAY'S ARITHMETIC,

PART THIRD.

EXPLANATION OF SYMBOLS.

1. THE sign $=$ is called the sign of *equality*; it denotes that the quantities between which it is placed, are equal to each other. Thus, $\$1 = 100$ cents; this is read, one dollar equals one hundred cents.

2. The sign $+$ is called *plus*; it denotes that the numbers between which it is placed are to be added together. Thus, $4 + 3 = 7$; this is read, four *plus* three equals seven; or, four *added* to three is equal to seven.

3. The sign $-$ is called *minus*; it denotes that the number placed at the right of it is to be taken from the number on the left. Thus, $5 - 3 = 2$; this is read, five *minus* three equals two; or five diminished by three is equal to two.

4. The sign $\times$ is called the sign of *multiplication*; it denotes that the two quantities between which it is placed are to be multiplied together. Thus $4 \times 3 = 12$; this is read, four times three equals twelve; or, four multiplied by three is equal to twelve.

5. The sign $\div$ is called the sign of *division*; it denotes that the number on the left of it is to be divided by that on the right. Thus, $12 \div 3 = 4$; this is read, twelve divided by three is equal to four.

Division is also denoted thus, $\frac{12}{3}$, or $3)12$; either of which indicates that twelve is to be divided by three.

6. The *parenthesis* ( ), when it incloses several numbers, indicates that these numbers are to be regarded as one single number. Thus, $(5+3) \times 4 = 32$; this is read, five plus three multiplied by four is equal to thirty-two.

If the parenthesis were wanting, the expression would stand thus, $5 + 3 \times 4 = 17$; this indicates that five is to be added to the product of three multiplied by four, and that the sum is seventeen.

7. A number placed over another number, a little to the right, is called an *exponent*. Thus 2 and 3 are called the exponents in the expressions, 4^2, 5^2, &c., 4^3, 5^3, &c.

5

354. Joseph Ray, *Ray's arithmetical key: containing solutions to the questions in Ray's part third* (Cincinnati 1845)

351

PRINCETON UNIVERSITY

Examination papers in the mathematical course of the College of New Jersey

Princeton, New Jersey

Printed and published by John T. Robinson, 1844

217mm. 1–98pp.

Original unprinted brown paper wrappers.

¶ 'The following pages comprise a collection of the questions in the different branches of Mathematics, proposed at the Examinations of the three higher Classes in the College of New Jersey, since the adoption of the present system in (1839) of using printed papers for that of oral examinations' (text of preliminary 'Advertisement').

Checklist 44/5095; not considered by Karpinski

352

RAY Joseph 1807–1855

Ray's algebra, part first: on the analytic and inductive methods of instruction: with numerous practical exercises. Designed for common schools and academies. Stereotype edition

Cincinnati

Winthrop B. Smith & Co. (James and Co., Stereotypers), [1848]

186mm. 1–240pp.

In a contemporary leather binding, black lettering-piece (front joint broken).

¶ The printed copyright notice is dated 1848 and the author's 'Preface' at Woodward College, August, 1848. Karpinski lists a previous edition with identical imprint and pagination which apparently was not stereotyped. An undated edition with imprint 'Cincinnati, Philadelphia, New York', designated 'Revised' on its title-page, was seen by Simon, but not by Karpinski.

Karpinski p.514 (title and two pages of text reproduced); Simon p.58

353

RAY Joseph 1807–1855

Ray's arithmetic, first book. Primary lessons and tables in arithmetic: for young learners. Stereotype edition

Cincinnati

Winthrop B. Smith & Co.; New York: Clark, Austin, Maynard & Co. (C.F. O'Driscoll & Co., Stereotypers), [1857]

162mm. 1–80pp.

Bound in cloth-backed tan paper boards, text of title-page on upper cover (emended to read 'Improved Stereotype edition'), advertisements ('Eclectic Educational Series') printed on lower cover.

¶ Originally printed in 1842, 'the work continued to be

published up to 1913' (Karpinski). The printed copyright notice is dated 1857.

Cf. Karpinski p.404, listing previous editions

354

RAY Joseph 1807–1855

Ray's arithmetical key, containing solutions to the questions in Ray's part third, and to some of the more difficult questions in part second: also, an appendix, embracing the canceling system and the higher parts of arithmetic, with numerous exercises for the blackboard

Cincinnati

Winthrop B. Smith and Co. (Stereotyped by J.A. James), 1845

164mm. 1–336pp.

Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover.

¶ First edition of this *Key to Ray's arithmetic: part third* (Cincinnati 1844).

Karpinski pp.401–402

See illustration page 111

355

RAY Joseph 1807–1855

Ray's arithmetical key: containing solutions to the questions in Ray's third book, and to some of the more difficult questions in the second book: also an appendix, of text examples for the slate and blackboard. New and improved edition

Cincinnati

Winthrop B. Smith & Co.; New York: Clark, Austin, Maynard & Co. (C.F. O'Driscoll & Co., Stereotypers), [undated; *circa* 1845]

163mm. 1–272pp.

Endpapers stamped *Mrs Lavinia Harper.*

Bound in leather-backed brown paper boards, text of title-page (imprint changed to 'For sale by booksellers generally') on upper cover, advertisements printed on lower cover.

¶ The printed copyright notice in this edition is dated 1845.

Cf. Karpinski p.401–402, listing similar editions

356

READY RECKONER…

The Ready reckoner, or traders' assistant, in dollars and cents. With a number of useful tables

Philadelphia

Published by George W. Mentz and Conrad Zentler (Printed by Conrad Zentler), 1817

136mm. 1–144pp.

Bound in contemporary leather-backed tan paper boards.
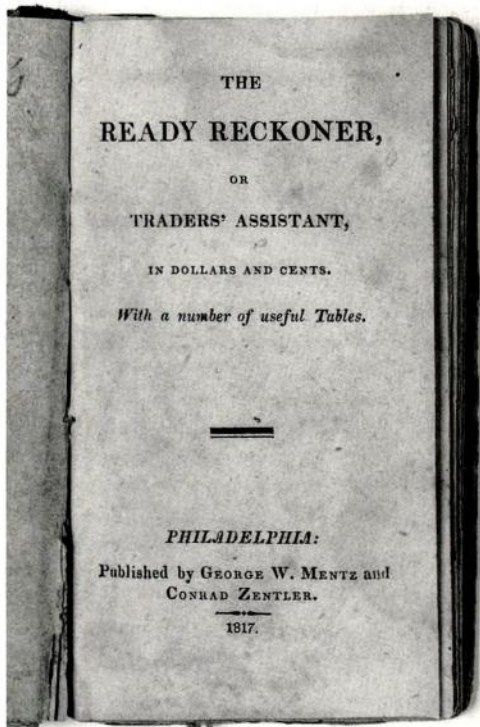
356. This edition not recorded by Karpinski

¶ An edition of these tables with imprint of Conrad Zentler and George W. Mentz and title *Der fertige Rechner oder des Geschäftsmanns Gehülfe im Kauf und Verkauf* was published in 1817 (Karpinski p.211).
AB 41935; not in Karpinski

357
RHOADS J., *M.D.*
Rhoads' arithmetic. The second part of practical arithmetic
Philadelphia
John H. Simon; Stereotyped by L. Johnson and Co., 1849
187mm. (4) 61–204pp. (complete)
Inscribed *Presented with the Compliments of the Author.*
Bound in leather-backed reddish-brown paper boards, text of title-page on upper cover, advertisements printed on lower cover (upper cover detached).
¶ Continues the author's *Primary arithmetic* (1844). The copyright of this first edition was entered November 14, 1848. The author's pedagogy is traditional: 'The new system of Colburn and his followers is calculated to stimulate the quickness of the learner, but the old system led to more

depth and accuracy. From the many attempts which have been made to combine the two, a great multiplicity of rules and directions has arisen, which, instead of aiding, embarrass the pupil, and render it extremely difficult for him to acquire, at school, that practical knowledge of the subject which we will need in after life' (from his 'Preface').
Karpinski p.530

358
ROBERTS William
A Specification and treatise on monumental surveying; teaching a correct method of ascertaining the variation of the magnetic needle; and of surveying and re-surveying the original lines of farms, at any future period of time, in a perfectly correct manner; by assuming monuments to be established by law, as a standard or data, to regulate instruments before the surveys are made. To which is annexed a series of observations, taken on the annual and diurnal variations of the needle
Troy, New York
Tuttle and Belcher, 1839
146mm. 1–53 (1)pp.
In a contemporary green cloth binding, upper cover lettered 'Monumental surveying by Wm. Roberts.'.
¶ 'The work is designed for those acquainted with the ordinary manner of surveying; but if examined by the farmer, will enable him to know whether any surveyor is acquainted with the correct principles of running boundary lines, or not' (from the author's 'Preface'). The printed copyright notice is dated 1839. No other edition is listed by Karpinski.
Karpinski p.415; Checklist 58257

359
ROBINSON Horatio Nelson 1806–1867
A Universal key to the science of algebra: in which some new modes of operation are introduced corresponding to the cancelling system in numbers; with elegant and concise solutions, to nearly all the important and difficult problems found in various books in use. Containing, also, examples in every section for practice
Cincinnati
Published by E. Morgan & Co.; Stereotyped by Shepard & Co., 1844
182mm. 1–6 (2) 11–167 (1)pp. (complete)
In a contemporary leather binding, black lettering-piece.
¶ First edition. The author had taught at the Canandaigua Academy, New York, afterwards at Genesee, before moving to Cincinnati in 1844.
Karpinski p.465 (title-page reproduced); Simon pp.49–50; Checklist 44/5354

360

ROBINSON James

The American arithmetick; in which the science of numbers is theoretically explained and practically applied. Containing all the necessary rules, systematically arranged, and illustrated by a great variety of useful examples. Also, a short system of book-keeping, by single entry. Designed for the use of schools and academies in the United States

Boston

Printed and published by Lincoln & Edmands, 1825

175mm. 1–234 (6)pp.

Endpaper inscribed *James H. Swell Charlestown Mass.*

Bound in contemporary leather-backed marbled paper boards, black lettering-piece.

¶ The copyright of this first edition was entered January 10, 1825.

Karpinski p.264 (title-page reproduced); Checklist 22114

361

ROOT Erastus 1773–1846

An Introduction to arithmetic for the use of common schools. The second edition

Norwich, Connecticut

Printed and sold by Thomas Hubbard, 1796

164mm. 1–105 (1)pp.

Ownership inscriptions *Luther Thinsley 1797.*

Bound in contemporary leather-backed blue paper boards.

¶ The first edition had been printed by Thomas Hubbard in 1795. The author graduated Dartmouth 1793, taught for several years, then entered politics, becoming a member of Congress (*DAB*, XVI, pp.145–146).

Karpinski p.111; SM 31119

362

ROOT Erastus 1773–1846

An Introduction to arithmetic. For the use of common schools. First Boston edition, corrected

Boston

Printed by I. Thomas & E.T. Andrews, 1802

164mm. 1–106 (2)pp.

Title-page twice inscribed *Ebenezer Brown 1813.*

Bound in contemporary leather-backed wooden boards, sides covered by blue paper.

¶ This edition, fourth in the list presented by Karpinski, apparently antedates the Norwich 'third edition' (see below). The owner, Ebenezer Brown (1795–1889), resided in Chesterfield, Massachusetts (*DAB*, III, p.112).

Karpinski p.111; AB 3015

363

ROOT Erastus 1773–1846

An Introduction to arithmetic, for the use of common schools. The third edition

Norwich, Connecticut

Printed and sold by Thomas Hubbard, 1802

168mm. 1–105 (1)pp.

Bound in contemporary leather-backed wooden boards, sides covered by blue paper.

Karpinski p.112; AB 3016

364

ROOT Erastus 1773–1846

An Introduction to arithmetic for the use of common schools. Revised, corrected and enlarged

Norwich, Connecticut

Printed by Russell Hubbard, 1811

162mm. 1–128 (2)pp. (pages 5–8 lacking)

Bound in contemporary leather-backed wooden boards, sides covered by blue paper.

Karpinski p.112; AB 23830; ERL 5007

365

ROPES Joseph 1812–1885

Linear perspective. For the use of schools and students in drawing

Portland, Maine

Printed for the author (Thurston and Co., Stereotypers and Printers), 1849

225mm. 1–32pp.

Endpaper inscribed *George S. Rawson.*

Bound in contemporary cloth-backed cream paper boards, text of title-page on upper cover, an advertisement printed on lower cover.

¶ The printed copyright notice is dated 1849 and the author's 'Preface' at Portland, January 1849. The work was reprinted at Portland in 1850 (BAI 53, p.288).

Karpinski, Third supplement, p.201

366

ROSE John

Rose's new arithmetic. An explanatory and practical arithmetic, adapted to the business and commerce of the United States; containing all the most useful practical rules of the science

Philadelphia

Published by the author; Stereotyped by J. Howe, 1834

158mm. 1–180pp.

Endpaper inscribed *Louis F. Kampmann.*

Bound in contemporary paper boards (backstrip worn).

¶ A copyright for this first edition was entered May 17, 1834. 'Daily examinations upon arithmetic should take

place in every school where it is taught. The scholar should learn the principles of the different rules, and be subjected to a strict course of questioning, in order to determine whether these are properly understood' (from the author's 'Preface', dated June 1834).

Karpinski pp.368–369 (title-page reproduced); Checklist 26587

367

ROSE John

Rose's new arithmetic. An explanatory and practical arithmetic, adapted to the business and commerce of the United States; containing all the most useful practical rules of the science

Philadelphia

Published by William W. Walker, 1848

165mm. 1–180pp.

Printed label on endpaper *From J. Ritter & Co's Bookstore… Reading, Pa.* and inkstamp *Mardeca Frederick.*

Bound in contemporary brown paper boards.

Karpinski p.369

368

ROSE John

A Key to Rose's explanatory and practical arithmetic; in which solutions are given to all the questions contained therein that necessarily require them; designed to facilitate the labour of teachers, and assist those who have not the benefit of a tutor's aid

Philadelphia

Published by Thomas Sutton and by Denny & Walker, 1835

147mm. 1–193 (1)pp.

Endpapers inscribed *Alfred L. Ross, Lebanon, Ohio, 1836.*

In a contemporary leather binding.

¶ A copyright for this *Key* was entered June 6, 1835.

Karpinski p.369; Checklist 34047

369

ROSE John

The United States aritmetician [*sic*]: or the science of arithmetic simplified. Adapted to the commerce of the United States. Containing all the most useful practical rules of the science. Illustrated by a large collection of examples, many of which are composed of historical facts

Bridgeton, New Jersey

Published by the Proprietor, John Richards, Printer, 1830

165mm. 1–9 (3), 1–240pp.

Endpaper inscribed *E.B. Seeley.*

In a contemporary leather binding, red lettering-piece.

¶ The printed copyright notice is dated December 9, 1829, and the author's 'Preface' January 1830.

Karpinski p.321 (title-page reproduced); Checklist 3345

370

ROWLETT John

Rowlett's tables of discount, or interest, on every dollar… from one, to sixty-four days, inclusive, also for every month, from one to twelve, and for eighteen months, and two years; besides a complete cent table: the whole computed at six per cent, and comprising upwards of one hundred and fifty-six thousand nine hundred calculations of interest; all performed according to the equitable principles of the banks, and as practised between individuals throughout the United States

Philadelphia

Printed for the proprietor by Hugh Maxwell, 1802

270mm. 1–200pp. (pages 146–152 lacking)

Title-page inscribed *C.J. Dow.*

In a contemporary leather binding (covers detached).

¶ The copyright for this first edition was entered February 4, 1802.

Karpinski p.147 (title-page reproduced); AB 3022

371

RYAN James 1794/95–1839

The Differential and integral calculus

New York

Published by White, Gallaher [*sic*] and White; W.E. Dean, printer, 1828

240mm. (8) 1–328pp., two plates

Ownership inscription *Edgar Haas.*

Bound in contemporary cloth-backed brown paper boards, paper lettering-piece (covers detached).

¶ The printed copyright notice and author's 'Advertisement' in this first edition are dated July 16, 1828.

Karpinski p.296 (title-page reproduced); Checklist 35086

372

RYAN James 1794/95–1839

An Elementary treatise on algebra, theoretical and practical, adapted to the instruction of youth in schools and colleges. To which is added, an appendix, containing an algebraic method of demonstrating the propositions in the fifth book of Euclid's Elements, according to the text and arrangement in Simson's edition, by Robert Adrain

New York

Published by Collins and Hannay, 1824

174mm. 1–11 (1), 1–516pp.

In a contemporary leather binding (back decayed, upper cover detached).

¶ The author's 'Advertisement' printed in this first edition is dated July 1, 1824. 'Adrain's contribution is the present day method of treating proportion' (Simon).

Karpinski p.259 (title-page reproduced); Simon pp.20–21; Checklist 17875

373
SCHOLFIELD Nathan
Elements of plane geometry and mensuration, on the basis of Legendre's Elements, with numerous alterations and additions, being the first part of a series on elementary and higher geometry, trigonometry, and mensuration… [Second title: Elements of solid geometry and mensuration, being the second part of a series…] Designed as a text book for collegiate and academic instruction
New York
Published by Collins, Brothers & Co. (G.W. Wood, Printer), 1845
210mm. 1–228pp., 1–148, 1–20pp.
In a contemporary quarter-leather binding, sides covered by brown cloth.
¶ The first and second parts of *A Series on elementary and higher geometry*.
Karpinski p.477 (title-pages reproduced)

374
SCRIBNER John Marston
The Mechanics' assistant: containing United States weights and measures; mensuration of superficies and solids; tables of squares and cubes, square and cube roots; of areas and circumferences of circles; the mechanical powers: specific gravity of bodies, strength and weight of materials… Tables of interest, etc.
New York
Published by A.V. Blake (Printed by H. Oliphant, Auburn, N.Y.), 1844
178mm. 1–215 (1)pp.
Endpaper inscribed *Chas. B. Harrison… 1840.*
In a contemporary leather binding, black lettering-piece (joints cracked).
¶ This work was subsequently published as *A Practical system of mensuration of superficies and solids designed especially for advanced scholars in schools and academies*.
Karpinski p.465 (title-page reproduced); not traced in Checklist

375
SHERWIN Thomas 1799–1869
An Elementary treatise on algebra, for the use of students in high schools and colleges. Second edition
Boston
Benjamin B. Mussey and Company, 1847
188mm. 1–7 (1), 1–300pp.
Endpaper inscribed *Stephen Emery.*
In a contemporary leather binding, black lettering-piece.
¶ The first edition had been published in 1841 (ERL 4356, not in Karpinski). Editions dated 1844 and 1845 also are designated 'second edition' on their title-pages. The

author graduated Harvard 1825 and was appointed head-master of the Lexington Academy (Massachusetts). In 1829 he began teaching at the English High School, Boston, where he remained until his death.
Karpinski p.446; Simon pp.45–46

376
SIMMS Frederic Walter 1803–1865
A Treatise on the principal mathematical instruments, employed in surveying, levelling, and astronomy: explaining their construction, adjustments, and use. With tables. Revised, with additions, by J[ohn] H[enry] Alexander
Baltimore
Published by Fielding Lucas, Jr. (John D. Toy, Printer), 1836
223mm. 1–109 (15)pp.
In a contemporary cloth binding (lower cover detached).
¶ First American edition (the original London edition appeared in 1834).
Karpinski p.394 (title-page reproduced); Checklist 40173

377
SIMMS Frederic Walter 1803–1865
A Treatise on the principal mathematical instruments employed in surveying, levelling, and astronomy: explaining their construction, adjustments and use. With an appendix and tables. Second American edition, from the second (improved and enlarged) London edition. Revised, and with additions, by J. H. Alexander
Baltimore
Fielding Lucas, Jr., [1844]
232mm. 1–17 (1), 1–134, (18)pp., advertisements ('Catalogue of philosophical and mathematical instruments manufactured and sold by James Green… Baltimore') 1–12pp.
Endpaper inscribed *E. H. Seaman* and inkstamp *Albert W. Seaman.*
In the publisher's embossed brown cloth binding, title stamped in gilt on upper cover.
¶ The printed copyright notice is dated 1844 and the 'Editor's preface to the second American edition' is dated at Baltimore, August 24, 1844. The 'second London edition' mentioned in the title had been published in 1836.
Karpinski p.394; Checklist 44/5639

378
SIMPSON Thomas 1710–1761
A Treatise of algebra: wherein the principles are demonstrated, and applied in many useful and interesting inquiries, and in the resolution of a great variety of problems of different kinds. To which is added, the geometrical construction of a great number of linear and plane prob-

lems, with the method of resolving the same numerically. The second American, from the eighth London edition. Revised, corrected and improved, by David McClure
Philadelphia
Printed for M. Carey & Sons, *etc.*, 1821
211mm. (8) 1–408pp.
Ownership inscriptions of *N. Holmes, Bought N.Y. 1822*. In a contemporary leather binding, black lettering-piece.
¶ 'This algebra is an American reprint of an English work which appeared first under the same title in London in 1745. Evidences of the use of the English edition in American colleges exist' (Simon p.13). The first American edition had been published by Matthew Carey in 1809 and a copyright for this new edition revised by David McClure was entered December 7, 1821.
Checklist 6801; Simon p.14; cf. Karpinski p.178 (edition with imprint of David McClure)

379
Simson Thomas 1710–1761
Trigonometry, plane and spherical; with the construction and application of logarithms. With an appendix on spherical projections
Philadelphia
Published by Kimber and Conrad; T. & G. Palmer, Printers, 1810
200mm. 1–125 (1)pp., advertisements 2pp., seven plates
Printed exlibris *Amos Williams' Book… Chambersburg*, annotated *1817*.
In a contemporary leather binding, red lettering-piece (front joint cracked).
¶ A copyright for this first American edition was entered December 4, 1810.
Karpinski p.182 (title-page reproduced); AB 21348; ERL 5320

380
Simson Robert 1687–1768
The Elements of Euclid, viz. the first six books, together with the eleventh and twelfth. The errors, by which Theon, or others, have long ago vitiated these books, are corrected, and some of Euclid's demonstrations are restored. Also, the book of Euclid's data, in like manner corrected. To this edition are also annexed, elements of plane and spherical trigonometry
Philadelphia
Published by Matthew Carey, *etc.*; Printed by T. & G. Palmer, 1806
209mm. 1–518pp.
Endpaper inscribed *Philomathesian Society Library*; exlibris of *Middlebury College*, overstamped *Withdrawn*.
In a contemporary leather binding.

¶ The first American edition had been printed at Philadelphia in 1803.
Karpinski p.150; AB 10371 (*q.v.* Euclid)

381
Simson Robert 1687–1768
The Elements of Euclid, viz. the first six books, together with the eleventh and twelfth. The errors, by which Theon, or others, have long ago vitiated these books, are corrected, and some of Euclid's demonstrations are restored. Also, the book of Euclid's data, in like manner corrected. To this edition are also annexed, elements of plane and spherical trigonometry
Philadelphia
Printed and published by A. Walker, *etc.*, [undated; *circa* 1819?]
210mm. 1–516pp., three plates
Multiple ownership inscriptions of *Henry Mauzy, McGaheyville, Rockingham County, Virginia*.
In a contemporary leather binding.
¶ Although the title-page is undated, three sub-titles are dated 1819.
Cf. BAI, 54, p.167 (edition with imprint 'Philadelphia, A. Walker [1819?]') and Karpinski p.150 (undated edition by Walker judged *circa* 1834); not traced in Checklist

382
Simson Robert 1687–1768
Elements of the conic sections. Translated from the Latin original [of Apollonius of Perga], for the use of students of mathematics
New York
Printed for W. Falconer; A. Forman, printer, 1804
205mm. 1–278 (2)pp., fourteen plates
In a contemporary leather binding (spine decayed, covers detached).
¶ First American edition and the 'first American work on conic sections' (Karpinski).
Karpinski p.156 (title-page reproduced); AB 7270

383
Simson Robert 1687–1768
Elements of the conic sections. Translated from the Latin original [of Apollonius of Perga]. Carefully revised, corrected and enlarged
Philadelphia
Published by Kimber and Conrad; Brown & Merritt, Printers, 1809
212mm. 1–177 (1)pp., fourteen plates
Endpaper inscribed *Edgar Haas*.
In a contemporary leather binding, black lettering-piece (cover detached).

¶ A copyright for this revised edition was entered on May 18, 1809. An advertisement printed before the work, subscribed 'New Garden Boarding School, Fifth Month, 1809', identifies the editor only by his initials, 'E.L.'.
Karpinski p.156 (title-page reproduced); AB 18616; ERL 5319

384
SLOCOMB William
The American calculator, or, a concise system of practical arithmetic, containing all the rules necessary for transacting the common business of life; together with questions for examination, under each of the rules. Intended for the use of schools, and young men who may be desirous of obtaining further knowledge of this science. To which is added, a short system of book-keeping
Philadelphia
Published by William Davis, *etc.* (Stereotyped by J. Howe), 1832
160mm. 1–180, 1–3 (1), 1–2pp.
Endpapers inscribed *Presented by Mr. Davis, Bookseller, Zanesville, Ohio* and *William Smith… 1835.*
Bound in contemporary leather-backed marbled paper boards.
¶ This work had been published as *The Federal calculator* in 1828 and as *The American calculator* in 1830 and 1831. 'Never take your slate in your hand till you understand the rule by which your question is to be wrought; nor call on your teacher for assistance till you have made a thorough trial by yourself…' (from the author's 'Word of Advice to Young Learners').
Karpinski p.297; this edition not in Checklist (cf. 26798, same imprint but dated 1834)

385
SMILEY Thomas Tucker ?–1879
The New federal calculator, or scholar's assistant: containing the most concise and accurate rules for performing the operations in common arithmetic; together with numerous examples under each of the rules, varied so as to make them conformable to almost every kind of business, for the use of schools and counting houses
Philadelphia
Published and for sale by J. Grigg, 1830
155mm. 1–180pp.
In a contemporary leather binding (back repaired with cloth).
¶ This work was first printed in 1825. 'At one time this work was extensively used in the common schools of this country, and almost exclusively in the West and South… Its chief merit consists in its brevity and simplicity' (Greenwood & Martin p.829).
Karpinski p.265; Checklist 3509

386
SMILEY Thomas Tucker ?–1879
The New federal calculator, or scholar's assistant: containing the most concise and accurate rules for performing the operations in common arithmetic; together with numerous examples under each of the rules, varied so as to make them conformable to almost every kind of business, for the use of schools and counting houses
Philadelphia
Published and for sale by Grigg & Elliott (Stereotyped by J. Howe), 1835
155mm. 1–180pp.
In a contemporary leather binding (spine decayed, upper cover detached).
Karpinski p.265; this edition not in Checklist (cf. 56794, a Grigg & Elliott edition dated 1837 not seen by Karpinski)

387
SMITH Augustus William 1802–1866
An Elementary treatise on mechanics, embracing the theory of statics and dynamics, and its application to solids and fluids. Prepared for the under-graduate course in the Wesleyan University
New York
Harper & Brothers Publishers, 1849
230mm. (2) 1–15 (1), 1–307 (1)pp., advertisements ('Valuable text-books for colleges, academies, and schools') 1–8pp.
Exlibris *Yale University Observatory. Bequest of Professor Elias Loomis LLD 1889*; ownership inscription *E. Loomis* on front endpaper.
Bound in contemporary leather (joints cracked, spine decayed).
¶ The copyright for this first edition was entered January 24, 1849.
Karpinski pp.530–531 (title-page reproduced)

388
SMITH Francis Henney 1812–1890
Elimination between two unknown equations with two unknown quantities, by means of the greatest common divisor. Also, analysis of curves, with an application to an equation of the fourth degree
New York
Wiley and Putnam (J.P. Wright, Printer), 1842
222mm. 1–59 (1)pp.
In a contemporary straight-grained brown cloth binding, covers stamped 'Files & Middlebrook Binders'.
¶ First edition. The author was Superintendent of the Virginia Military Institute at Lexington (*DAB*, XVII, pp.264–265).
Karpinski p.446 (title-page reproduced); Simon pp.46–47; Checklist 42/4557

389
SMITH Roswell Chamberlain 1797–1875
Arithmetic on the productive system; accompanied by a key and cubical blocks. Stereotype edition
Hartford, Connecticut
Published by John Paine (Hartford, stereotyped by Richard H. Hobbs), 1842
175mm. 1–306pp.
Endpaper inscribed *Nathan H. Seward Prospect Hill June 6th 1844*; booksellers' printed label *Lockwood's School Book Depository… New York*.
Bound in contemporary leather-backed blue paper boards, text of title-page (but undated) on upper cover, advertisements ('Popular School Books') printed on lower cover.
¶'Smith's New Arithmetic' appears at the top of the title-page. The first edition had been published in 1840.
Karpinski p.421; Checklist 42/4566

390
SMITH Roswell Chamberlain 1797–1875
Arithmetic on the productive system; accompanied by a key and cubical blocks. Stereotype edition
Hartford, Connecticut
Published by John Paine (Hartford, stereotyped by Richard H. Hobbs), 1843
175mm. 1–306pp.
Endpaper inscribed *John Grant, Salem Mass. 1847*.
Bound in contemporary leather-backed blue paper boards, text of title-page (but undated) on upper cover, advertisements ('Popular school books published by John Paine') printed on lower cover (upper cover detached).
Karpinski p.421; Checklist 43/4644

391
SMITH Roswell Chamberlain 1797–1875
Arithmetic on the productive system; accompanied by a key and cubical blocks. Stereotype edition
Rochester, New York
Printed and published by David Hoyt, 1844
175mm. 1–312pp.
Bound in contemporary leather-backed blue paper boards, text of title-page (but undated) on upper cover, advertisements ('David Hoyt… publishes the following valuable school and miscellaneous books') printed on lower cover (leather decayed, covers detached).
Karpinski p.421; cf. Checklist 44/5726 (imprint: 'Rochester, William Alling, 1844')

392
SMITH Roswell Chamberlain 1797–1875
Arithmetic on the productive system; accompanied by a key and cubical blocks. Stereotype edition

New York
Published by Paine & Burgess (Hartford, stereotyped by Richard H. Hobbs), 1845
174mm. 1–311 (1)pp.
Bound in leather-backed blue paper boards, text of title-page (but undated) on upper cover, advertisements ('Popular School Books, published by Paine & Burgess') printed on lower cover.
¶ The printed copyright notice in this edition is dated 1841.
Cf. Karpinski p.421, recording a later Paine and Burgess edition dated 1846

393
SMITH Roswell Chamberlain 1797–1875
The Little federal calculator: consisting of questions and tables to employ the mind and fingers only: designed particularly, to go before the slate and to prepare for it
Boston
Sold by Richardson, Lord, and Holbrook; New York: Roe Lockwood (Printed by J. Knowles, Providence), 1832
152mm. 1–69 (1)pp.
Bound in old cloth-backed marbled paper boards.
¶ 'Smith's Introductory arithmetic' appears at the top of the title-page. The copyright of this first edition was entered May 24, 1832.
Karpinski p.342 (title-page reproduced); Checklist 14753

394
SMITH Roswell Chamberlain 1797–1875
The Little federal calculator: consisting of questions and tables to employ the mind and fingers only; designed particularly to go before the slate, and to prepare for it. Stereotype edition
Philadelphia
William Marshall & Co., 1836
152mm. 1–72pp.
Bound in contemporary cloth-backed yellow paper boards, title on upper cover ('Smith's Introductory arithmetic: consisting of tables and questions designed to precede and prepare for the slate'), advertisements printed on lower cover.
Karpinski p.343; Checklist 40225

395
SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic on a new plan, in which mental arithmetic is combined with the use of the slate: containing a complete system for all practical purposes; being in dollars and cents. Second edition, revised and enlarged with exercises for the slate
Boston

Richardson & Lord and S.G. Goodrich; J.H.A. Frost, Printer, 1827

148mm. 1–196 (2)pp.

Bound in contemporary leather-backed tan paper boards, text of title-page (with imprint altered to 'Boston: S.G. Goodrich and Richardson and Lord. Plymouth: Ezra Collier' and undated) on upper cover, advertisements ('Valuable School Books for sale among many others by Ezra Collier') printed on lower cover.

¶ The first edition had been published at Providence in 1826. The copyright for this second edition was entered October 18, 1827, and the author's 'Preface to the second edition' is dated October, 1827. The publishers issued two editions dated 1827; in the other, 'A Practical system of book-keeping' is announced on the title-page, and the imprint altered (see below).

Karpinski p.279; cf. Checklist 30637 (different imprint)

396
SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic on a new plan, in which mental arithmetic is combined with the use of the slate: containing a complete system for all practical purposes: being in dollars and cents. Second edition, revised and enlarged with exercises for the slate. To which is added, a practical system of book keeping
Boston
S.G. Goodrich and Richardson & Lord; J.H.A. Frost, Printer, 1827
146mm. 1–196 (2)pp.
Bound in contemporary leather-backed tan paper boards
¶ The printed copyright is dated December 20, 1827, and the author's 'Preface to the second edition' October, 1827. The publishers issued two editions dated 1827; in this edition, 'A Practical system of book-keeping' is announced on the title-page, and the order of the names of the publishers in the imprint is reversed (see above).
Karpinski p.279; Karpinski, Second supplement, p.176; Checklist 30637

397
SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic, on a new plan, in which mental arithmetic is combined with the use of the slate: containing a complete system for all practical purposes; being in dollars and cents. Stereotype edition, revised and enlarged, with exercises for the slate. To which is added, a practical system of book-keeping
Boston
Richardson & Lord, 1829
152mm. 1–8, 1–268pp.
Endpaper inscribed *Cynthia Bailey… 1829.*

Bound in contemporary leather-backed boards, text of title-page (but undated) on upper cover, advertisements ('School Books published and for sale by Richardson and Lord') printed on lower cover.

¶ The printed copyright is dated January 21, 1829, and the author's 'Preface to the third edition' January 1829. In that preface the author writes "Is this edition different from the preceding?' The answer is, Yes, in many respects. The present edition professes to be strictly on the Pestalozzian, or inductive plan of thinking' and he proceeds to show how the work adheres more closely than others to 'the true spirit of the Pestalozzian plan'.

Karpinski p.279 (title-page reproduced); Checklist 40460

398
SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic, on a new plan, in which mental arithmetic is combined with the use of the slate: containing a complete system for all practical purposes; being in dollars and cents. Stereotype edition, revised and enlarged, with exercises for the slate. To which is added, a practical system of book-keeping
Boston
Carter, Hendee, and Co.; Brattleboro' Power Press Office, 1833
153mm. 1–8, 1–268 (2)pp. (pages 5–6 lacking)
Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover (leather decayed, covers soiled and detached).
Karpinski p.280; Checklist 21260

399
SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic, on a new plan, in which mental arithmetic is combined with the use of the slate; containing a complete system for all practical purposes; being in dollars and cents. Stereotype edition, revised and enlarged, with exercises for the slate. To which is added a practical system of book-keeping
New York
Published by R. Lockwood, [undated; after 1834]
152mm. 1–11 (1), 1–284pp.
Bound in contemporary leather-backed brown paper boards, text of title-page on upper cover, advertisements ('Books offered to the trade by Roe Lockwood') printed on lower cover.

¶ The printed copyright notice in this edition is dated January 21, 1829. The 'Advertisement to the Key which accompanies this Arithmetic' printed among the preliminaries is dated January 1834.

No undated edition by Lockwood is listed by Karpinski, none traced in Checklist nor BAI

400

SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic, on a new plan, in which
mental arithmetic is combined with the use of the slate;
containing a complete system for all practical purposes;
being in dollars and cents. Fifty-first edition, revised and
enlarged, with exercises for the slate. To which is added,
a practical system of book-keeping
Boston
Carter, Hendee, and Co., 1835
156mm. 1–11 (1), 1–284pp.
Endpaper inscribed *Nancy Pray Lebanon, Maine.*
Bound in contemporary leather-backed tan paper boards,
text of title-page (but with imprint 'Hallowell, Me.
Glazier, Masters & Smith 1835') on upper cover, adver-
tisements ('Approved School Books, published by Carter,
Hendee, and Co., Boston') printed on lower cover.
¶ A copyright for this edition was entered 1835. The
Hallowell imprint on the cover was unknown to
Karpinski.
Karpinski p.280; Checklist 34292

401

SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic, on a new plan, in which
mental arithmetic is combined with the use of the slate;
containing a complete system for all practical purposes;
being in dollars and cents. Fifty-third edition, revised and
enlarged, with exercises for the slate. To which is added,
a practical system of book-keeping
Hartford, Connecticut
Daniel Burgess and Co., 1836
160mm. 1–11 (1), 1–284pp.
Bound in contemporary leather-backed tan paper boards,
text of title-page (but dated 1837) on upper cover, adver-
tisements ('Popular School Books published by Daniel
Burgess & Co.') printed on lower cover.
Karpinski p.282 (recording Burgess editions dated 1836
and 1837); Checklist 40227

402

SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic, on a new plan; in which
mental arithmetic is combined with the use of the slate;
containing a complete system for all practical purposes;
being in dollars and cents. Sixty-first edition, revised and
enlarged, with exercises for the slate. To which is added,
a practical system of book-keeping
Cincinnati
Burgess and Crane, 1838
153mm. 1–11 (1), 1–284pp.
Bound in contemporary leather-backed brown paper

boards, text of title-page (but undated) on upper cover,
advertisements ('Burgess and Crane's series of popular
school books') printed on lower cover.
Karpinski p.282; cf. Checklist 53022 (imprint: 'Cincinnati,
N.G. Burgess and Company, 1838')

403

SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic, on a new plan in which
mental arithmetic is combined with the use of the slate,
containing a complete system for all practical purposes;
being in dollars and cents. Fifty-first edition, revised and
enlarged, with exercises for the slate. To which is added,
a practical system of book-keeping
Hartford, Connecticut
Spalding and Storrs, 1841
160mm. 1–11 (1), 1–284pp.
Endpaper inscribed *Rubin Spalding… 1841.*
Bound in contemporary leather-backed brown paper
boards, text of title-page (but undated) on upper cover,
advertisements ('Popular School Books, published by
Spalding & Storrs') printed on lower cover.
¶ The publishers Spalding and Storrs had published this
same 'fifty-first edition, revised and enlarged' in 1838
(Checklist 53024) and 1840 (Karpinski p.282).
Checklist 41/4820; this edition not in Karpinski

404

SMITH Roswell Chamberlain 1797–1875
Practical and mental arithmetic on a new plan: in which
mental arithmetic is combined with the use of the slate;
containing a complete system for all practical purposes;
being in dollars and cents. Stereotype edition, revised and
enlarged, with exercises for the slate. To which is added
a practical system of book-keeping
New York
Published by Daniel Burgess & Co. (Late Cady & Burgess),
[undated; *circa* 1855]
159mm. 1–4 (2), 1–282pp.
Bound in contemporary leather-backed brown paper
boards, text of title-page on upper cover, advertisements
('Popular School Books, published by Daniel Burgess &
Co.') printed on lower cover.
¶ Karpinski lists editions printed at Hartford by Daniel
Burgess & Co., dated 1836 and 1837, and at New York
by Cady and Burgess, dated 1847, 1848, and 1850. The
present edition was issued after the departure of Cady from
the partnership and is evidently post-1850. The printed
copyright notice in this edition is dated 1835.
This edition not listed by Karpinski nor in BAI

405
SMITH Roswell Chamberlain 1797–1875
A Key to the 'Practical and mental arithmetic' for the use
of teachers
Hartford, Connecticut
Daniel Burgess and Co., 1836
182mm. 1–168pp.
Ownership inscription torn from second leaf, leaving *Nov.
27, 1841 Gunpowder, Balt. Co. Md*; ink stamp on title-page
Catholic University of America Library.
Bound in contemporary cloth-backed blue paper boards,
text of title-page on upper cover, advertisements ('Popular
School Books') printed on lower cover.
¶ The earliest *Key* recorded by Karpinski was published at
Boston in 1833.
Karpinski p.282; Checklist 40224

406
SMITH Seba 1792–1868
New elements of geometry
New York
George P. Putnam; London: Richard Bentley (S.W.
Benedict, Stereotyper and printer), 1850
220mm. 1–200pp.
Title-page inscribed *Charles C. Wakely*.
In the publisher's black embossed cloth binding.
¶ A work on the philosophy of geometry, 'which contains
as well a claim to squaring the circle' (Karpinski). The
copyright for this first edition was entered August 17, 1850.
The author graduated Bowdoin College 1818 with
honours, became a journalist and editor.
Karpinski p.547 (title-page reproduced)

407
SMYTH William 1797–1868
An elementary treatise on plane trigonometry
Brunswick, Maine
Printed by Joseph Griffin, 1825
240mm. 1–60pp.
Bound in contemporary blue paper boards (spine abraded).
¶ The copyright of this first edition was entered October
10, 1825. 'The design of the author in the publication of
this treatise has been chiefly to provide a text book for his
own classes. Hence a small edition only has been printed,
and the engraving of the plates is for a short time deferred'
(from the prefatory 'Notice'). Smyth graduated Bowdoin
1822 and in 1828 succeeded to the professorship of math-
ematics in that college. His textbooks 'were used in the
leading colleges of the country and won the commenda-
tion of the foremost American scientists of the day' (*DAB*,
XVII, p.378).
Karpinski p.266 (title-page reproduced); Checklist 22311

408
SMYTH William 1797–1868
Elements of algebra. Second edition
Hallowell, Maine
Glazier, Masters & Co.; Boston: Carter, Hendee & Co.,
1833
198mm. 1–8, 13–288pp. (complete)
Exlibris drawn in pen and wash *The Property of Alexander
Hill Paris Me. 1836*.
In a contemporary leather binding.
¶ The printed copyright notice in this second edition is
dated 1833 and the author's 'Advertisement' at Bowdoin
College, August 1833. 'Smyth was the first American
writer to use the work of Bourdon in the preparation of
an algebra text... The work is noteworthy at this period
for its explanations, as for instance, its clear presentation
of algebraic signs, and for its multiplicity of problems for
practice' (Simon). The first edition had been published in
1830.
Karpinski p.322; Simon p.25; Checklist 21276

409
SMYTH William 1797–1868
Elements of algebra. Third edition
Hallowell, Maine
Glazier, Masters and Smith, 1836
198mm. 1–8, 13–280pp. (complete)
Title-page inscribed *Moses Everett, Brunswick... 1838*;
exlibris *Brunswick Public Library Association... Presented by
C.C. Everett July 1st 1844* and library blindstamp.
In a contemporary leather binding, black lettering-piece
(upper cover detached).
¶ The author's 'Advertisement to the third edition' is dated
at Bowdoin College, March 1836.
Karpinski p.322; Simon p.25; Checklist 40241

410
SMYTH William 1797–1868
Elements of algebra. Fourth edition
Brunswick, Maine
Published by Joseph Griffin, 1843
198mm. (4) 13–272pp. (complete)
Endpaper inscribed *Wm. R. [?] Pattangall*.
In a contemporary leather binding, black lettering-piece.
¶ The author's 'Advertisement to the Fourth Edition' is
dated at Bowdoin College, May 13, 1843. 'There were 21
editions in all' (Karpinski).
Karpinski p.322; Simon p.25; Checklist 43/4675; ERL
4364

411

Smyth William 1797–1868
Elements of plane trigonometry
Boston
Lilly, Wait, Colman, and Holden (Press of J. Griffin, Brunswick, Me.), 1834
202mm. 1–72pp., four plates
Printed exlibris *Westbrook Seminary, Frost Library.*
Bound in contemporary cloth-backed tan paper boards.
¶ A new edition of *An Elementary treatise on plane trigonometry* (1825). The printed copyright notice is dated 1834 and the author's 'Advertisement' at Bowdoin College, January 1834. 'The work has been prepared chiefly with reference to a college class. Regard has nevertheless been had to the wants of students in our public seminaries generally... The Geometry referred to is that of Legendre in the Cambridge Mathematics' (from the prefatory 'Advertisement').
Karpinski p.266; Checklist 26844

412

Staniford Daniel 1766–1820
Staniford's practical arithmetic, in which the rules are rendered simple in the operation, and illustrated by a variety of useful questions, calculated to give the pupil a full knowledge of figures, in their application to trade and business; adapted principally to federal currency; designed as an assistant to the preceptor in communicating, and to the pupil in acquiring the science of arithmetic; to which is added, a new and concise system of book-keeping, both by single and double entry; the former calculated for the use of traders in retail business, farmers and mechanics; and the latter for wholesale domestic and foreign trade, as conducted in the United States. The whole designed for the use of schools and academies
Boston
Printed by J.H.A. Frost, for West, Richardson & Lord, 1818
175mm. 1–324pp.
Fore-edge lettered *P. Lord's Book.*
Bound in contemporary leather-backed marbled paper boards (upper cover nearly detached).
¶ The printed copyright notice in this first edition is dated November 17, 1818, and the author's 'Preface' at Boston, September 30, 1818.
Karpinski p.222 (title-page reproduced); AB 45789

413

Staniford Daniel 1766–1820
Staniford's practical arithmetic, in which the rules are rendered simple in the operation, and illustrated by a variety of useful questions, calculated to give the pupil a full knowledge of figures, in their application to trade and

business...To which is added, a new and concise system of book-keeping, both by single and double entry... The whole designed for the use of schools and academies.
Second edition
Boston
Printed by J.H.A. Frost, for Richardson & Lord, 1820
180mm. 1–324pp.
Bound in contemporary leather-backed marbled paper boards.
Karpinski p.222; Checklist 3307

414

Stanley Anthony Dumond 1810–1853
Tables of logarithms of numbers, and of logarithmic sines, tangents, and secants, to seven places of decimals; together with other tables of frequent use in the study of mathematics and in practical calculations
New Haven, Connecticut
Durrie & Peck (Composition and Presswork by B.L. Hamlen, New Haven. Stereotyped by Richard H. Hobbs, Hartford), 1849
228mm. 1–54, (2) 1–340pp.
In a contemporary leather binding, black lettering-piece (upper cover detached, lower joint cracked).
¶ 'The following collection of tables has been prepared, chiefly with a view to meet the wants of college students' (from the 'Preface'). It was previously published in 1847.
Karpinski p.501

415

Sterry Consider 1761–1817 & John 1766–1823
The American youth: being a new and complete course of introductory mathematics: designed for the use of private students. By Consider and John Sterry. Vol. I
Providence, Rhode Island
Printed by Bennett Wheeler, for the authors, 1790
183mm. 1–387 (1)pp.
In a contemporary leather binding, red lettering-piece.
¶ Only one volume of this work appeared and it was not reprinted. The first of its two parts is devoted to arithmetic and the second (pages 241–387) to algebra. 'All of the subject matter in an elementary algebra of the present day is covered, with the omission of involved exercises in factoring and fractions... It is an ambitious course in algebra set forth in this text at a time when students in some colleges were still dependent on taking mathematical notes from lectures and setting them down in notebooks. Perhaps its influence was more widespread than historical evidence shows' (Simon).
Karpinski p.95 (title-page reproduced); Simon pp.8–9; SM 22910; Alden 1229; Batschelet 521
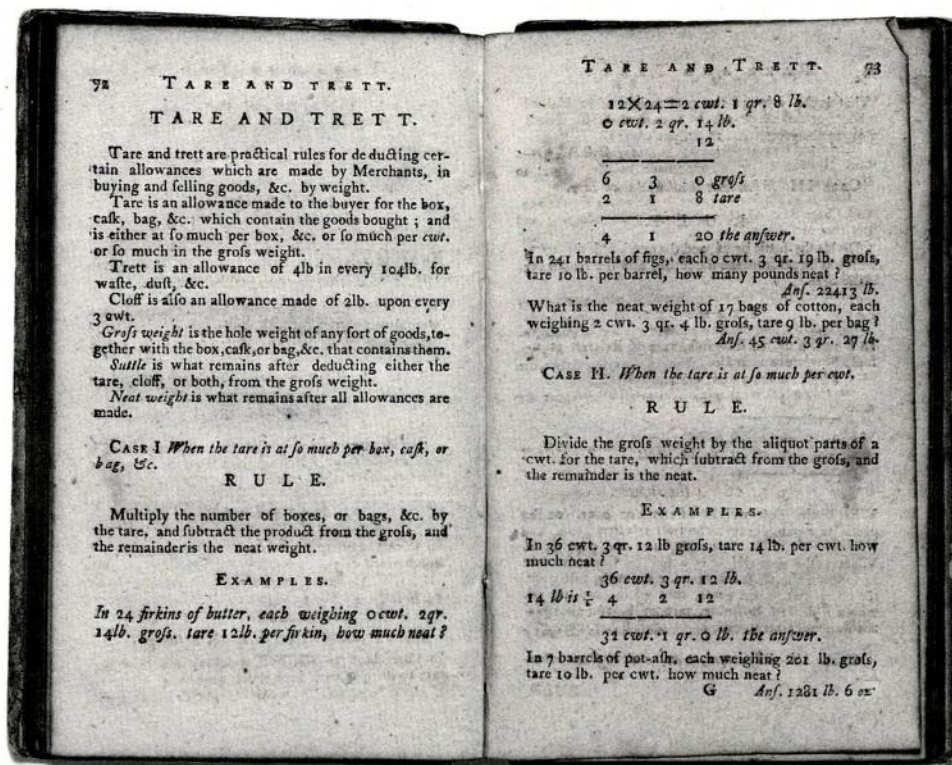
416. Consider Sterry, *A Complete exercise book, in arithmetic* (Norwich, Connecticut 1795)

416

STERRY Consider 1761–1817 & John 1766–1823

A Complete exercise book, in arithmetic: designed for the use of schools in the United States. By Consider & John Sterry

Norwich, Connecticut

Printed and sold by John Sterry and Co., 1795

162mm. 1–120 (2)pp.

Bound in contemporary leather-backed marbled paper boards (leather decayed).

¶ Only edition.

Karpinski p.113 (title-page reproduced); SM 29566; Batschelet 613

417

STEVENS Beriah

A New and concise system of arithmetick, containing vulgar, decimal, and logarithmical arithmetick; calculated for the use of the inhabitants of the United States; wherein is shown a universal mode of cancelling… Mensuration of superficies and solids… With other rules too tedious to mention, and improvements on each

Saratoga Springs, New York

Printed for the author by G.M. Davison, 1822

215mm. (8) 13–423 (1)pp. (evidently complete)

In a contemporary leather binding, red lettering-piece.

¶ First edition.

Karpinski p.249 (title-page reproduced); Checklist 10341

418

STOCKTON Joseph 1779–1832

The Western calculator, or a new and compendious system of practical arithmetic; containing the elementary principles and rules of calculation, in whole, mixed, and decimal numbers. Arranged, defined, and illustrated, in a plain and natural order; adapted to the use of schools, throughout

the Western country, and present commerce of the United States. In eight parts. Fourth edition
Pittsburgh
Printed and published by Eichbaum & Johnston, 1826
180mm. 204pp.
Endpapers inscribed *Jacob Bremmeman*.
Bound in leather-backed blue paper boards (upper cover detached).

¶ The first edition had been published at Philadelphia in 1818 (Karpinski, First supplement, p.234). The author declares as among his purposes 'to furnish our numerous schools, in the western country, with a plain and practical treatise of Arithmetic, compiled and printed among ourselves, thereby saving a heavy annual expense in the purchase of such books, east of the mountains, and likewise the carriage thereof' (from the 'Preface'). The 'Notice to the third edition' dated February 1, 1823, has been reprinted.
Karpinski p.231; Checklist 26142

419
STOCKTON Joseph 1779–1832
A Key to the Western Calculator, containing the solution of all the examples and questions for exercise, with reference to the pages where they stand... by John Armstrong. Fifth edition, revised and corrected
Pittsburgh
Printed and published by Johnston & Stockton, 1844
183mm. 1–139 (1) pp. (pages 47–48 lacking)
Endpaper inscribed *Wm H. Smith*.
In a contemporary quarter-leather binding.

¶ A copyright for this *Key* by John Armstrong was entered in 1819 (renewed 1824).
Karpinski p.231 (*q.v.* Stockton); Checklist 44/246

420
STONE Timothy Dwight Porter 1811–1887
Stories to teach me to think. Fifth edition improved
Boston
Tappan and Dennet (Cambridge: Stereotyped and printed by T.G. Wells), 1844
160mm. 1–180pp. (pages 7–8 lacking)
In a contemporary embossed violet cloth binding (textblock loose in the binding).

¶ At pages 73–81 is the 'Story of the Boy who was so good a scholar in Arithmetic'. The printed copyright notice in this edition is dated 1839. Only an 1847 edition is recorded in the BAI 54, p.404.
Checklist 44/5919; this work not considered by Karpinski

421
TALBOTT John L.
The Western practical arithmetic, wherein the rules are illustrated, and their principles explained: containing a great variety of exercises, particularly adapted to the currency of the United States. To which is added a short system of book-keeping, designed for the use of schools and private students
Cincinnati
Published by Morgan and Sanxay (Stereotyped by J.A. James), 1836
170mm. (2) 5–182, (6)pp. (evidently lacking 6pp. at end)
In a contemporary leather binding (decayed).

¶ The first edition had been printed at Cincinnati in 1833. 'The author of this work is convinced that the best general method of teaching Arithmetic is, to require the pupil to commit the rule to memory, and to acquire the art of applying it, before any effort shall be made on the part of the teacher, to explain the principles upon which the rule is founded' (prefatory notice 'To Teachers').
Karpinski p.354; Checklist 40396

422
TEMPLE Samuel 1770–1816
A Concise introduction to practical arithmetic; in which all the rules that occur in common business are applied to the federal currency. Designed for the use of schools in the United States. Sixth edition
Boston
Printed by Lincoln & Edmands, 1808
175mm. 1–108pp.
Bound in contemporary leather-backed wooden boards, sides covered by blue paper.

¶ The author's 'Preface to the sixth edition' is dated at Dorchester, Massachusetts, July 1808. The first edition had been published at Boston in 1796.
Karpinski p.117; AB 16293

423
THOMPSON James
The American tutor's guide; being a compendium of arithmetic. In six parts. I. Arithmetic in whole numbers. II. Vulgar and decimal fractions. III. Mercantile arithmetic. IV. Extraction of roots, progressions, permutation, and rules for the easy calculation of interest, annuities, and pensions in arrears, either by simple or compound interest. V. Duodecimals, or cross multiplication, and its application in the mensuration of artificers work, superfices, solids, &c. VI. A collection of questions. First edition
Albany, New York
Printed and sold by E. & E. Hosford, 1808
161mm. 1–6 (2), 13–172, 1–4pp. (complete)

Bound in contemporary leather-backed wooden boards, sides covered by blue paper.

¶ The copyright of this first edition was entered September 16, 1808.

Karpinski p.174 (title-page reproduced); AB 16309

424
THOMPSON James

A Complete treatise on the mensuration of timber: containing, besides all the rules usually given on the subject, some new and interesting improvements: particularly the new, expeditious, and very accurate method of calculating the contents of square & round timber: with the description of the sliding rule and Gunter's scale, so far as they relate to this art. The whole being illustrated with examples at full length, and is well adapted to the practical timber measurer

Troy, New York

Printed by Wright, Wilbur & Stockwell, 1805

145mm. 1–87 (1)pp.

Bound in contemporary leather-backed wooden boards, sides covered by marbled paper (front joint cracked).

¶ A copyright for this work was entered October 8, 1804; no other edition is listed by Karpinski. The verso of the title-page is inscribed by the author as a warranty of authenticity.

Karpinski p.159 (title-page reproduced); AB 9474

425
THOMPSON Zadock 1796–1856

The Youth's assistant in theoretick and practical arithmetick. Designed for the use of schools in the United States. Second edition, with corrections and additions

Woodstock, Vermont

Printed and sold by David Watson, 1826

202mm. 1–164pp.

Bound in contemporary leather-backed wooden boards, sides covered by blue paper, text of title-page on upper cover, advertisements ('Recommendations') printed on lower cover (covers abraded).

¶ The first edition had been printed at Woodstock in 1825. The printed copyright notice in this new edition is dated September 8, 1826, and the 'Preface to the second edition' at Burlington, October 12, 1826. 'Besides the correction of many typographical errors, the number of practical examples has been much increased, several new notes have been added, the part on Mental Arithmetic has been enlarged, and a short but comprehensive system of Book-Keeping by Single Entry has been introduced' (author's preface to this second edition). Zadock Thompson graduated University of Vermont 1823 and became a tutor there in 1825 (*DAB*, XVIII, pp.480–481).

Karpinski p.266; Checklist 26204; ERL 5096

426
THOMPSON Zadock 1796–1856

The Youth's assistant in theorhetick [*sic*] and practical arithmetic; designed for the use of schools in the United States. Seventh edition

Burlington, Vermont

Edward Smith, 1835

168mm. (4) 1–168pp.

Endpaper inscribed *Thomas Adams… 1837*.

In a contemporary half-leather binding, sides covered by marbled paper.

¶ The text is that of the revised edition of 1828.

Karpinski p.266; Checklist 34559

427
THOMSON James Bates 1808–1883

Elements of algebra, being an abridgment of Day's Algebra, adapted to the capacities of the young, and the method of instruction, in schools and academies. Eleventh edition

New Haven, Connecticut

Durrie & Peck; Philadelphia: Loomis & Peck (Stereotyped by Richard C. Valentine… New York), 1849

180mm. 1–252pp.

Printed exlibris *L.L. Camp's Library*.

In a contemporary leather binding (spine decayed, upper cover detached).

¶ The first edition of Jeremiah Day's *An Introduction to algebra* had been printed in 1814 and the first edition of Thomson's abridgement in 1843. The title-page is headed 'Day and Thomson's Series'.

Cf. Karpinski p.454 and Simon p.49 listing tenth (1848) and twelfth (1849) editions

428
THOMSON James Bates 1808–1883

Elements of algebra, being an abridgment of Day's Algebra, adapted to the capacities of the young, and the method of instruction, in schools and academies. Fourteenth edition

New Haven, Connecticut

Durrie & Peck; Philadelphia: Horace C. Peck (Stereotyped by Richard C. Valentine… New York), 1850

178mm. 1–252pp., advertisements 1–11(1)pp.

In a contemporary leather binding (joints split).

Karpinski p.454; Simon p.49

429
THOMSON James Bates 1808–1883

Exercises for the slate and black-board; or, first lessons in written arithmetic. For beginners

New York

Published by Newman and Ivison; Cincinnati: Moore & Anderson, *etc.*(Stereotyped by Thomas B. Smith... New York), 1852

158mm. 1–111pp., advertisements ('Recommendations') 1–14 (1)pp.

Ownership inscription *William L. Eaton, Hartford Conn.* Bound in leather-backed paper boards, text of title-page on upper cover (but with imprint: Mark H. Newman & Co., 1849), advertisements ('Day & Thomson's Mathematical Series') printed on lower cover (spine decayed, covers detached).

¶ The title-page is headed 'Slate and blackboard exercises'. First published *circa* 1849.

Cf. Karpinski p.531 (1849 edition); no edition in BAI

430
THOMSON James Bates 1808–1883
Higher arithmetic; or the science and application of numbers; combining the analytic and synthetic modes of instruction. Designed for advanced classes in schools and academies. Fifteenth edition
New York
Published by Mark H. Newman & Co. (Stereotyped by Thomas B. Smith), 1849

182mm. 3–422pp. (complete)

In a contemporary leather binding, black lettering-piece.
¶ The title-page is headed 'Day and Thomson's Series'. The first edition of this textbook had been published at New York in 1847.

Karpinski p.502 (title-page reproduced)

431
THOMSON James Bates 1808–1883
Practical arithmetic, uniting the inductive with the synthetic mode of instruction also, illustrating the principles of cancelation. For schools and academies. Twenty fifth edition, revised and enlarged
Auburn, New York
Derby, Miller & Co.; New York: M.H. Newman & Co. (Stereotyped by Thomas B. Smith... New York), 1848

169mm. 1–366pp., advertisements ('Recommendations of Thomson's Practical Arithmetic') 1–6pp.

Exlibris *Yale University Observatory. Bequest of Professor Elias Loomis LLD 1889.*

Bound in leather-backed orange paper boards, text of title-page (but with imprint: New York, Mark H. Newman & Co., undated) on upper cover, advertisements (Mark H. Newman & Co.) printed on lower cover.

¶ The title-page is headed 'Day and Thompson's Series'. This work had been first printed in 1845. The present edition was unknown to Douglas C. McMurtrie, 'A Bibliography of books, pamphlets and broadsides printed at Auburn, N.Y. 1810–1850', in *Grosvenor Library Bulletin* [Buffalo, New York] 20 (1938), issue no.4.

Cf. Karpinski p.480 (Derby, Miller & Co. not included in imprint)

432
TICKNOR Almon 1796–?
The Columbian calculator; being a practical and concise system of decimal arithmetic. Adapted to the use of schools in the United States. Third edition, revised and corrected
Pottsville, Pennsylvania
Published by Benjamin Bannan; Philadelphia: Daniels & Smith, *etc.* (Stereotyped by Redfield & Savage, New York), 1848

188mm. 1–264pp.

Bound in contemporary leather-backed blue paper boards, text of title-page (but undated) on upper cover, advertisements ('Recommendations') printed on lower cover (joints cracked).

¶ The first edition had been published in 1839. Pupils are set 2,200 problems in this book.

Karpinski p.416

433
TICKNOR Almon 1796–?
Ticknor's mensuration; or, square and triangle: being a practical and concise system of geometry and mensuration. Adapted to the use of schools and academies in the American Republic
Pottsville, Pennsylvania
Published by B. Bannan (Stereotyped by L. Johnson and Co., Philadelphia), 1849

179mm. 1–144pp. including preliminary advertisements ('Columbian series of Arithmetics', 2pp.)

In a contemporary leather binding, black lettering-piece.
¶ A copyright for this first edition was entered September 5, 1849.

Karpinski p.531 (title-page reproduced); BAI 55, p.183

434
TILLINGHAST Nicholas 1804–1856
Elements of plane geometry, for the use of schools
Concord, New Hampshire
Published by Luther Hamilton; Boston: Saxton & Pierce, 1841

192mm. 1–96pp.

Endpaper inscribed *George W. Locke.*

In a contemporary leather binding (front joint cracked).
¶ First edition.

Karpinski p.431 (title-page reproduced); not traced in Checklist

435

[TODD John 1718–1793, *et al.*]

The American tutor's assistant; or, a compendious system of practical arithmetic; containing, the several rules of that useful science, concisely defined, methodically arranged, and fully exemplified; the whole particularly adapted to the easy and regular instruction of youth in our American schools. By sundry teachers in and near Philadelphia. The eighth edition. With the addition of a considerable number of examples for calculating in dollars and cents

Philadelphia

Printed and sold by Joseph Crukshank, 1808

176mm. (4) 1–204pp.

Endpaper inscribed *Elizabeth Gardiner's Book… 1811* and underneath in a recent hand *Born in Philadelphia 1798*.

In a contemporary leather binding (front joint cracked).

¶ The first edition of *The American tutor's assistant* had been published in 1791. The 'Preface' here is subscribed by John Todd, Zachariah Jess, William Waring, and Jeremiah Paul.

Karpinski p.98 (*q.v.* Todd); AB 14346 (*q.v.* title)

436

[TODD John 1718–1793, *et al.*]

The American tutor's assistant revised; or, a compendious system of practical arithmetic; containing the several rules of that useful science… The whole particularly adapted to the easy and regular instruction of youth in our American schools…To which is added, a course of book-keeping by single entry

Philadelphia

Printed and sold by Joseph Crukshank, 1813

168mm. (4) 1–180, 1–15 (1), 1–11 (1), 1–4pp.

Endpaper inscribed *Daniel Weigner's Assistant… 1815*.

Bound in contemporary leather.

¶ The first edition of *The American tutor's assistant revised* had been published by Joseph Crukshank in 1809. The revision is sometimes credited to Zachariah Jess.

Karpinski p.98 (*q.v.* Todd); AB 27718 (*q.v.* title)

437

[TODD John 1718–1793, *et al.*]

The American tutor's assistant revised; or, a compendious system of practical arithmetic; containing the several rules of that useful science… The whole particularly adapted to the easy and regular instruction of youth in our American schools… To which is added, a course of book-keeping by single entry

Philadelphia

Printed and sold by Joseph Crukshank, 1820

172mm. 1–4, 1–180, 1–15 (1), 1–11 (1), 1–4pp.

In a contemporary leather binding(early repairs to covers).

Karpinski p.99 (*q.v.* Todd); Checklist 109 (*q.v.* title)

438

[TODD John 1718–1793, *et al.*]

A Key to the American tutor's assistant revised; in which all the examples necessary for a learner are wrought at large; and also solutions given of all the questions for exercise in the various rules. Designed principally to facilitate the labour of teachers, and assist such as have not the opportunity of a tutor's aid. By Frederic McKenney

Philadelphia

Printed by Joseph Crukshank, 1809

173mm. (4) 1–183 (1)pp., advertisements ('Books for sale by J. Crukshank') 4pp.

Inkstamp *T. Ross* on title-page; exlibris of the *Phillips Academy, Exeter, New Hampshire*.

In a contemporary leather binding (spine decayed, upper cover detached).

¶ A copyright for this *Key* prepared by Frederic McKenney was entered October 10, 1809.

Karpinski p.99; AB 17959; ERL 4840

439

[TODD John 1718–1793, *et al.*]

A Key to the American tutor's assistant revised; in which all the examples necessary for a learner are wrought at large; and also solutions given of all the questions for exercise in the various rules. Designed principally to facilitate the labour of teachers, and assist such as have not the opportunity of a tutor's aid. By Frederic McKenney

Philadelphia

Printed for Joseph Crukshank, 1817

170mm. (4) 1–182pp.

Title-page inscribed *W. Tracy*.

In a contemporary leather binding.

Karpinski p.99; AB 41320

440

TURNER Thomas

An Epitome of book-keeping by double entry; delineated on a scale suited to the faculties and comprehension of senior school boys and youth, designed for the mercantile line… To which are added, rules for keeping retail books by double entry… Also, the most easy, concise, and safe way of calculating any rate per cent. And especially that of interest at six per cent per annum

Portland, Maine

Printed by Jenks & Shirley for Thomas Clark, 1804

169mm. 1–148pp., publishers' advertisements 2pp.

Bound in contemporary leather-backed marbled paper boards.

¶ Only edition. According to the author's preface, intended for 'senior school boys and youth'.

Karpinski p.157 (title-page reproduced); AB 7396
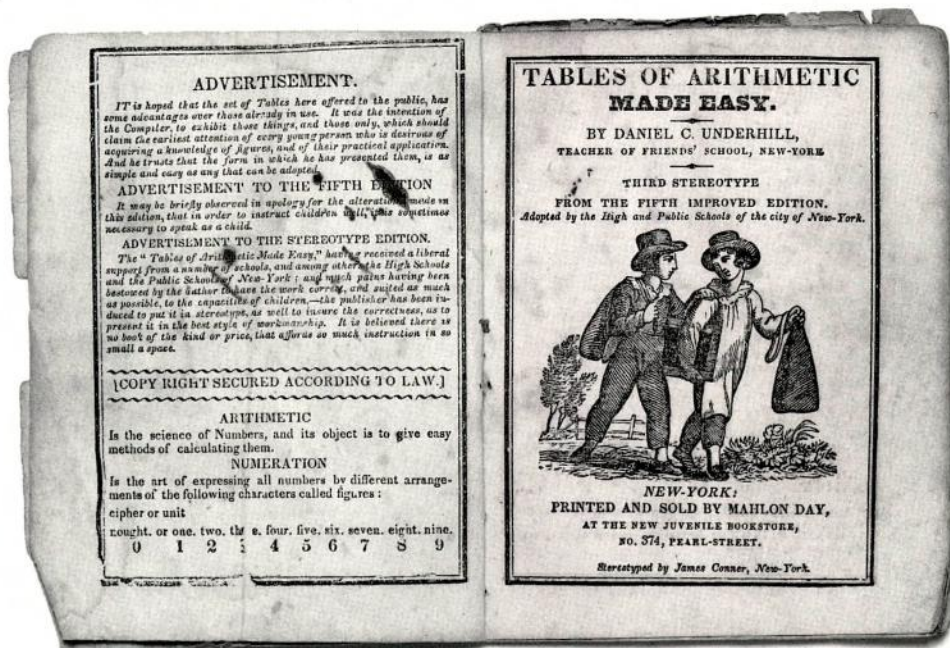
441. Daniel Underhill, *Tables of arithmetic made easy* (New York [1828])

441

UNDERHILL Daniel C.

Tables of arithmetic made easy. Third stereotype from the fifth improved edition. Adopted by the high and public schools of the city of New-York

New York

Printed and sold by Mahlon Day; Stereotyped by James Conner, 1828 (dated on cover only)

115mm. 1–23 (1)pp.

In the publisher's yellow paper wrappers, text of title-page on upper cover, advertisements ('School books, for sale by Mahlon Day') printed on lower cover (resewn at an early date).

¶ 'The earliest known copy is that of 1825; a copyright was applied for Sept. 8, 1823, and a copy deposited Dec. 9; apparently the work was actually issued several times between 1823 and 1825' (Karpinski).

Karpinski p.254; Checklist 35581; cf. BAI 55, p.295 (date given as [1828?])

See illustration above

442

UNDERHILL Daniel C.

Underhill's new table-book; or, tables of arithmetic made easier. A new edition, revised, enlarged and improved

New York

M.F.C. Marsh (C.C. Savage, Stereotyper), [undated; *circa* 1854]

150mm. 1–36pp.

Sewn, as issued.

¶ The title-page is headed 'The Arithmetical primer'. The printed copyright notice is dated 1854 and names William P. Cooledge as proprietor.

Cf. Karpinski p.254 (editions dated 1846 and 1847)

443

[VANDERBILT J.]

A Complete table-book and elementary arithmetic. In four parts. Prepared by a practical teacher of seventeen years' experience. Revised and improved by David Price… Adapted to every method of instruction. Fourth edition

New York

442. Daniel Underhill, *Underhill's new table-book* (New York *circa* 1854)

Published by Clark, Austin & Smith, 1849

152mm. 1–120pp.

Bound in leather-backed yellow paper boards, text of title-page on upper cover, advertisements printed on lower cover.

¶ The printed copyright notice is dated 1848.

Cf. Karpinski p.517 (edition with same imprint, but dated 1848)

444

VINCE Samuel 1749–1821

The Principles of fluxions: designed for the use of students in the university. The first American edition, corrected and enlarged

Philadelphia

Published by Kimber and Conrad; T. & G. Palmer, printers, 1812

215mm. (4) 1–256pp.

Endpaper inscribed *Davis Reece*.

In a contemporary leather binding, red lettering-piece (joints cracked).

¶ 'This seems to be the only work devoted exclusively to fluxions which was ever published in this country. Before the introduction of the Leibnitzian notation it was the text-book most generally used in our colleges, whenever fluxions were taught' (Cajori p.56). Vince held the position of Plumian professor of astronomy and experimental philosophy in the university of Cambridge, England.

Karpinski p.194 (title-page reproduced); AB 27405

445

VYSE Charles *fl.*1770–1815

The Tutor's guide, being a complete system of arithmetic; with various branches in the mathematics. In six parts… To which is added, an appendix, containing different forms of acquittances, bills of exchange, &c. &c. The whole being designed for the use of schools. The thirteenth edition, corrected

Philadelphia

Printed by Joseph Crukshank, *etc.*, 1806

174mm. 1–9 (1), 1–320pp.

Endpaper inscribed by *George Remsbergh… 1813*.

In a contemporary leather binding, red lettering-piece.

¶ First American edition of a popular English arithmetic originally published in 1770 (the edition number 'thirteen' refers to the whole series). Pages 276–300 are devoted to algebra, here defined as 'a kind of specious arithmetic, or an arithmetic in letters'.

Karpinski p.167; Simon pp.12–13; AB 11781

446

VYSE Charles *fl.*1770–1815

The Key to the tutor's guide; or, the arithmetician's repository containing the solutions of the questions, &c. in the tutor's guide, with references to the pages where they stand. To which are added (where necessary), some useful rules, &c. Likewise, an appendix; showing the combination of quantities; the different ways they may be varied; with the method of filling the magic squares, &c. The whole being principally designed for the ease of schoolmasters. Ninth edition; carefully revised, corrected, and augmented

Philadelphia

Printed by Joseph Crukshank, 1806

172mm. (4) 1–368pp.

Endpaper inscribed *George Remsbergh… 1813*.

In a contemporary leather binding, red lettering-piece.

¶ First American edition. 'This is the reprint of an English work which, although called a key to the *Tutor's guide*, contains sufficient original material to be a distinct publication' (Karpinski). Forty-eight pages (pp.320–368) are devoted to the elements of algebra.

Karpinski p.167 (title-page reproduced); AB 11780

447

WALKER Timothy 1802/6–1856

Elements of geometry, with practical applications, for the use of schools

Boston

Published by Richardson and Lord (E. & G. Merriam, Printers, Brookfield, Mass.), 1829

180mm. 1–15 (1), 1–104pp., six plates

Exlibris *Harvard College Library, Special Collection relating to Harvard University* overstamped *Cancelled*, acquisition stamp (October 17, 1918) and duplicate stamp on verso of title-page.

In a contemporary leather binding.

¶ The printed copyright notice is dated January 31, 1829, and the author's 'Preface' at Northampton, February 2, 1829. The author graduated Harvard 1826 and taught mathematics for the next three years in the Round Hill School, Northampton, afterwards entering Harvard Law School.

Karpinski p.308 (title-page reproduced); Checklist 41416

448

WALKER Timothy 1802/6–1856

Elements of geometry, with practical applications, for the use of schools. Second edition, improved

Boston

Published by Richardson, Lord & Holbrook; Munroe and Francis, Printers, 1829

179mm. 1–129 (1)pp., six plates
In a contemporary leather binding, black lettering-piece (covers detached).
Karpinski p.308; Checklist 41418; ERL 5340

449
WALSH Michael 1763–1840
A New system of mercantile arithmetic: adapted to the commerce of the United States, in its domestic and foreign relations; with forms of accounts, and other writings usually occurring in trade
Newburyport, Massachusetts
Printed by Edmund M. Blunt, 1801
210mm. 1–252pp., publishers' advertisements 4pp.
Ownership inscriptions *Thomas L. Batchelder.*
In a contemporary leather binding, red lettering-piece (covers detached).
¶ A copyright for this first edition was entered April 17, 1800. The author was born in Ireland, came to Massachusetts in early life, became usher at the Marblehead Academy, and in 1803 received an honorary degree from Harvard College.
Karpinski pp.137–138 (title-page reproduced); AB 1603

450
WALSH Michael 1763–1840
A New system of mercantile arithmetic, adapted to the commerce of the United States, in its domestic and foreign relations; with forms of accounts, and other writings usually occurring in trade. Second edition
Newburyport, Massachusetts
Printed by Edmund M. Blunt, 1803
180mm. 1–264pp.
In a contemporary leather binding, red lettering-piece (upper cover detached).
Karpinski p.138; AB 5530

451
WALSH Michael 1763–1840
A New system of mercantile arithmetic; adapted to the commerce of the United States, in its domestic and foreign relations; with forms of accounts, and other writings usually occurring in trade. Third edition
Newburyport, Massachusetts
Printed by E.M. Blunt, 1804
181mm. 1–274pp., advertisements 2pp.
In a contemporary leather binding, red lettering-piece.
¶ The 'Preface to the third edition' is subscribed by the publisher, Edmund Blunt, September 1804, who states that ten thousand copies have been printed.
Karpinski p.138; AB 7689

452
WALSH Michael 1763–1840
A New system of mercantile arithmetic; adapted to the commerce of the United States, in its domestic and foreign relations; with forms of accounts, and other writings usually occurring in trade. First Northampton, from third Newburyport edition
Northampton, Massachusetts
Published by S. & E. Butler; T.M. Pomroy, Printer, 1807
170mm. 1–274pp.
In a contemporary leather binding, red lettering-piece.
¶ The 'third Newburyport edition' was that published in 1804 (see item above). 'The merit of Walsh's Mercantile Arithmetic having been submitted to the public, and established by the most liberal and unequivocal encouragement, the editor feels a confidence in offering a third edition of 20,000 copies' (from the preface). The section on exchange covers eighty-one pages.
Karpinski p.140; AB 14150

453
WALSH Michael 1763–1840
A New system of mercantile arithmetic; adapted to the commerce of the United States, in its domestic and foreign relations; with forms of accounts, and other writings usually occurring in trade. Fourth edition
Newburyport, Massachusetts
Published by E. Little & Co.; C. Norris & Co. printers, 1814
173mm. 1–275 (1)pp.
In a contemporary leather binding, red lettering-piece.
¶ A copyright for this edition was entered July 21, 1814.
Karpinski p.140; AB 33568

454
WALSH Michael 1763–1840
A New system of mercantile arithmetic; adapted to the commerce of the United States, in its domestic and foreign relations; with forms of accounts, and other writings usually occurring in trade. Fourth edition
Newburyport, Massachusetts
Published by E. Little & Co.; C. Norris & Co. Printers, 1816
172mm. 1–275 (1)pp.
Loosely inserted in this copy is a written receipt 'Mr Swett to Mich. Walsh / 1829 October 21 for tuition of Nathaniel Greely to date $4.00 / Received payment / M. Walsh' (see illustration page 34).
In a contemporary leather binding, black lettering-piece.
Karpinski p.140; AB 39702

455

WALSH Michael 1763–1840

A New system of mercantile arithmetic; adapted to the commerce of the United States, in its domestic and foreign relations; with forms of accounts, and other writings usually occurring in trade. Fourth edition. To which is annexed a system of book-keeping

Salem, Massachusetts

Published by Cushing and Appleton; John D. Cushing, Printer, 1820

175mm. 1–11 (1), 1–265, 1–54pp., publishers' advertisements 4pp.

In a contemporary leather binding, black lettering-piece. ¶ This edition is augmented by a section on bookkeeping. Karpinski p.140; Checklist 4157; Harriet S. Tapley, *Salem imprints 1768–1825* (Salem 1927), p.461

456

WATSON Thomas *et al.*

The Youth's arithmetical guide: being a compendious system of practical questions in arithmetic, designed for the instruction of youth. By Thomas Watson, Daniel Jaudon, and Stephen Addington

Philadelphia

Printed for the authors, D. Hogan, Printer, 1805

178mm. 1–116pp.

In a contemporary cloth binding of amateur workmanship. ¶ The printed copyright notice in this first edition is dated June 6, 1805.

Karpinski p.159 (title-page reproduced); AB 9692

457

WEBBER Samuel 1759–1810

A System of arithmetic, reprinted from the mathematical text-book compiled by the late President Webber, for the use of the university at Cambridge

Cambridge, Massachusetts

Published and sold by William Hilliard; Hilliard & Metcalf, printers, 1812

205mm. 1–248pp.

In a contemporary leather binding, black lettering-piece. ¶ First edition of an extract from the author's two-volume *Mathematics* (Boston 1801). The publisher's 'Advertisement' is dated April 1, 1812.

Karpinski p.194; AB 27492; ERL 5130

458

WEISBACH Julius 1806–1871

Principles of the mechanics of machinery and engineering. First American edition, edited by Walter R. Johnson

Philadelphia

Lea and Blanchard (T.K. and P.G. Collins, Printers), 1848–1849

246mm. Two volumes: 1–15, 25–486 (2); 1–16, 13–368pp. including frontispiece, advertisements ('Catalogue of Blanchard and Lea's publications, June 1852') 1–16pp. Printed label in each volume *Geo. W. Hillman, Tennessee Rolling Works* and inscription *Presented to Mr William George by Geo. W. Hillman March 2nd, 1859.*

In the publishers' embossed cloth bindings.

¶ An English version of *Lehrbuch der Ingenieur- und Maschinen Mechanik*, originally published at London in 1847. The American editor was Walter Rogers Johnson (1794–1852). The copyright was entered April 6, 1848 (volume I).

Karpinski pp.517–518

459

WELCH Oliver

The American arithmetic, adapted to the currency of the United States. To which is added a concise treatise on the mensuration of planes and solids. Compiled for the use of schools, &c.

Exeter, New Hampshire

Printed by C. Norris & Co., 1812

170mm. 1–231 (1)pp.

Bound in contemporary leather-backed wooden boards, sides covered by blue paper (upper cover cracked).

¶ The printed copyright notice in this first edition is dated July 13, 1812.

Karpinski p.196 (title-page reproduced); AB 27511

460

WELCH Oliver

The American arithmetic, adapted to the currency of the United States. To which is added a concise treatise on the mensuration of planes and solids. Compiled for the use of schools, &c. Second edition, revised, corrected and improved

Exeter, New Hampshire

Printed by C. Norris & Co., 1814

170mm. 1–228pp.

Endpaper inscribed *Gardiner Gilman 1829.*

Bound in contemporary leather-backed wooden boards, sides covered by marbled paper (covers worn).

Karpinski p.196; AB 33640

461

WELCH Oliver

The American arithmetic, adapted to the currency of the United States. To which is added a concise treatise on the mensuration of planes and solids. Compiled for the use of schools, &c. Fourth edition

Exeter, New Hampshire
Printed and published by Samuel T. Moses, 1821
168mm. 1–227 (1)pp.
Bound in contemporary leather-backed wooden boards, sides covered by blue paper (front joint cracked).
Karpinski p.196; Checklist 7623

462
WELCH Oliver
American arithmetic, adapted to the currency of the United States. To which is added a concise treatise on the mensuration of planes and solids… Improved and illustrated with questions adapted to the rules, for the use of schools and academies. By an experienced teacher [Anson Wrifford]
Boston
Lincoln, Edmands, & Co.; Cincinnati: Hubbard & Edmands, 1833
164mm. 1–234pp.
Endpaper inscribed *Alfred Hicks.*
Bound in contemporary leather-backed blue paper boards, text of title-page on upper cover, advertisements ('Recommendations to Welch's American Arithmetic, revised') printed on lower cover.
¶ A copyright for this new edition by Anson Wrifford was entered November 1, 1833. The title-page is headed 'Welch's improved'. The initial twenty-two pages provide 'First lessons in arithmetic'.
Karpinski p.196; Checklist 22586

463
WELCH Oliver
American arithmetic, adapted to the currency of the United States. To which is added a concise treatise on the mensuration of planes and solids… Improved and illustrated with questions adapted to the rules, for the use of schools and academies. By an experienced teacher [Anson Wrifford]
Concord, New Hampshire
Published by Oliver L. Sanborn, 1838
165mm. 1–22, 5–218pp. (complete)
Ownership inscriptions of *John L. Burnham.*
Bound in leather-backed blue paper boards, text of title-page (but with imprint: Portland, Published by O.L. Sanborn & Co., 1841) on upper cover, advertisements printed on lower cover.
Karpinski p.196; Checklist 53560

464
WELCH Oliver
American arithmetic, adapted to the currency of the United States. To which is added a concise treatise on the

mensuration of planes and solids… Improved and illustrated with questions adapted to the rules, for the use of schools and academies. By an experienced teacher [Anson Wrifford]
Portland, Maine
Sanborn, Sherburne & Co., 1841
167mm. 1–22, 5–218pp. (complete)
Bound in leather-backed blue paper boards, text of title-page (but with imprint: Published by P.H. Sherburne, 1842) on upper cover, advertisements ('Recommendations to Welch's American Arithmetic Revised') printed on lower cover.
Karpinski p.196 (recording editions dated both 1841 and 1842); not traced in Checklist

465
WELCH Oliver
American arithmetic, adapted to the currency of the United States. To which is added a concise treatise on the mensuration of planes and solids… Improved and illustrated with questions adapted to the rules, for the use of schools and academies. By an experienced teacher [Anson Wrifford]
Portland, Maine
Sanborn & Carter, 1847
176mm. 1–22, 5–250pp.
Bound in leather-backed blue paper boards, text of title-page on upper cover (but dated 1848), advertisements ('School Books, published by Sanborn & Carter') printed on lower cover (joint cracked, shaken).
¶ The copy examined by Karpinski (American Antiquarian Society) contained ten pages of advertisements bound after p.250.
Karpinski p.196 (title-page reproduced)

466
WHITE John 1786–1857
A Practical system of mental arithmetic, or a new method of making calculations by the action of the mind, without pen, ink, pencil, or paper… designed for the man of business, the illiterate as well as the scholar… equally advantageous for the use of schools, and the private teacher
Philadelphia
Printed by D. Heartt for the author, 1818
232mm. 5–12 (6) 13–118pp., advertisements ('Just published by the same author') 2pp.
In the publisher's blue paper wrappers, text of title-page on upper cover, advertisements printed on lower cover.
¶ The printed copyright notice in this first edition is dated April 15, 1818, and the author's 'Preface' August 1818.
Karpinski p.223 (title-page reproduced); AB 46791

467

WHITE John J. 1771–1832

Arithmetic simplified: being a plain, practical system, adapted to the capacity of youth, and designed for the use of schools, in the United States. In two parts. Second edition

Hartford, Connecticut

Printed by Geo. Goodwin and Sons, 1819

174mm. 1–12, 1–332pp.

Bound in contemporary leather-backed marbled paper boards.

¶ The first edition had been printed at Hartford in 1818. In a 'Preface to the Second edition' the author explains the differences between his system and those in general use (pp.vii–ix).

Karpinski p.226; AB 50102; ERL 5167 (part I only)

468

WHITE John J. 1771–1832

A Collection of the most useful arithmetical tables… Superseding entirely the necessity of pupils in common schools, making use of any other arithmetic. To which is added, a perpetual almanack. Making in the whole, a useful pocket companion

Hartford, Connecticut

Printed and sold by Hale and Hosmer, 1812

142mm. 1–72pp.

Endpaper inscribed *Sabrina Sedgwick 1813*.

Bound in contemporary leather-backed marbled paper boards.

¶ Two previous editions had appeared, in 1803 and 1810. The printed copyright notice in the present edition is dated November 19, [1812].

Karpinski p.152; AB 27536

469

WHITE John J. 1771–1832

A Collection of the most useful arithmetical rules and tables; among which are, monies of account in most foreign commercial countries – their exchanges – value of their exchanges in federal money – rules for reducing federal money to other monies – and vice versa – superseding entirely the necessity of pupils in common schools, making use of any other arithmetic. To which is added, a perpetual almanac, making in the whole a useful pocket companion

Hartford, Connecticut

Published by Oliver D. Cook, *etc.*; Printed by C. Hosmer, 1815

139mm. 1–72pp.

In the publisher's tan paper wrappers, 'White's arithmetical rules & tables. Fourth edition' and imprint on upper

cover, advertisements ('For sale by Oliver D. Cooke [*sic*]') printed on lower cover.

Karpinski p.152; AB 36562

470

WILKINSON William 1760–1852

The Federal calculator, and American ready reckoner. Containing, federal arithmetic, the value of any number of yards, pounds &c. from 1 to 1000, and from 1 mill to 1 dollar, tables of interest, value of cents in the currencies of the different states, value of gold, as now established by law in the United States, &c.

Providence, Rhode Island

Printed by Carter and Wilkinson, 1795

180mm. 1–64pp.

Bound in contemporary leather-backed marbled paper boards.

¶ First edition. In his 'Introduction' (dated at Providence, September 19, 1795), the author claims not to have seen 'several works of a similar nature' and continues: 'The Calculations are entirely original, as far as in their Nature they can be, not having been copied from any other Work, either American or British'. Karpinski, however, considers 'This title is practically an edition of the Fenning *Ready Reckoner*'.

Karpinski p.113 (title-page reproduced); SM 29892; Alden 1453; Batschelet 619

471

[WILLARD Samuel 1776–1859]

The General class-book, or, interesting lessons in prose and verse, on a great variety of subjects; combined with an epitome of English orthography and pronunciation. And intended as the third book in a course of reading for the use of schools. Tenth edition

Greenfield, Massachusetts

A. Phelps; Boston: Carter, Hendee and Co., *etc.*, 1833

150mm. 1–323 (1)pp.

In original leather-backed tan paper boards, text of title-page (but undated) on upper cover, advertisements printed on lower cover (upper cover detached).

¶ The author graduated Harvard 1803, afterwards taught at Phillips Academy, Exeter; Bowdoin College; schools in Hingham and Deerfield (*DAB*, XX, p.238). Geometry is treated pages 140–143.

Cf. Checklist 22665 (ninth edition), 29750 (eleventh edition); not considered by Karpinski

472

WILLETTS Jacob 1785–1860

The Scholar's arithmetic, designed for the use of schools in the United States. Fourth edition, corrected and improved

Poughkeepsie, New York
Printed and published by Paraclete Potter; Stereotyped by H. Wallis, New York, 1822
180mm. 1–191 (1)pp.
In a contemporary leather binding (upper cover detached). ¶ The first edition had been published at Poughkeepsie in 1816. The preliminary 'Advertisement to the stereotype edition' is dated February 1822. The author was educated at the Friends' Boarding School, near Mechanic, Dutchess County, New York, and on his eighteenth birthday became its head teacher. He later taught on Nantucket, where he conducted a flourishing school. In 1824 he returned to Dutchess County and established a school near Mechanic (Greenwood & Martin).
Karpinski p.208 (title-page reproduced); Checklist 11430

473
WILLETTS Jacob 1785–1860
A Key to Willetts' arithmetic, wherein every question is worked out at full length, in a short and comprehensive manner
Poughkeepsie, New York
Printed and published by Paraclete Potter, 1824
173mm. (2) 5–328pp.
In a contemporary leather binding, red lettering-piece. ¶ No earlier edition of this *Key* was known to Karpinski.
Karpinski p.209; Checklist 19285

474
WILLETTS Jacob 1785–1860
Key to Willett's mental and practical arithmetic; solely designed for the use of teachers
Poughkeepsie, New York
Printed and published by William Wilson; New York: Robinson, Pratt, & Co., 1841
177mm. 1–241 (1)pp.
Bound in leather-backed tan paper boards, text of title-page on upper cover (but dated 1846), advertisements ('The following School Books are published by William Wilson') printed on lower cover.
¶ The author's 'Preface' is dated at Poughkeepsie, July 1841, and the printed copyright notice, 1841.
Checklist 41/5539; not listed by Karpinski (cf. p.209)

475
YOUNG Alexander 1800–1854
A Discourse on the life and character of the Hon. Nathaniel Bowditch… delivered in the church on Church Green, March 25, 1838
Boston
Charles C. Little and James Brown (Printed by Freeman and Bolles), 1838

228mm. 1–119 (1)pp.
Ownership inscriptions *E.C. Herrick, New Haven* with annotation 'Received June 11, 1838'.
In the publisher's brown paper wrapper, upper cover printed 'Mr. Young's Discourse on the life and character of Dr. Bowditch'.
¶ First edition of this memoir by an overseer of Harvard College (1837–1853) and antiquarian, sometime Secretary of the Massachusetts Historical Society. The title-page is headed 'The varieties of human greatness'. The owner, Edward Claudius Herrick (1811–1862), bookstore proprietor, became in 1843 librarian of Yale College (*DAB*, VIII, p.586).
Karpinski p.408 (title-page reproduced); Checklist 53777

476
YOUNG John Radford 1799–1885
The Elements of mechanics, comprehending statics and dynamics. With a copious collection of mechanical problems. Intended for the use of mathematical students in schools and universities… Revised and corrected by John D. Williams
Philadelphia
Carey, Lea & Blanchard (Stereotyped by L. Johnson), 1834
215mm. 1–258pp., twelve plates, advertisements (2) 1–4pp.
In a contemporary blue cloth binding, printed lettering-piece on spine (cloth faded).
¶ First American edition. The author's 'Preface' is dated April 10, 1832, and the printed copyright notice 1834.
Karpinski p.370 (title-page reproduced); Checklist 29866

477
YOUNG John Radford 1799–1885
The Elements of mechanics, comprehending statics and dynamics. With a copious collection of mechanical problems. Intended for the use of mathematical students in schools and universities… Revised and corrected by John D. Williams
Philadelphia
Hogan and Thompson (Stereotyped by L. Johnson), 1839
224mm. 1–258pp., twelve plates
Label on pastedown of the bookseller W.A. Leary, Philadelphia.
In a contemporary leather binding, black lettering-piece.
Karpinski p.370; Checklist 59386

478
YOUNG John Radford 1799–1885
The Elements of the analytical geometry; comprehending the doctrine of the conic sections, and the general theory of curves and surfaces. Revised and corrected by John D. Williams

Philadelphia
Carey, Lea & Blanchard, 1833
213mm. 1–288pp.
Ownership inscriptions and inkstamp *Jos. Roberts Jr*; also inscribed *Edgar Haas*.
Bound in contemporary blue cloth, printed lettering-piece.
¶ First American edition. The revisor's 'Advertisement to the American edition' is dated August 1833.
Karpinski p.354 (title-page reproduced); Checklist 22774

479

YOUNG John Radford 1799–1885
The Elements of the differential calculus; comprehending the general theory of curve surfaces, and of curves of double curvature. Intended for the use of mathematical students in schools and universities... Revised and corrected by Michael O'Shannessy
Philadelphia
Carey, Lea & Blanchard (Printed by G.F. Hopkins & Son, New York), 1833
228mm. 1–20, 1–255 (1)pp.
Exlibris *Franklin & Marshall College* overstamped *Withdrawn*.
In a contemporary blue cloth binding.
¶ First edition. The publishers' 'Advertisement' is dated March 1833 and the printed copyright notice March 6, 1833.
Karpinski p.354 (title-page reproduced); Checklist 22777

480

YOUNG John Radford 1799–1885
The Elements of the integral calculus; with its applications to geometry and to the summation of infinite series. Intended for the use of mathematical students in schools and universities. Revised and corrected, by Michael O'Shannessy
Philadelphia
Carey, Lea & Blanchard (Printed by G.F. Hopkins & Son, New York), 1833
233mm. 1–13 (3), 1–292pp., advertisements 12pp.
Bookseller's label *Sold by J. Hutchens No. 1 Market St.*; endpaper inscribed *A.W. Longfellow... 1875*.
Bound in contemporary blue cloth, printed lettering-piece on spine (cloth faded).
¶ First edition. The publisher's 'Advertisement' is dated May 7, 1833, and the printed copyright notice May 9, 1833.
Karpinski p.356 (title-page reproduced); Checklist 22778; ERL 5390

481

YOUNG John Radford 1799–1885
Mathematical tables; comprehending the logarithms of all numbers from 1 to 36,000; also the natural and logarithmic sines and tangents; computed to seven places of decimals, and arranged on an improved plan; with several other tables, useful in navigation and nautical astronomy, and in other departments of practical mathematics. Revised and corrected by J.D. Williams
Philadelphia
Carey, Lea, & Blanchard, 1833
200mm. 3–23 (1)pp. (complete), 1–200pp.
Bound in contemporary leather-backed marbled paper boards (leather worn away from spine, upper cover detached).
¶ The author's 'Preface to the tables' is dated January 1, 1833.
Karpinski p.357; Checklist 22779

482

YOUNG John Radford 1799–1885
Mathematical tables; comprehending the logarithms of all numbers from 1 to 36,000; also the natural and logarithmic sines and tangents; computed to seven places of decimals, and arranged on an improved plan; with several other tables, useful in navigation and nautical astronomy, and in other departments of practical mathematics. Revised and corrected by J.D. Williams
Philadelphia
Published by E.H. Butler & Co. (Printed by C. Sherman and Co.), 1848
210mm. (2 blank) 3–23 (1), 1–200pp.
In a contemporary leather binding (leather decayed, front joint broken).
Karpinski p.357

483

YOUNG William B.
An Arithmetical dictionary, or book of reference: comprising a system of practical tables... Likewise embracing a system of practical arithmetic, containing a few of the most important and convenient rules for stating and working proportion, or rule of three, practice, &c., with numerous examples, showing the use of the tables to serve as a guide to practical business. Twentieth edition
New York
Caspar C. Childs (S.W. Benedict & Co.), 1848
223mm. 1–14, (12), 1–4, 1–220, 1–6, 1–4 (6)pp.
In a contemporary embossed leather binding (covers detached).
¶ 'An "arithmetical dictionary", which is, actually, a set of tables involving fractions' (Karpinski), first printed in 1844. Although the title-page proclaims 'Twentieth edition',

among the preliminaries is printed an undated 'Preface to the twenty-eighth edition'.
Karpinski p.468 (title-page reproduced)

484
YOUNG William B.

The Practical interest calculator; or, book of interest; showing the simple interest (ready calculated) on any number of dollars, from \$1 to \$1080, inclusive, at the rates of 6, 7, 8, 10, and 12½ per cent., for any length of time, from one day to three years (more or less)
Cincinnati
Published for the author, by E. Morgan & Co., 1850
225mm. 1–11 (1), 7–50 (2) 51–79 (1)pp. (evidently complete)
In a contemporary embossed leather binding, upper cover lettered 'Young's Book of Interest' in gilt.
Cf. Karpinski p.549, describing and reproducing title-page of another edition of this date

Textbooks of Natural Philosophy
Astronomy – Mathematical Geography
Civil Engineering

A1
BARTLETT William Holmes Chambers 1804–1893
Elements of Natural Philosophy. Section I. Mechanics
New York
Published by A.S. Barnes and Company; Cincinnati: H.W. Derby and Company (Stereotyped by Billin & Brothers... New York; P.C. Gutierrez, Printer), 1850
230mm. 1–632pp.
Endpaper inscribed *From the Publishers*; ink stamp on title-page and elsewhere *Analytical Library*.
In the publishers' brown decorated cloth binding.
¶ The first part of three of a course of natural philosophy, including astronomy, here in its first edition. 'It is intended to be complete within itself, and to have no necessary dependence, for the full comprehension of its contents, upon those which are to follow' (Preface). The work was reprinted in 1851, 1852, 1855, 1859, 1863, 1866, 1867, 1872 (cf. BAI 43, p.372).
Not considered by Karpinski

A2
BLAIR David
An Easy grammar of natural and experimental philosophy. For the use of schools. With ten engravings. Fifth edition
Philadelphia
Published by Solomon W. Conrad, 1821
141mm. 1–160pp., advertisements ('School Books &c. published by Solomon W. Conrad') 2pp., ten plates (including frontispiece)
Endpapers inscribed *Calvin Daggett Owner April 12th 1822* and *H.C. Daggett from his Uncle Calvin April 9th 1880*.
Bound in contemporary leather (upper cover detached).
¶ Although without chapters on strictly mathematical topics, this work includes sections on mechanics and optics, with pages 120–150 occupied by 'Questions and other exercises'. 'David Blair' may be a pseudonym of Richard Phillips (1767–1840).
Checklist 6473; not considered by Karpinski

A3
BLAKE John Lauris 1788–1857
First book in astronomy, adapted to the use of common schools. Illustrated with steel plate engravings. Stereotype edition, with additions and improvements
Boston
Gould, Kendall and Lincoln, 1839

216mm. 1–120pp., eight plates
Bound in cloth-backed blue paper boards, text of title-page on upper cover, advertisements printed on lower cover (hinges broken, back reinforced with adhesive tape).
Checklist 54511; not considered by Karpinski

A4
COMSTOCK John Lee 1789–1858
A Treatise on mathematical and physical geography. Intended for the use of schools, academies, and general readers
Hartford, Connecticut
Packard and Brown (Printed by Case, Tiffany & Co.), 1837
190mm. 1–8, 13–309 (1)pp. (evidently complete)
Bound in contemporary leather.
¶ The author's preface and the printed copyright notice are dated 1837.
Checklist 43817; not considered by Karpinski

A5
ENFIELD William 1741–1797
Institutes of natural philosophy, theoretical and practical. First American from the second London edition, with some corrections; change in the order of branches; and the addition of an appendix to the astronomical part, selected from Mrs. Ewing's Practical astronomy. By Samuel Webber. The introduction to the First principles of chemistry being made an appendix
Boston
Isaiah Thomas and Ebenezer T. Andrews, 1802
255mm. 1–16, 1–428, 1–20pp.
In a contemporary leather binding (upper cover detached, lower cover lacking).
¶ First American edition, edited by Samuel Webber (1759–1810). 'The difficulty which I met with, in providing my classes [in the Warrington Academy] with a text-book in natural philosophy… first suggested the idea of this work' (from the editor's 'Preface').
AB 2190; not considered by Karpinski

A6
ENFIELD William 1741–1797
Institutes of natural philosophy, theoretical and practical. With some corrections; change in the order of the branches; and the addition of an appendix to the astronomical part, selected from Mr. Ewing's practical astronomy. By Samuel Webber. Second American edition
Boston
Published by Thomas and Andrews; J.T. Buckingham, printer, 1811
260mm. 1–16, 1–428pp., fifteen plates

Title-page inscribed *Richard Hubbard*.
In a contemporary leather binding, red lettering-piece (covers detached).
AB 22766; not considered by Karpinski

A7
ENFIELD William 1741–1797
Institutes of natural philosophy, theoretical and practical. With some corrections; change in the order of the branches; and the addition of an appendix to the astronomical part, selected from Mr. Ewing's practical astronomy. By Samuel Webber. Fourth American edition, with improvements
Boston
Published by Cummings, Hilliard, & Co.; University Press, Hilliard & Metcalf, 1824
266mm. 1–27 (1), 1–293 (1)pp., thirteen plates (of sixteen)
Endpaper inscribed *Ira Young 1828*.
In a contemporary leather binding (covers detached).
¶ Issued under the copyright of the third edition (1819).
Checklist 16061; not considered by Karpinski

A8
ENFIELD William 1741–1797
Institutes of natural philosophy, theoretical and practical. With some corrections and change in the order of branches. By Samuel Webber. Fifth American edition, with improvements
Boston
Hilliard, Gray, Little, and Wilkins, 1832
232mm. 1–18, 1–216pp., sixteen plates
Bound in contemporary cloth-backed paper boards.
Checklist 12296; not considered by Karpinski

A9
FARRAR John 1779–1853
An Elementary treatise on astronomy, adapted to the present improved state of the science, being the fourth part of a course of natural philosophy, compiled for the use of the students of the university at Cambridge, New England
Cambridge, Massachusetts
Printed by Hilliard, Metcalf, and Co., 1827
235mm. 1–7 (1), 1–420pp., eight plates
Endpaper inscribed *D.S. Brainerd*.
Bound in contemporary blue paper boards, printed label on spine 'Cambridge Physics. Astronomy' (back abraded, upper cover detached).
¶ 'The following treatise was selected from Biot's *Traité Elémentaire d'Astronomie Physique*, 2d edition, printed at Paris in 1811' (from the prefatory 'Advertisement').
Checklist 28856; not considered by Karpinski

A10

FERGUSON James 1710–1776

Astronomy explained upon Sir Isaac Newton's principles, and made easy to those who have not studied mathematics. To which are added, a plain method of finding the distances of all the planets from the sun... An account of Mr. Horrox's observation of the transit of Venus... and of the distances of all the planets from the sun. The first American edition, from the last London edition; revised, corrected, and improved, by Robert Patterson

Philadelphia

Printed for and published by Matthew Carey, 1806

216mm. I–4, I–23 (3), I–503 (15)pp., frontispiece and seventeen plates

In a contemporary leather binding, red lettering-piece (covers detached).

AB 10405; ERL 5685; not considered by Karpinski

A11

FISCHER Ernst Gottfried 1754–1831

Elements of natural philosophy. Translated into French with notes and additions, by M. Biot... and now translated from the French into English for the use of colleges and schools in the United States. Edited by John Farrar

Boston

Hilliard, Gray, Little, and Wilkins (Cambridge. Hilliard, Metcalf, and Company, Printers to the University), 1827

215mm. I–9 (I), I–344 (2)pp., five plates

Exlibris and blindstamp of *Wesleyan University Library*.

In a contemporary leather binding.

Checklist 28881; not considered by Karpinski

A12

HEDGE Levi 1766–1844

Elements of logick; or a summary of the general principles and different modes of reasoning

Cambridge, Massachusetts

Printed at the University Press by Hilliard and Metcalf, 1816

175mm. I–202pp.

Endpaper stamped and inscribed *A.D. Foster 1817*.

In a contemporary leather binding (front cover detached).

¶ The author was professor of metaphysics and logic in Harvard College. The printed copyright notice in this first edition is dated May 29, 1816. The work passed through at least nine editions (latest Buffalo 1850).

AB 37823; not considered by Karpinski

A13

KEITH Thomas 1759–1824

A New treatise on the use of the globes; or, a philosophical view of the earth and heavens: comprehending an account of the figure, magnitude, and motion of the earth... Preceded by an extensive selection of astronomical and other definitions... Designed for the instruction of youth. First American, from the last improved English edition

New York

Published by Samuel Whiting & Co. and Samuel Wood; S. Wood, Printer, 1811

210mm. I–18, I–346pp., five plates

Multiple ownership inscriptions of *James Pemberton Morris... 1812*.

In a contemporary leather binding (front cover nearly detached).

AB 23143; not considered by Karpinski

A14

KEITH Thomas 1759–1824

A New treatise on the use of the globes, or, a philosophical view of the earth and heavens: comprehending, an account of the figure, magnitude, and motion of the earth... Preceded by an extensive selection of astronomical and other definitions... Designed for the instruction of youth. The third American, from the last London improved edition

New York

Published by Samuel Wood & Sons; Baltimore: Samuel S. Wood & Co., 1819

217mm. I–16, I–352pp. (*i.e.*, 353, p.296 being repeated) (I)pp., five plates

In a contemporary leather binding, black lettering-piece.

AB 48409; not considered by Karpinski

A15

MCINTIRE James 1799–1879

A New treatise on the use of the globes, with notes and observations; containing an extensive collection of the most useful problems, illustrated by a suitable variety of examples. Designed for the use of schools and academies

Baltimore, Maryland

Published by John J. Harrod; John D. Toy, Printer, 1823

161mm. I–220pp.

Endpaper inscribed *Alexander Longfellow, Portland 1824* and title-page *Alex. W. Longfellow from Eugene Wild*.

In a contemporary leather binding (covers detached).

¶ The printed copyright notice is dated January 6, 1823 and the author's 'Preface' January 1823.

Checklist 13179; not considered by Karpinski

A16

MAHAN Dennis Hart 1802–1871

An Elementary course of civil engineering, for the use of the cadets of the United States' Military Academy

New York

Wiley and Putnam (Printed by William Osborn), 1837

233mm. 1–26, (2) 1–310pp., fourteen plates

In old brown paper boards, replacing an earlier binding.

¶ The printed copyright notice is dated 1837 and the author's dedication June 1, 1837.

Checklist 45343; not considered by Karpinski

A17

[MARCET Jane (Haldimand) 1769–1858]

Conversations on natural philosophy, in which the elements of that science are familiarly explained, and adapted to the comprehension of young pupils. Illustrated with plates… Improved by appropriate questions, for the examination of scholars; also by illustrative notes, and a dictionary of philosophical terms. By Rev.J[ohn] L[auris] Blake. Boston stereotype edition

Boston

Printed and published by Lincoln & Edmands, 1830

187mm. 1–252pp., frontispiece ('Blake's Improved edition of Conversations on Philosophy') and twenty-three plates

Ownership inscription on endpaper *Miss Sarah Adaline Howd's Book Durham June 20th 1832.*

In a contemporary leather binding, red lettering-piece 'Blake's Natural Philosophy' (front joint cracked).

¶ The first edition of Blake's revision was published at Philadelphia in 1830 (Checklist 2389). An edition with imprint 'Boston, Lincoln and Edmands, 1831' is Checklist 8133, but the present edition dated 1830 is unrecorded there. New editions appeared in 1839 and 1841.

Not considered by Karpinski

A18

NORTON William Augustus 1810–1883

An Elementary treatise on astronomy. In four parts. Containing a systematic and comprehensive exposition of the theory, and the more important practical problems… Designed for use as a text-book in colleges and academies

New York

Published by Wiley & Putnam, *etc.*(J.P. Wright, Printer), 1839

226mm. 1–16, 1–373 (3), 1–112pp., eight plates

Endpapers inscribed *Tristam Burges Jr. Providence* and *J.N. Husted [?]… 1844*; title-page blindstamped *Wesleyan University Library.*

In a contemporary leather binding, black lettering-piece (lower cover missing).

Checklist 57621; not considered by Karpinski

A19

OLMSTED Denison 1791–1859

An Introduction to natural philosophy: designed as a text book, for the use of the students in Yale College. In two volumes [volume II of two, only]

New Haven, Connecticut

Published by Hezekiah Howe & Co., 1832

225mm. 1–2 (2) 3–10, 1–352pp.

In a contemporary leather binding.

¶ This work superseded Enfield's *Institutes of natural philosophy* (see item nos.A5–A8). In this second volume, pneumatics, electricity, magnetism, and optics, are treated. The author's 'Advertisement' is subscribed Yale College, August 15, 1832.

Checklist 14062; not considered by Karpinski

A20

OLMSTED Denison 1791–1859

Rudiments of natural philosophy and astronomy: designed for the younger classes in academies, and for common schools. With numerous engravings illustrative of philosophical experiments

New Haven, Connecticut

Published by S. Babcock, 1844

157mm. (2) 7–292pp. (complete), frontispiece (all other illustrations printed with text)

Endpapers inscribed *S.B. Little.*

In a contemporary leather-backed embossed cloth binding.

¶ This work was intended for 'an intelligent scholar, of either sex, from twelve to sixteen years of age' (author's preface).

Checklist 44/4725; not considered by Karpinski

A21

OSTRANDER Tobias

The Planetarium, and astronomical calculator, containing the distances, diameters, periodical and diurnal revolutions of all the planets in the solar system… For the use of schools, academies, and private learners

New York

M'Elrath, Bangs, & Herbert; Stereotyped by J.S. Redfield & Co., 1833

227mm. 1–236pp., frontispiece and eight plates

Bound in leather-backed yellow paper boards, text of the title-page on front cover (but dated 1834), advertisements printed on lower cover (joints cracked).

¶ The printed copyright notice is dated 1833.

Checklist 20534; not considered by Karpinski

A22

PILKINGTON James

The Artist's guide and mechanic's own book, embracing the portion of chemistry applicable to the mechanic arts, with abstracts of electricity, galvanism, magnetism, pneumatics, optics, astronomy, and mechanical philosophy. Also mechanical exercises in iron, steel, lead, zinc, copper, and tin soldering: and a variety of useful receipts, extending to every profession and occupation of life; particularly dyeing, silk, woollen, cotton and leather

New York

Published by Alexander V. Blake, 1845

185mm. 1–490pp. including frontispiece

Endpaper inscribed *Wm A. Chafrin Jr, Greensboro.*

In a contemporary leather binding (spine decayed, joints split).

¶ Formerly printed as *The Artist's and mechanic's repository* in 1839. A copyright for *The Artist's guide and mechanic's own book* was entered 1841.

Not considered by Karpinski

A23

RENWICK James 1790–1863

Outlines of natural philosophy; being the heads of a course of lectures, delivered in Columbia College, New York. Vol. I [only, of two]

New York

Printed by C.S. van Winkle, 1822

233mm. 1–227 (1)pp.

Presentation inscription from the author on title-page; exlibris *Wesleyan University Library.*

In a contemporary leather binding (spine decayed, covers detached).

¶ First edition.

Checklist 10088; cf. Karpinski p.277, listing only third edition dated 1826

A24

ROGERS Patrick Kerr 1776–1828

An Introduction to the mathematical principles of natural philosophy, adapted to the use of beginners; and arranged more particularly for the convenience of the junior students of William & Mary College, Virginia

Richmond, Virginia

Shepherd & Pollard, Printers, 1822

215mm. 1–144pp., interleaved for the readers's notes and calculations

Bound in leather-backed marbled paper boards, red lettering-piece.

¶ Only edition. The entry in the BAI 18, p.279, suggests the whole edition was published interleaved.

Checklist 10133; not considered by Karpinski

A25

SGANZIN Joseph Mathieu 1750–1837

An Elementary course of civil engineering. Translated from… the third French edition with notes and applications adapted to the United States. Second edition

Boston

Hilliard, Gray, Little, and Wilkins (T.R. Marvin, Printer), 1828

227mm. 1–8, 1–232pp., six plates

Bound in contemporary cloth-backed tan paper boards.

¶ This translation of *Programme ou resumé des leçons d'un cours de construction* (Paris 1821) had been first printed at Boston in 1827. The 'Preface to the second edition' is dated by the translator at Boston, August 1828.

Checklist 35156; not considered by Karpinski

A26

VINCE Samuel 1749–1821

The Elements of astronomy: designed for the use of students in the university. The first American edition, corrected and enlarged

Philadelphia

Published by Kimber and Conrad; T. & G. Palmer, printers, 1811

212mm. (4) 1–242pp., one plate (uncorrected and corrected settings of pp.53–54 bound in)

Multiple ownership inscriptions of *W.P. Pickett*, variously dated *1878, 1885.*

In a contemporary leather binding.

¶ The advertisement printed before the work is subscribed 'E.L., New Garden, 5th mo. 1811'.

AB 24348; this work not considered by Karpinski

A27

WILBUR Hervey 1786–1852

Elements of astronomy, descriptive and physical; in which the general phenomena of the heavenly bodies and the theory of the tides are familiarly explained… The work is… intended for schools, academies, seminaries for young ladies, lyceums, and for private reading. Second edition, with an appendix of problems on the globes and useful tables

New Haven, Connecticut

Published by Durrie and Peck, 1830

147mm. 1–144pp., frontispiece and seven plates

Bound in contemporary leather-backed marbled paper boards.

¶ The author's 'Dedication' and the printed copyright notice are dated August 18, 1829. No other edition is listed in BAI (56, p.224).

Checklist 5664; not considered by Karpinski

INDEX OF PRINTING PLACES

(DATES IN *italics* ARE INFERRED OR APPROXIMATE)

Publications Available

Catalogues

Catalogue One. Out of print

Catalogue Two: *Books, Prints & Drawings 1487–1842. Italian Baroque Medals*
(246 × 189mm) 208pp. 15 four-colour, 91 black and white illustrations
Issued January 1993
Price £ 25

Catalogue Three: *Illustrated and Other Rare Books, 16th–19th centuries*
(246 × 189mm) 228pp. 30 four-colour, 160 black and white illustrations
Issued November 1995
Price £ 25

Lists

Lists I-XII, XIV. Out of print

List XIII: *Continental Printed Books including Science and Medicine*
(246 × 189mm) 88pp. 26 black and white illustrations
Issued June 1996
Price £ 10

List XV: *American Mathematical Textbooks 1760–1850*
(246 × 189mm) 144pp. 33 black and white illustrations
Issued 1997
Price £ 20

Robin Halwas

List XV