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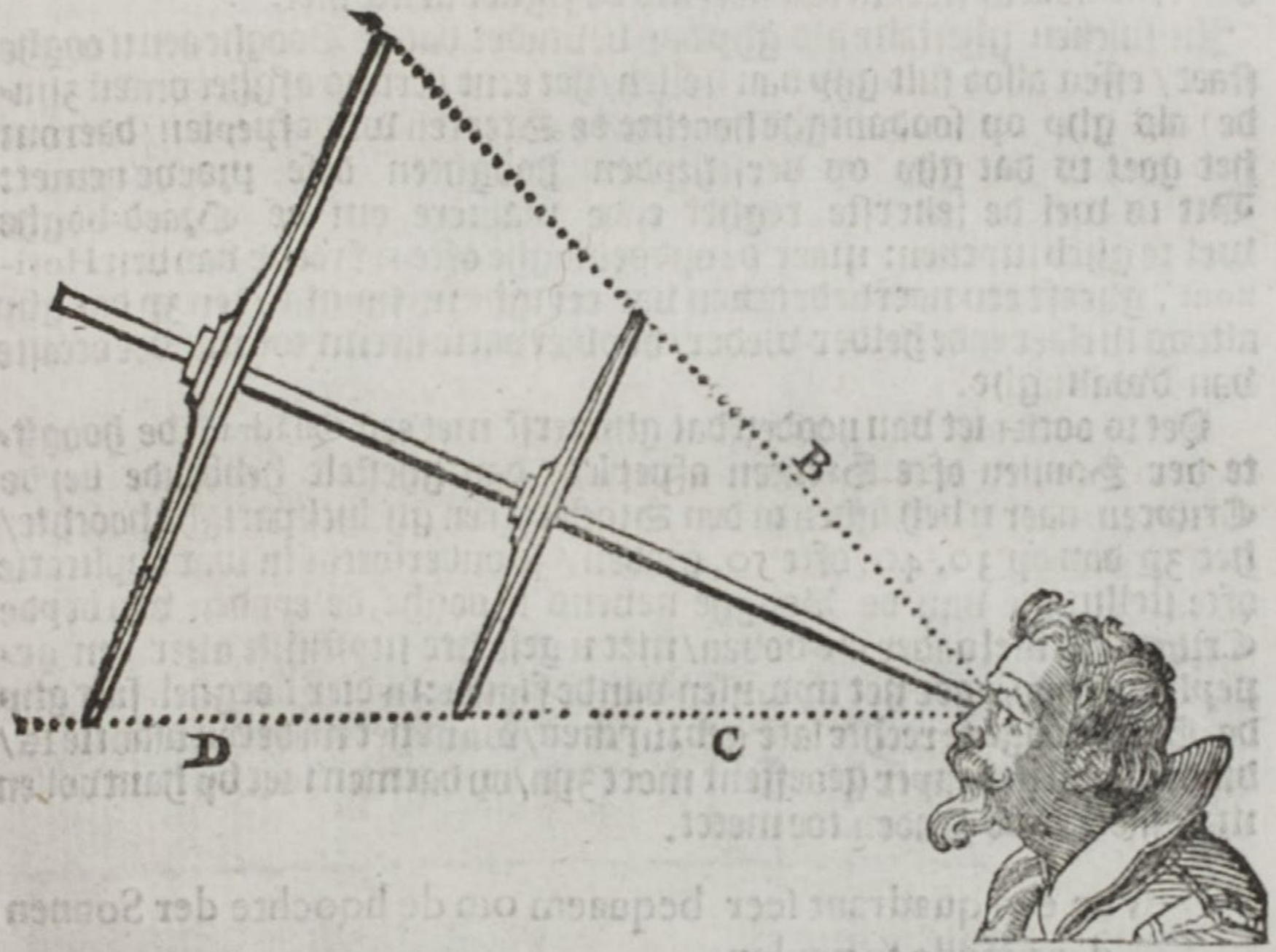

den soo wert het oogh-eynde van de stock tupstelijck voor het Centro ghenomen / ende dewyle het oogh in den menschе inwendich comt / van welcke oock de eene veel meerder ghebreck heeft als de ander / soo moet de afpeylinghe eenighe excentricitept ghéven / daerom comen eenighe

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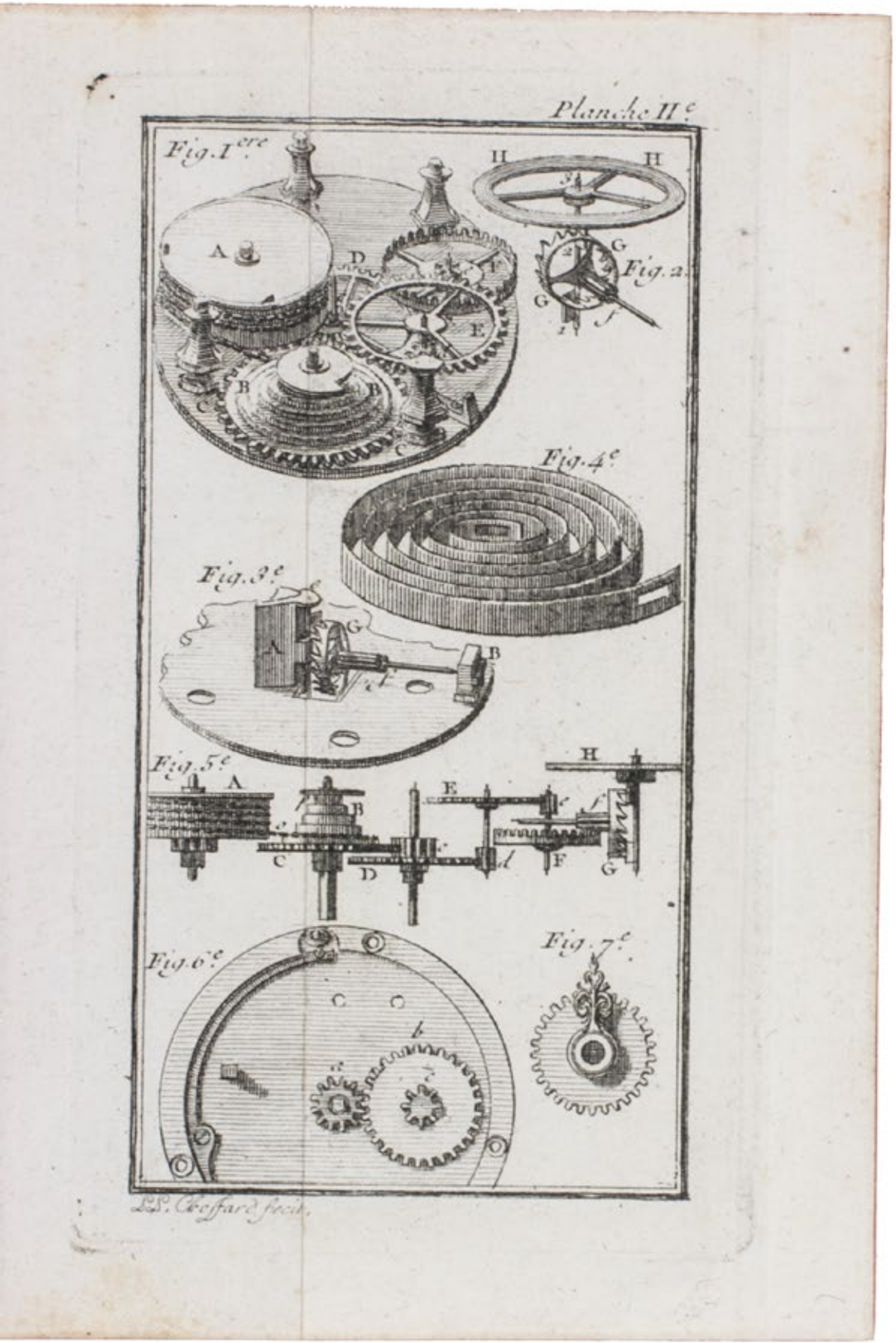


A basic instruction on clocks and watches

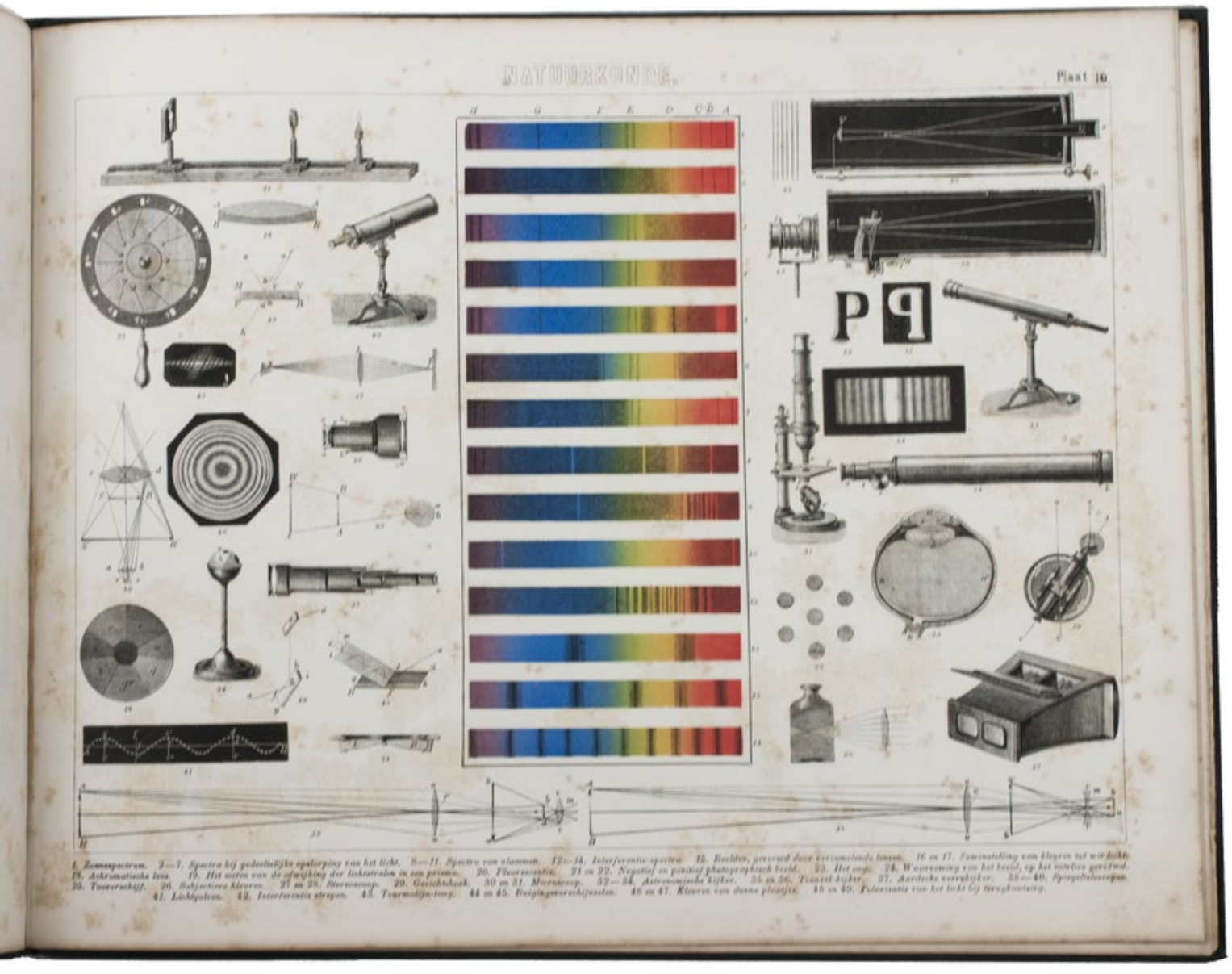
2. BERTHOUD, Ferdinand. l'Art de conduire et de régler les pendules et les montres: a l'usage de ceux qui n'ont aucune connoissance d'horlogerie.

Paris, for the author and Michael Lambert (colophon: printed by H.L. Guerin and L.F. Delatour), 1759. 12º. With illustrations on 4 folding engraved plates. Contemporary mottled calf, gold-tooled spine. € 1600

First edition of a basic instruction on clocks and watches for beginners in the profession or trade and for all owners of clocks and watches in general. Ferdinand Berthoud (1725–1807), was a famous Swiss mechanic of clocks, watches, chronometers and the like who lived and worked at Paris since 1745. He was the inventor of the marine clock, and together with Pierre Leroi he was considered the best in his field. Berthoud was a member of the Institut de France and of the London Royal Society. He wrote a considerable number of esteemed books on his specialty, of which the present is the primer on the subject, teaching the very first beginners in the field. The book was also published in Dutch.

With the bookplate of Renato Rabaiotti. Binding slightly rubbed near the edges. Very good copy.

Poggendorff I, col. 168; Tardy, Bibliogr. Mesure du Temps 30; not in Bibl. Horlogère de Monsieur R.P.



750 scientific instruments and geometrical figures

3. BRUTEL DE LA RIVIÈRE, Carel Johan Emerentius. Atlas voor de meet- en natuurkunde, omvattende ruim 700 afbeeldingen, met een korte verklaring.

Leiden, A.W. Sijthoff, [ca. 1870]. 2 volumes. Oblong folio. With almost 750 figures on 15 steel engraved plates (1 partly printed in colour), depicting instruments and geometrical figures. Original publisher's gold- and blind-blocked dark green cloth. € 950

Very rare first, undated, edition of an "atlas of geometry and physics", giving illustrations and descriptions of almost 750 scientific instruments and geometrical figures, including microscopes, telescopes, quadrants, pantographs, pumps, polygons, cones, prisms etc. etc. The design of this work by Carel Johan Emerentius Brutel de la Rivière (1835–1912) is adapted from a German work by Johann Müller and W.A. Weiske, but the contents are almost completely new. We could locate only one other copy of the present first edition, and only a few more of following editions appearing in 1872 and 1873.
Slightly browned, mostly in the margins, plates foxed, but otherwise in good condition.

CATECHISMUS

DER

ZEEVAARTKUNDE,

OF

VRAGEN EN OEFENINGEN

OVER HET

BESCHOUWENDE EN WERKDADIGE

DER

STUURMANSKUNST;

DOOR

J. VAN CLEEFF,

Lector in de Wis-, Bouw-, Toegepaste Werktuig- en Zeevaart-kunde, aan de Akademie Minerva, *te* Groningen.

Tweede verbeterde en met antwoorden vermeerderde uitgaaf.

TE GRONINGEN, BIJ

M. SMIT.

1846.

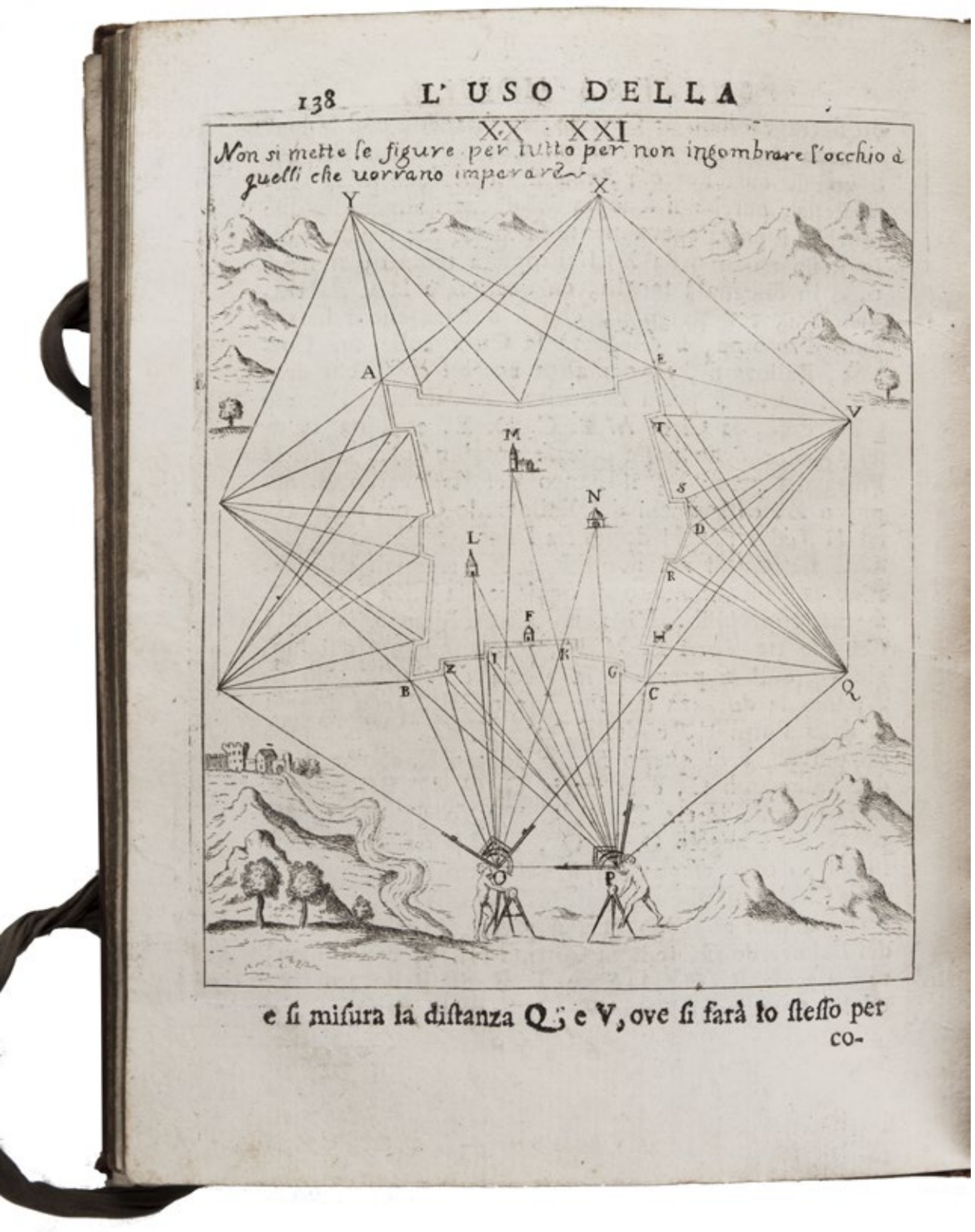
The principles of navigation

4. CLEEFF, Jacob van. Catechismus der zeevaartkunde, of vragen en oefeningen over het beschouwende en werkdadige der stuurmanskunst; ... Tweede verbeterde en met antwoorden vermeerderde uitgaaf.

Groningen, M. Smit, 1846. 8º. With woodcut vignette on title-page. Original publisher's stiff printed paper wrappers, with at the back an advertisement for 6 other works by Van Cleeff. € 950

Very rare second revised and enlarged edition of a schoolbook on navigation in the form of questions and exercises by Jacob van Cleeff (1788–1862), lecturer of mathematics, engineering and navigation at the maritime academy at Groningen known as the Academie Minerva. The work is in this edition enlarged with the answers. The work was meant to be used together with Jan Carel Pilaar's *Handleiding tot de beschouwende en werkdadige stuurmanskunst* first published in 1831.
With owner's inscription on title-page. Spine tattered, last leaves slightly waterstained. A good copy.

Bierens de Haan 874; cf. Cat. NHSM, p. 694 (third ed.); Crone Library 844 & 916 (first & third ed.); this edition not in NCC; WorldCat.



Classic of surveying & instrument-making

5. FABRI, Ottavio. L'uso della squadra mobile, con la quale per teorica, e pratica si misura geometricamente ogni distanza, altezza, e profondità; ... accresciuta in questa terza edizione di parecchie istruzioni, ..., ec. da Giovanni Vettori.

Trent, Stamparia Vescovile Paroniana [= Giambattista Parone, printer to the Diocese of Trent], 1753. 4°. With engraved architectural title-page, 1 unnumbered folding and 3 numbered illustration plates, 25 engraved illustrations in the text, engraved arms of the dedicatee. Richly gold-tooled contemporary tanned sheepskin, silk ties, gilt edges. € 3500

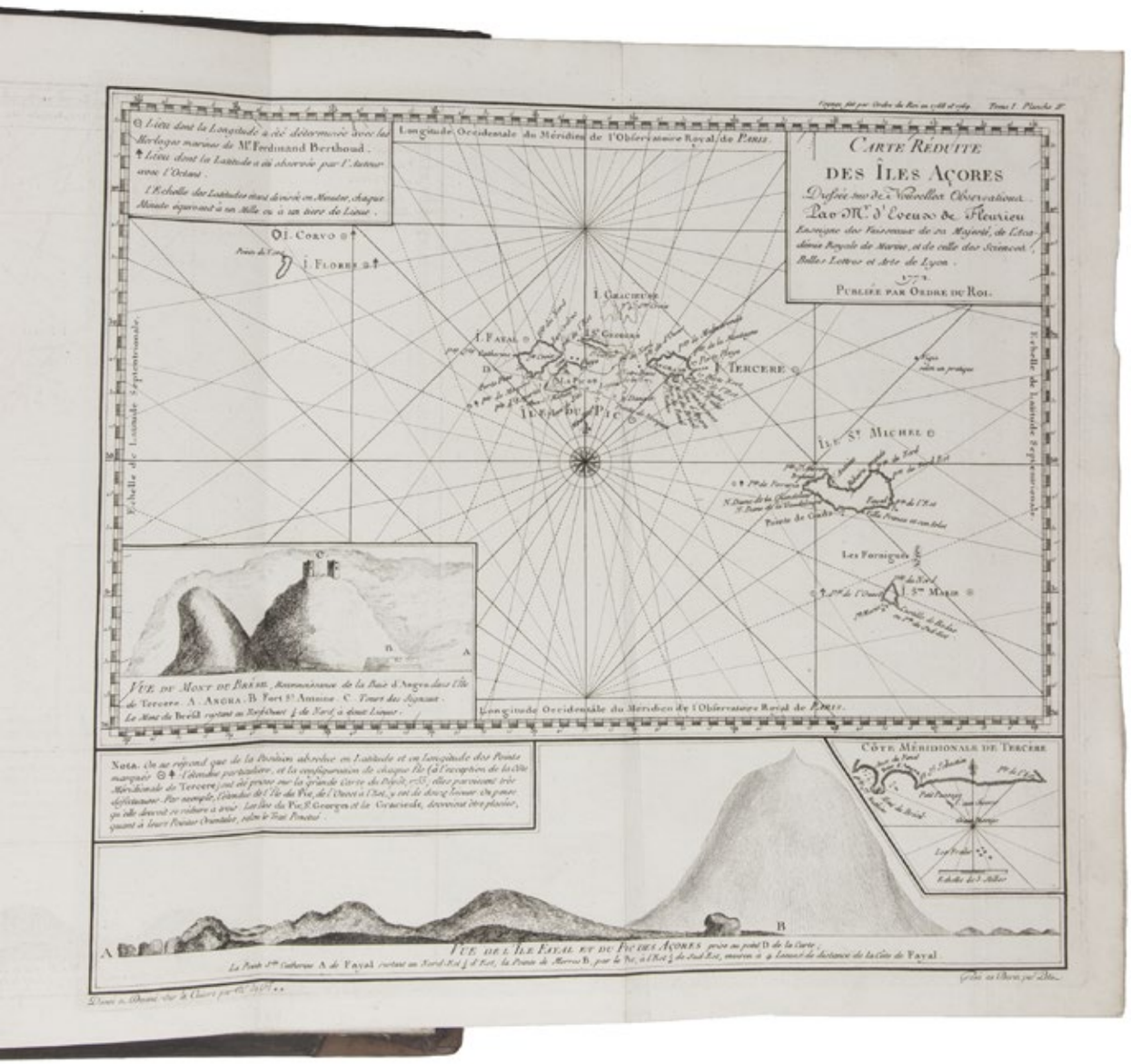
Ninth copy located of the "third" (actually fifth) and last edition, revised, expanded and extensively illustrated with new plates, of a classic work on surveying and mensuration, with instructions and patterns for making a theolodite. The large folding plate (19.5 × 27.5 cm) showing the theolodite was probably designed to be cut up by the person who wished to make one, the paper scales, pointers, etc. being pasted on the surface of the instrument, which might be made of metal, wood or cardboard. The theolodite is shown again in the first plate in the text, and other plates show its use for measuring height, distance, depth, etc. in a wide variety of circumstances, both on land and aboard a ship. The book covers the theory as well, and the 3 numbered plates at the end show plane and solid geometrical figures, and scales of inches ("oncie") for 25 Italian cities.
With bookplate. In very good condition, with only occasional minor spots or stains. The binding is good, though the spine is slightly damaged and the finisher apparently used a poor grade of gold for the tooling, as much of it has oxidized or even rubbed off, though the tooling itself remains clear. A very rare expanded and extensively illustrated edition of a classic of surveying.

Riccardi I, F-col. 434; KVK (2 copies); WorldCat (same 2 copies); Cat. Bibl. Trentino (6 copies in 3 Trento libraries); cf. Ist. Cent. Cat. Unico (other editions).

Testing chronometers by Harrison's leading French rival

6. FLEURIEU, Charles Pierre Claret, Count d'Eveux de. Voyage fait par ordre du Roi en 1768 et 1769, à différentes parties du monde, pour éprouver en mer les horloges marines inventées par M. Ferdinand Berthoud. Première[-seconde] partie, ...

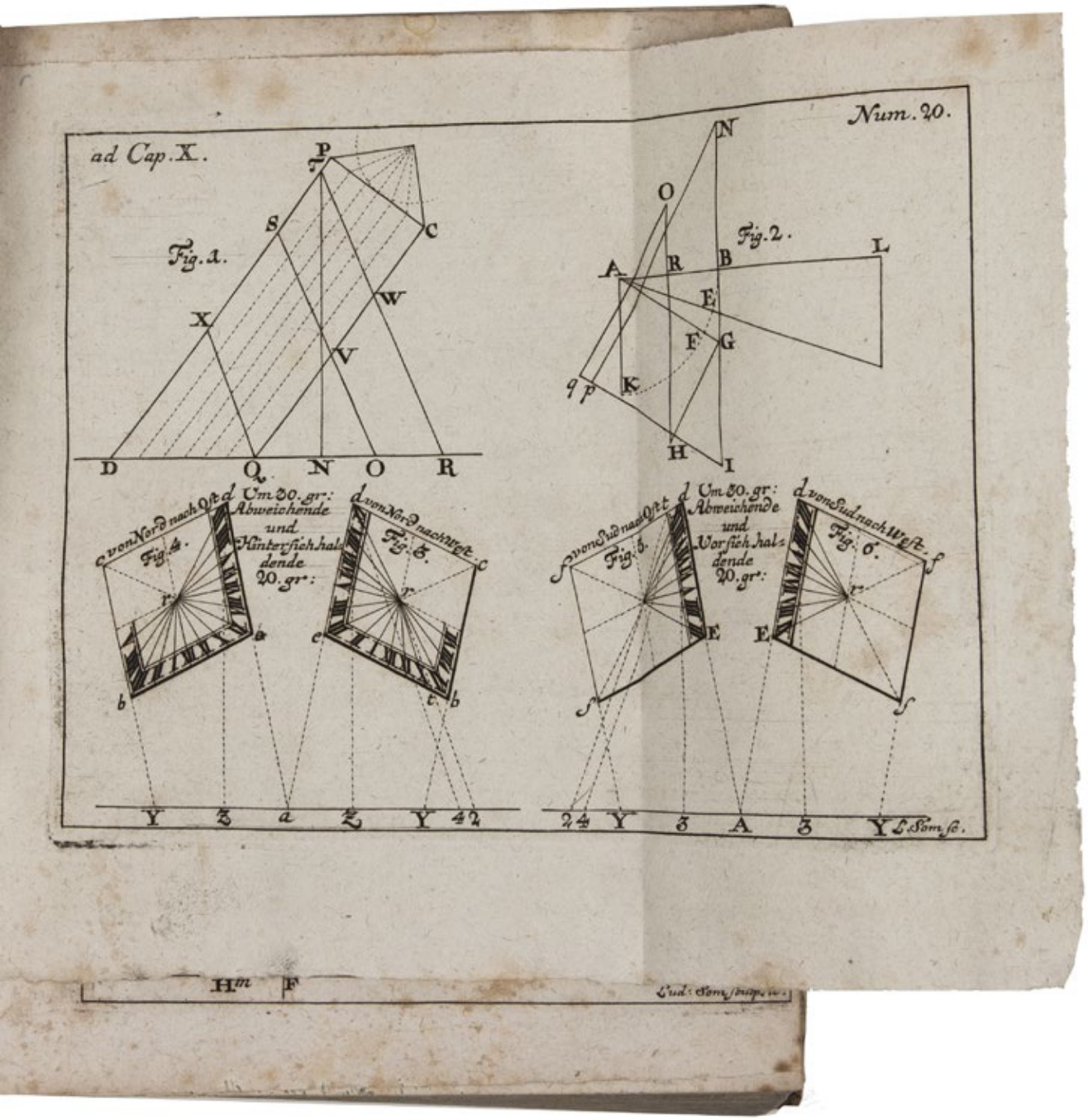
Paris, Imprimerie Royale, 1773. 2 volumes. Large 4° (27 × 20.5 cm). With 5 numbered folding engraved plates in volume 1 (4 maps of the Atlantic Ocean, the Canaries, the Azores, etc., and 1 plate with topographic diagrams), 1 folding engraved plate with geometrical figures illustrating the determination of latitude[!], and 5 folding letterpress tables in volume 2. Contemporary gold-tooled mottled calf. € 9500



First edition of an account by Charles Pierre Claret, Count Fleurieu (1738–1810), of the first voyage made to test the chronometers invented by his mentor, Ferdinand Berthoud (1727–1807). They were developed to keep accurate time at sea in order to solve the problem of the determination of longitude, to make it possible for ships to easily determine their position. Berthoud closely followed the work of Harrison in England, who had already proven the efficacy of his chronometer no. 4 in 1761, but refused to allow Berthoud and others to examine it. During the voyages described in the present work, Fleurieu tested Berthoud's chronometers as well as his own instruments on board the ship Isis, travelling to Cadiz, the Canaries, the Antilles, Santo Domingo, the Atlantic Ocean, Madera, and several other places. The results showed their success even beyond his own expectations. The present work is complete with the appendix.

With an owner's inscription on both title-pages. With only some minor, mostly marginal water stains at the beginning of volume 2. 2mos e2 and e3 misbound at the end between 4I1 and 4I2. In very good condition.

Bibl. horlogère de Monsieur R.P. 196; Chadenat 2617; Gould, p. 96 note; Tardy, p. 99.



How to make a sundial, with 40 plates

7. GAUPP, Johannes. Gnomonica mechanica. Oder: Mechanische Sonnen-Uhr-Kunst. In welcher den Anfängern ein besonderer, leichter, und wolverständlicher Weg gezeiget wird, auff alle ebene Flächen Sonnen-Uhren zu verzeichnen, und solche recht zu gebrauchen. Samt einer Zugabe von etlichen in Kupffer gestochenen bereits verfertigten Universal-Uhren, und zur Gnomonie dienlichen Instrumenten.

Lindau, Johann Conrad Gaupp for Johannes Gaupp, 1708. With elegantly engraved frontispiece of two men making a large sundial, 40 numbered engraved plates of mathematical figures and sundials, and 1 folding letterpress table printed in red and black.

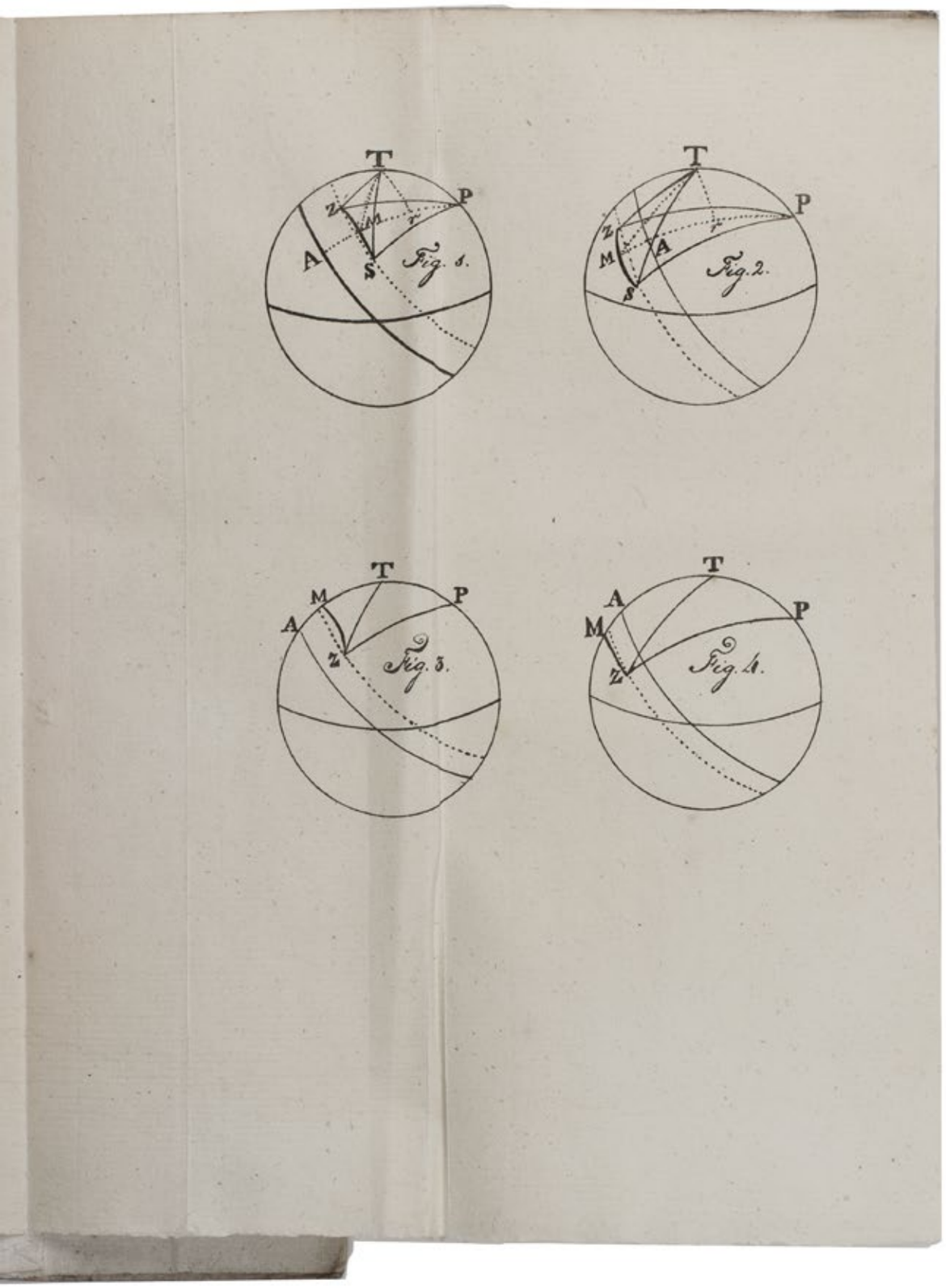
With: **(2) GAUPP, Johannes**.Tabulae Gnomonicae, oder: Tafeln zur mechanischen Sonnen-Uhr-Kunst. Durch welche auff eine gantz leichte Weise, alle vorkommende Sonnen Uhren am allerichtigsten verzeichnet, auch andere nutzliche Auffgaben auffgelöset werden können.

Lindau, Johann Conrad Gaupp for Johannes Gaupp, 1708. 2 works in 1 volume. 4°. Late 18th-century half vellum. € 5000

First edition, first issue, of an important handbook for making and using sundials, by Johannes Gaupp in Lindau. The 1711 and 1720 issues are less rare. The history, use and fabrication of sundials is very accurately and extensively described, profusely illustrated with many detailed and expertly engraved plates. The last two pages of the first work contain addenda and corrigenda. Although Zinner calls for the present 40 numbered plates and 9 unnumbered plates, the latter do not usually appear in the 1708 issue and were probably added to some copies later.

With library stamps. Some insignificant foxing and spotting. In good condition, with the title-page of the second work very slightly shaved (with the loss of one hyphen). The vellum of the spine is torn and repaired, but the binding is also generally good.

Bibliogr. générale de la messure du temps, pp. 106–107 (ads 1 & 2); Berlin Kat. 1750 (ad 2), cf. 1749 (1720 issue of ad 1); Houzeau-Lancaster 11576 (ad 2), cf. 11579 (1711 & 1720 issues of ad 1); Zinner, p. 319 (ads 1 & 2).



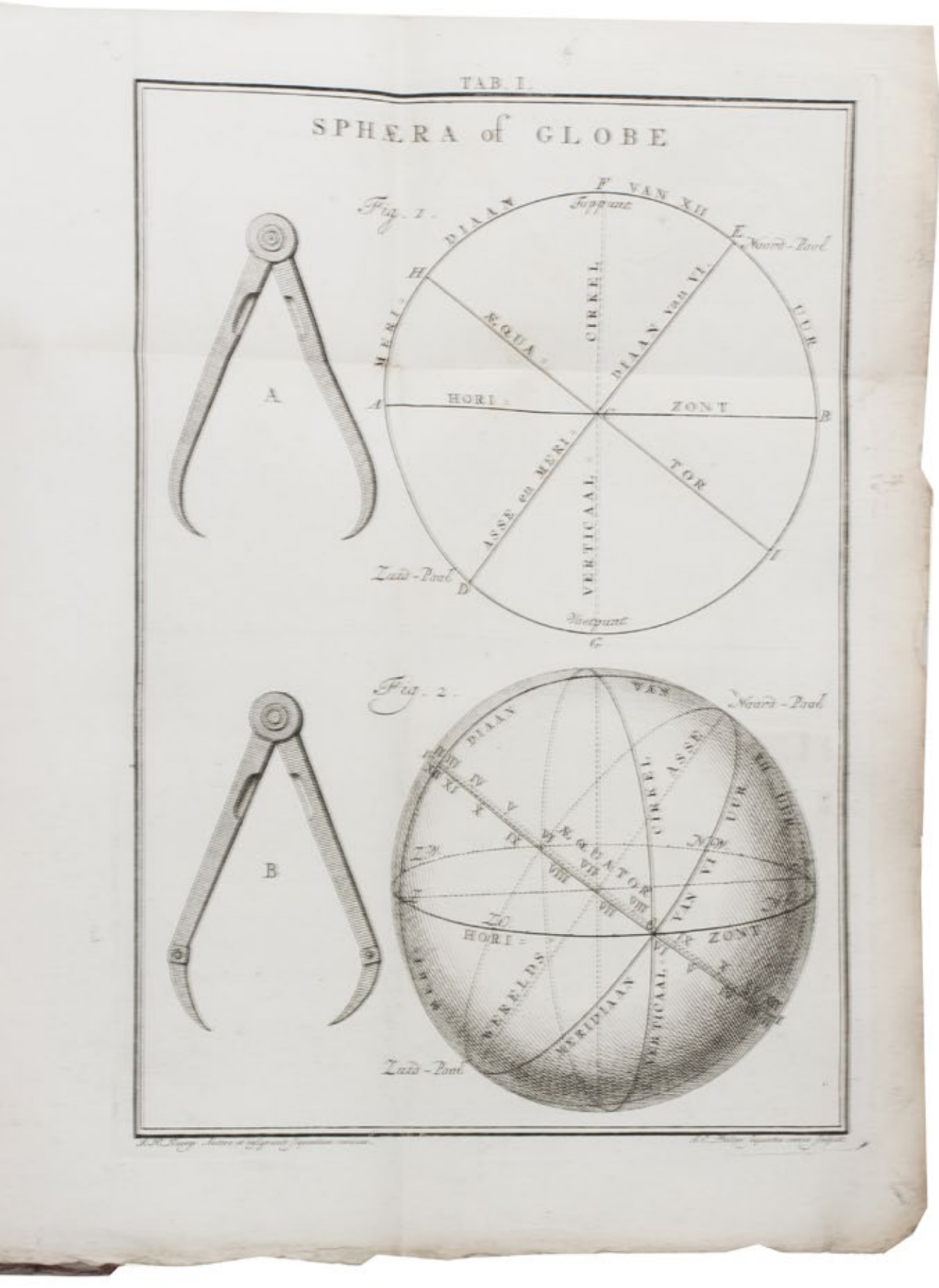
Introducing the Dutch standard method of calculating latitude in the 19th century

8. HAZEWINKEL, Abraham Cornelis. Handleiding om op verschillende wijzen de breedte buiten den middag of meridiaan te vinden, door waarnemingen aan de zon of starren.

Groningen, R.J. Schierbeek, 1827. 8º. With a lithographed folding plate and numerous letterpress tables (numbered I–VI, but some spread over several pages). Contemporary boards, covered with red sprinkled paper, rebacked with brown paper tape. € 850

Very rare first edition of a guide introducing Hazewinkel's method of calculating latitude, which was subsequently implemented as the standard method in the national Dutch marine and remained in use until the end of the 19th century. This method by Abraham Cornelis Hazewinkel (1772–1842), a ship's captain who established a Dordrecht school for training sailors in 1817, was also invented simultaneously, but independently, by the Dutch mathematician Rehuel Lobatto (1797–1866), and is known as the Lobatto-Hazewinkel method. It replaced the longer method of Cornelis Douwes, introduced in the late 18th century. An equally rare second edition, published in 1839, was reprinted in facsimile in 1992. With a library stamp on title-page, some occasional foxing, one leaf slightly soiled in the lower margins, binding slightly rubbed and rebacked, with the top of the spine torn. Good nearly untrimmed copy, with most of the deckles intact.

Bierens de Haan 1943; Cat. NHSM, p. 687; Crone Library 807, cf. pp. xlvii-xlviii; Maritieme Gesch. der Nederlanden III, p. 216; Picarta (2 copies); Saakes VIII, pp. 371–372; WorldCat (same 2 copies).



How to construct sundials, with 21 engraved plates

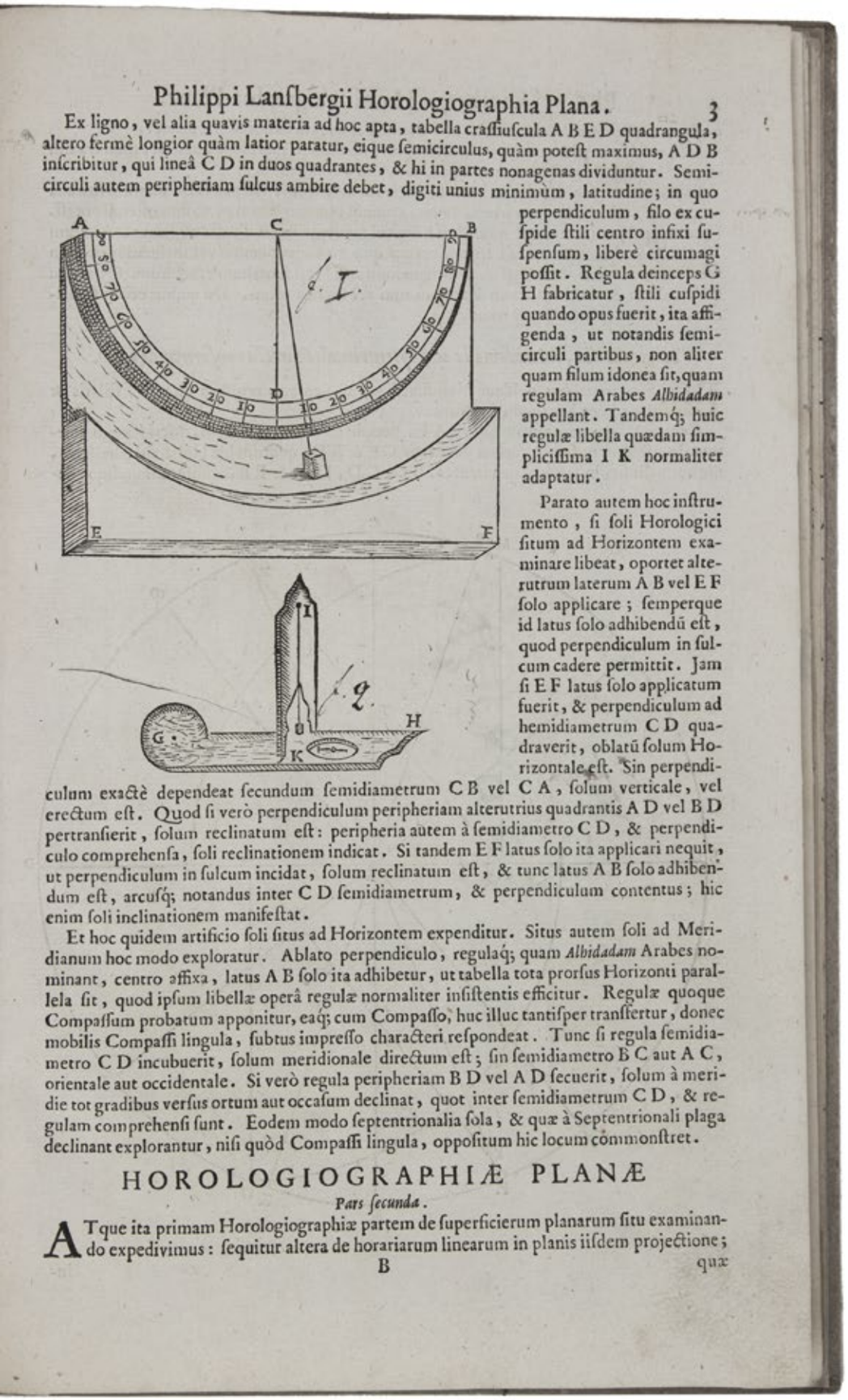
9. KNOOP, Johann Hermann. Verhandeling van de sphærische of klootsche zonne-wysers; namelyk, hoe men op een sphæra convexa, of ronde kloot, allerley zonnewysers meetkonstig beschryven kan.

Leeuwarden, Jacques Alexandre de Chalmot, 1761. 8º. With 50 figures on 21 folding engraved plates by Jan Caspar Philips. Later half vellum, made from early materials. € 1250

First and only edition of an important work on spherical sundials by the Dutch mathematician Johann Hermann Knoop (1700–1769). It describes how to measure and construct different types of sundials, including one inside a hollow half sphere and a "gnomic" armillary sphere. The plates, engraved by Jan Caspar Philips (1690–1775), depict these sundials. They are bound at the end of the text and can be folded out while consulting the text. Knoop was curator of the gardens of Princes Maria Louisa in Leeuwarden, and teacher in mathematics in the same city.

With two small stamps and a shelf label on title-page. Title-page browned and thumbed, with a waterstain in the lower margin, margins slightly browned throughout, with a few small spots. Otherwise in good condition, wholly untrimmed and with most bolts unopened. Binding also in very good condition.

Bierens de Haan 2521.



Philippi Lanſbergii Horologiographia Plana. 3

Ex ligno, vel alia quavis materia ad hoc apta, tabella craſſiuſcula A B E D quadrangula, altero fermè longior quàm latior paratur, eique ſemicirculus, quàm poteſt maximus, A D B inſcribitur, qui lineâ C D in duos quadrantes, & hi in partes nonagenas dividuntur. Semicirculi autem peripheriam ſulcus ambire debet, digiti unius minimùm, latitudine; in quo perpendiculum, filo ex cuſpide ſtili centro infixi ſuſpenſum, liberè circumagi poſſit. Regula deinceps G H fabricatur, ſtili cuſpidi quando opus fuerit, ita affigenda, ut notandis ſemicirculi partibus, non aliter quam filum idonea ſit, quam regulam Arabes *Albidadam* appellant. Tandemq; huic regulæ libella quædam ſimpliciſſima I K normaliter adaptatur.

Parato autem hoc inſtrumento, ſi ſoli Horologici ſitum ad Horizontem examinare libeat, oportet alterutrum laterum A B vel E F ſolo applicare; ſemperque id latus ſolo adhibendũ eſt, quod perpendiculum in ſulcum cadere permittit. Jam ſi E F latus ſolo applicatum fuerit, & perpendiculum ad hemidiametrum C D quadraverit, oblatũ ſolum Horizontale eſt. Sin perpendiculum exactè dependeat ſecundum ſemidiametrum C B vel C A, ſolum verticale, vel erectum eſt. Quod ſi verò perpendiculum peripheriam alterutrius quadrantis A D vel B D pertranſierit, ſolum reclinatum eſt: peripheria autem à ſemidiametro C D, & perpendiculo comprehenſa, ſoli reclinationem indicat. Si tandem E F latus ſolo ita applicari nequit, ut perpendiculum in ſulcum incidat, ſolum reclinatum eſt, & tunc latus A B ſolo adhibendum eſt, arcuſq; notandus inter C D ſemidiametrum, & perpendiculum contentus; hic enim ſoli inclinationem manifeſtat.

Et hoc quidem artificio ſoli ſitus ad Horizontem expenditur. Situs autem ſoli ad Meridianum hoc modo exploratur. Ablato perpendiculo, regulaq; quam *Albidadam* Arabes nominant, centro affixa, latus A B ſolo ita adhibetur, ut tabella tota prorſus Horizonti parallela ſit, quod ipſum libellæ operâ regulæ normaliter inſiſtentis efficitur. Regulæ quoque Compaſſum probatum apponitur, eaq; cum Compaſſo, huc illuc tantiſper tranſfertur, donec mobilis Compaſſi lingula, ſubtus impreſſo characteri reſpondeat. Tunc ſi regula ſemidiametro C D incubuerit, ſolum meridionale directum eſt; ſin ſemidiametro B C aut A C, orientale aut occidentale. Si verò regula peripheriam B D vel A D ſecuerit, ſolum à meridie tot gradibus verſus ortum aut occaſum declinat, quot inter ſemidiametrum C D, & regulam comprehenſi ſunt. Eodem modo ſeptentrionalia ſola, & quæ à Septentrionali plaga declinant explorantur, niſi quòd Compaſſi lingula, oppoſitum hic locum cõmonſtret.

HOROLOGIOGRAPHIÆ PLANÆ

Pars ſecunda.

ATque ita primam Horologiographiæ partem de ſuperficierum planarum ſitu examinando expedivimus: ſequitur altera de horariarum linearum in planis iiſdem projectione;

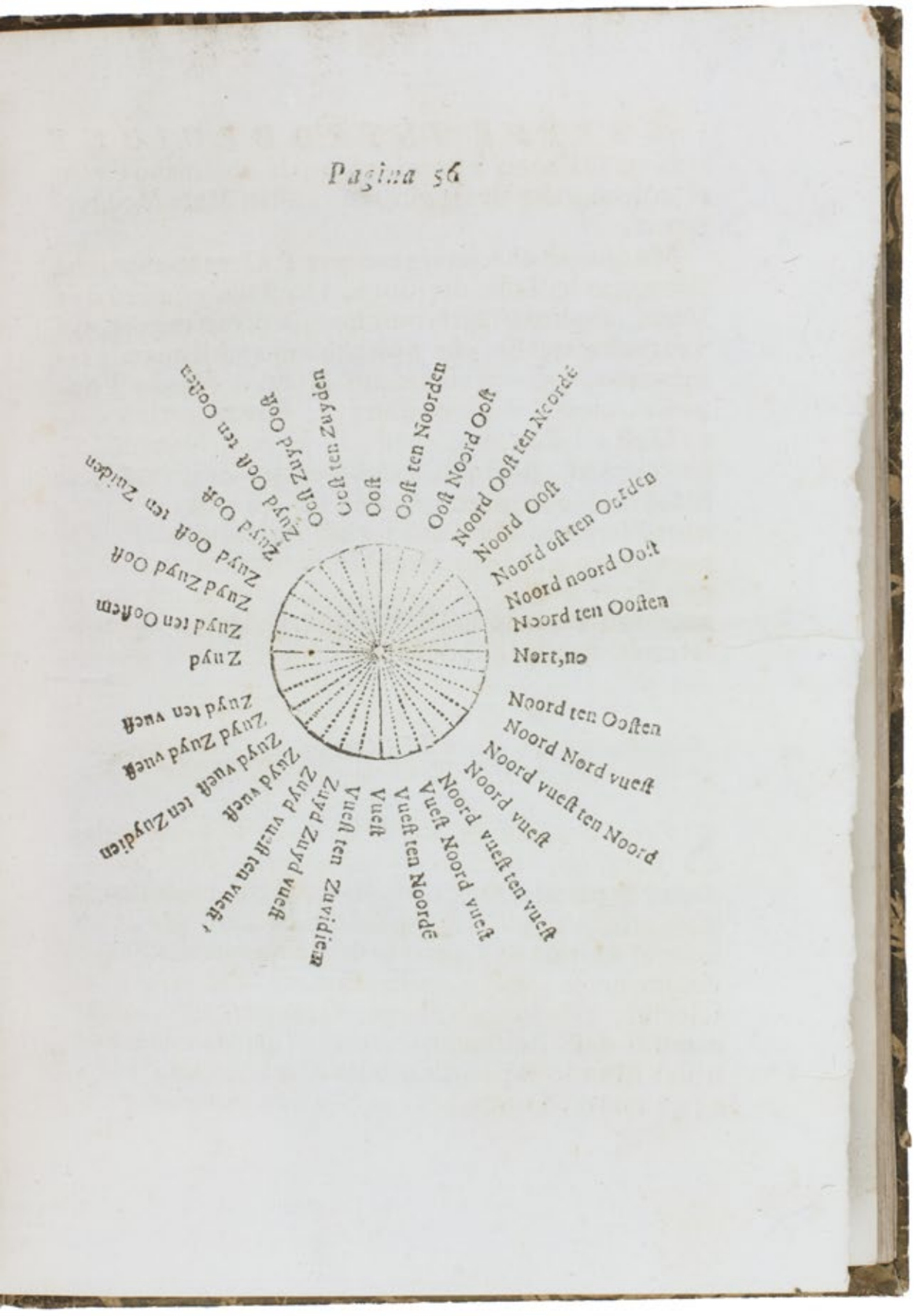
Well-illustrated treatise on sundials, by a Dutch defender of Copernicus

10. LANSBERGE, Philip van. Horologiographia plana: in qua omne genus sciotericorum horologiorum, quae plano cuilibet inscribi possunt, certis evidentibusq[ue]; . . .

Middelburg, Zacharias Roman, 1663. Small folio (28.5×17.5 cm). With 61 woodcuts in the text (1 repeated on the title-page, illustrating a sundial), many more than half-page, including both sundials and diagrams illustrating how they work. With extensive 19th-century manuscript notes on the back of the title-page. Lacking 2 leaves containing Roman's dedication. Modern paper-covered boards. € 3500

Rare first (and only Latin) edition of Van Lansberge's detailed and well-illustrated treatise on sundials, posthumously published by Zacharias Roman in Middelburg, who had published most of his works. Roman says he found this text in manuscript among the papers of Van Lansberge's estate. Planning the publication of the complete works, he decided to publish this text as well. The present treatise was designed to be bound with the *Opera omnia*, published in the same year.
From the library of Christopher St. John Hume Daniel, author of several recent books on sundials. Lacking folios A2-3, containing Roman's dedication to Nicolaas Blanckaert and brief note to the reader, and with a few of the figures shaved by the binder, but otherwise in very good condition.

Bierens de Haan 2675; STCN (5 copies); not in Poggendorff; for Lansberge: DSB VIII, pp. 27–28; NNBW II, cols. 775–782.



Tuscan cosmography in a local binding, with Augsburg gold-brocade cover papers

11. MARCHETTI, Angelo. Introduzione alla Cosmografia ... edizione seconda si aggiunge in fine un Succinto Trattato di Navigazione dell' istesso Autore.

Pistoia, Atto Bracali, 1738. 2 parts in 1 volume. 4°. With 3 folding half-page plates and 1 folding letterpress table, 2 full-page plates, and 17 additional woodcut diagrams in the text. Contemporary boards, covered with gold-brocade paper. € 4500

Very rare second edition of Marchetti's *Cosmografia* (the last edition published during his lifetime), supplemented by the first edition of his treatise on navigation, both illustrated with woodcut diagrams. After several chapters on terminology, signs of the zodiac, etc., the author discusses the phases of the moon, solar and lunar eclipses, measurement, the Ptolemaic, Copernican, and Tychonic solar systems, and astronomical instruments (quadrants and terrestrial and celestial globes). Marchetti's *Succinto Trattato di Navigazione* , (Pistoia, Atto Bracali, 1738), though mentioned on the main title-page, has its own title-page, pagination and series of signatures, and was sometimes issued separately. It discusses navigational charts and their systems of parallels and meridians, compasses, measurement, etc. An early owner's inscription on the title-page has eaten through the paper, not affecting the printing but leaving some small holes and slightly staining the following page. Otherwise a very good copy in a local and contemporary gold-brocade binding, of a rare Italian cosmography.

Riccardi, col. M-109; not in Inst. Cent. Cat. Unico; De La Lande; Norman Library; Waller; KVK (2 copies plus 1 of Navigazione alone); WorldCat (2 copies); Poggendorf II, col. 44.

First and only editions of 3 Dutch astronomical works, 1 apparently unique

13. MOOLEN, Symon van de. Astronomia of hemel-loop-kunde, . . .

Amsterdam, Joannes Loots, 1702. With engraved frontispiece, 13 numbered folding engraved plates and 63 pages of letterpress tables with 5 part-titles.

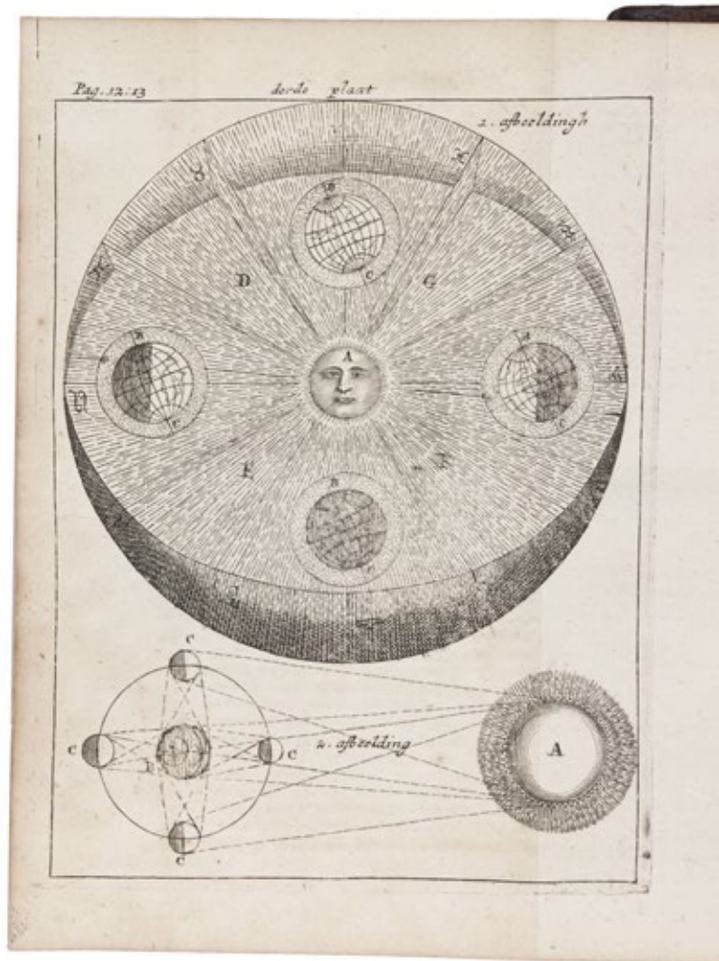
With:

(2) SLIKKER, Dirk Jacobsen. Klaar bewys over het onmogelyk der Oost en West-vinding, . . .

Amsterdam, Joannes Loots for the author, 1703. With 4 folding engraved plates. Incomplete: 4 text leaves removed.

(3) LUCHTENBURG, Andreas van. Mathematice, astronomice, en theologice aanmerkingen, over d'eeuwige en volmaakte tafels van de sons cirkel, . . .

Delft, Henrik van Kroonevelt, 1699. With a folding letterpress table. 3 works in 1 volume. 4º. Contemporary calf, with the boards recovered in old mottled tanned sheepskin. € 8500



First and only editions of three rare and interesting Dutch mathematical and astronomical works, one known only from the present copy and an 18th century reference.

Ad 1: An astronomical work with information on the orbits of the sun, moon and planets, the positions of the stars and dates of solar and lunar eclipses. It includes new calculations of the orbit of Mercury, based on the work of the famous astronomers Petrus Gassendus and Hevelius making use of data from its 1677 transit of the sun. An appendix gives instructions for constructing various astronomical dials for calculating the positions of the moon and planets and the times and extents of eclipses.

Ad 2: A fascinating work challenging the possibility of calculating longitude at sea, whether using the position of the moon, a pendulum clocks, an hourglass or the magnetic declination. Determination of longitude was one of the greatest problems of the science of navigation and Slikker argues that the problem is insolvable. While not literally true it proved impractical for navigators until John Harrison in England developed an accurate marine chronometer, described in a 1767 publication. Measuring the exact position of the moon proved too difficult for most navigators with simple instruments.

Ad 3: Only copy located of an astronomical and astrological work on the calculation of the orbit of the sun and its position in the twelve constellations: it was known to Arrenberg in 1788 but the 19th-century references may have known his description or the present copy (then in the Royal Library in Berlin). Luchtenburg (active ca. 1684–1706) taught astronomy, geography and navigation in Rotterdam. In the present work he criticizes calculations published in almanacs for the year 1699.

With stamp of the Royal Library in Berlin and the bookplate of the Mexican bibliophile José G. Herrera Alcala. Ad 2 incomplete (pp. 145–152 have been torn out) and the plates in ad 1 and folding table (with a tear repaired) in ad 3 slightly browned. Otherwise a good copy. The binding is worn.

Ad 1: Bierens de Haan 3356; STCN (3 copies); ad 2: Bierens de Haan 4341; STCN (2 copies); WorldCat & KVK (6 copies); ad 3: Vander Aa XI, p. 693; Arrenberg, Naamreg., p. 265; Bibliogr. Adversaria IV, p. 84; Bierens de Haan 2894; WorldCat & KVK (this copy only); not in STCN.

Essay on chronometry resulting from Roquemaurel's circumnavigation

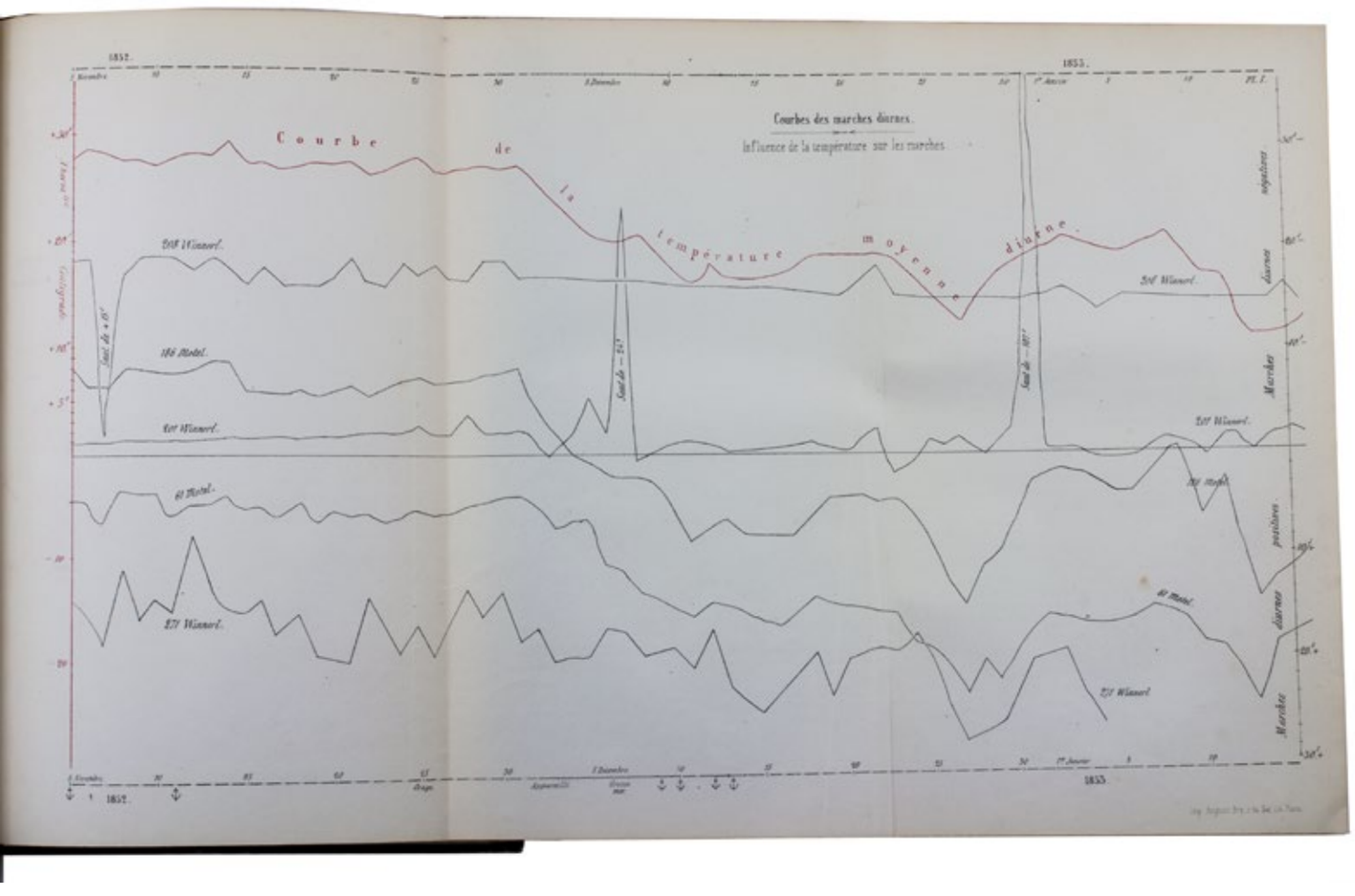
14. MOUCHEZ, Amédée Ernest Barthélemy. Observations chronométriques faites pendant la campagne de circumnavigation de la corvette La Capricieuse, commandée par M. Roquemaurel, capitaine de vaisseau.

Paris, Firmin Didot frères, 1855. With 4 folding plates.

With:

(2) MOUCHEZ, Amédée Ernest Barthélemy. Longitudes chronométriques des principaux points de la cote du Brésil, rapportées au premier méridien de Rio-Janeiro.

Paris, Paul Dupont, 1863.



(3) MOUCHEZ, Amédée Ernest Barthélemy. Positions géographiques des principaux points de la cote orientale de l'Amérique du Sud comprise entre la Guyane Française et le Paraguay.

Paris, Paul Dupont, 1868. 3 works in 1 volume. 8º. Contemporary grained red half sheepskin. € 3500

First edition of an important treatise on chronometry by Ernest Barthélémy Mouchez, who sailed as astronomer in the *Capricieuse* commanded by Roquemaurel. The work contains extensive technical and methodological information on chronometry and the use of chronometric instruments, followed by observations made during the *Capricieuse*'s circumnavigation with detailed notes on the Pacific (Marquesas Islands, Tahiti), Cochinchina, the Sunda Islands, and the coasts of China and Korea. Bound with two other valuable essays resulting from scientific expeditions along the coast of South America, notably Brazil.
In very good condition

Ad 2-3: Garraux, Bibliographie brésilienne, pp. 202-3; cf. DSB IX, p. 551; not in Borba de Moraes; Sabin.

Richly illustrated monograph on surveying

15. PENTHER, Johann Friedrich. raxis Geometriae, worinnen nicht nur alle bey dem Feld-Messen vorkommende Fälle, mit Stäben, dem Astrolabio, der Boussole, und der Mensul, in Ausmessung eintzeler Linien, Flächen und gantzer Revier, welche ... eine Land-Carte ausmachen, auf ebenen Boden und Gebürgen, die Abnehmung derer Höhen und Wasser-Fälle, nebst beygefügten practische Hand-Griffen, deutlich erörtert... Neunte Edition.

With: **(2) PENTHER, Johann Friedrich**. Zugabe zur Praxi Geometriae, worinn noch verschiedene zur ausübenden Geometria nützliche Stücke, dabey auch zweyerley Arten architectonische Schnecken ... zu zeichnen angeweisen werden, und endlich eine Zusammensetzung einer guten Wasser Waage, wie auch derselben Gebrauch mitgetheilet wird.

Augsburg, J.M. Probst, 1788–1790. 2 parts in 1 volume. 2°. With 2 engraved frontispieces, second title-page with half-page engraved town view, and 39 folding engraved plates. Contemporary half calf. € 500

Ninth edition of "one of the most popular German works on surveying" (Sotheran). Johann Friedrich Penther (1693–1749), professor of mathematics and economy at the university of Göttingen) deals with geometry and its application in surveying. He discusses the instruments used, such as rules, compasses, graphometer, geometrical circle, geometrical table, surveyor's level pole, and shows how to calculate the size of differently shaped surfaces, circles, cones and cylinders, how to draw multiple-angled surfaces, circles, etc., how to calculate distances in flat areas and mountainous terrain, how to divide a piece of land, how to draw a fortification, etc. The *Zugabe* deals with the calculation of the contents of cones and cylinders. This knowledge is applied to tunnels, architecture (sloping walls, arches, etc). Penther also includes his design for a surveyor's level pole. Each subject is accompanied by a folding engraved plate showing measuring instruments, geometrical figures, maps of lakes, roads, estates, architectural structures, etc. Penther's lucid style and the attractive illustrations made his work very popular and it went through nine editions (see Sotheran, who states there were eight editions).
With owner's inscription. Small corrosion hole in frontispiece and pl. 36, wormhole in upper right corner throughout, slightly affecting upper right margin of the plates, some browning. Nevertheless a good copy with the plates in good condition.

Cf. Berlin Kat. 1735; Honeyman 2444, 2445; Poggendorf II, cols. 399–400; Sotheran, Second suppl. 2158–2159.

Extensively annotated and illustrated edition of a classic treatise on astronomy, with further manuscript annotations and illustrations

16. SACROBOSCO, Johannes de (John of HOLYWOOD). Opus sphericum magistri Joa[n]nis de Sacro Busco natione Angli figuris verissime exculptis et i[n]terp[re]tatione familiari ad co[m]moditatem desiderantiu[m] iucundissima Artis Astronomice callere principia pulcherrime et iterata recognitione illustratum.

(Colophon: Cologne, sons of Heinrich Quentell, "Anno supra Jubileu[m] Magnu[m] Quinto ad finem Januarii" [= January 1505]). Small 4º (21 × 14.5 cm). With a full-page woodcut armillary sphere held by angels above and below, 27 half-page astronomical and cosmological woodcuts in text, 3 large (23–35 mm) woodcut decorated initials, and 1 smaller initial. The main text and commentary are set in a single size of Schwabacher type, the widely spaced lines of the main text distinguishing it from the commentary. The title-page and headings use 2 larger textura types. Modern grey boards. € 7500

Fourth Quentell edition, extensively illustrated, of Sacrobosco's classic 13th-century treatise on astronomy *De sphaera mundi* ("On the sphere of the world"), with extensive commentary by the Czech astronomer Wenceslaus Fabri de Budweis (1455–1518). Two of the diagrams clearly explain a solar and a lunar eclipse. The present copy is extensively annotated by a (near) contemporary hand, adding even some further illustrations, including an astronomical diagram. The book is divided into four chapters treating the definition of a sphere; the various circles and their names; the cosmic, chronic, and heliacal risings and settings of the constellations; and the movements of the sun, moon and planets.

"Sacrobosco's fame rests firmly on his *De sphaeria*, a small work based on Ptolemy and his Arabic commentators, published about 1220 […] It was quite generally adopted as the fundamental astronomy text, for often it was so clear that it needed little or no explanation." (DSB). Sacrobosco was the first European scholar to use Arabic sources for his astronomical studies, helping to spread Arabic knowledge to the Western world. He describes the earth as a sphere, opening the way for the Renaissance astronomical revolution of Copernicus and Gallileo. The work had a great impact on the science of astronomy in the following centuries.

Alden & Landis cites the present edition as, "The earliest edn to refer to America, on verso of lf 33." This page contains the "Tabula Climatum", an addition between chapters 3 and 4. It is described as "rectificata 1491"[!] and does appear in a few editions before the present. The reference remains somewhat ambiguous.

With several small wormholes throughout, sometimes slightly affecting the text. Good copy, including the final blank leaf.

Alden & Landis 505/8; BMC STC German, p. 772; JCB I, pp. 40–41; Proctor, German Books 1501–1520, 10386; VD16, J-712 (4 copies); cf. Adams H-714 (1501 Quentell edition); DSB XII, pp. 60–63.

Richly illustrated work on sundials

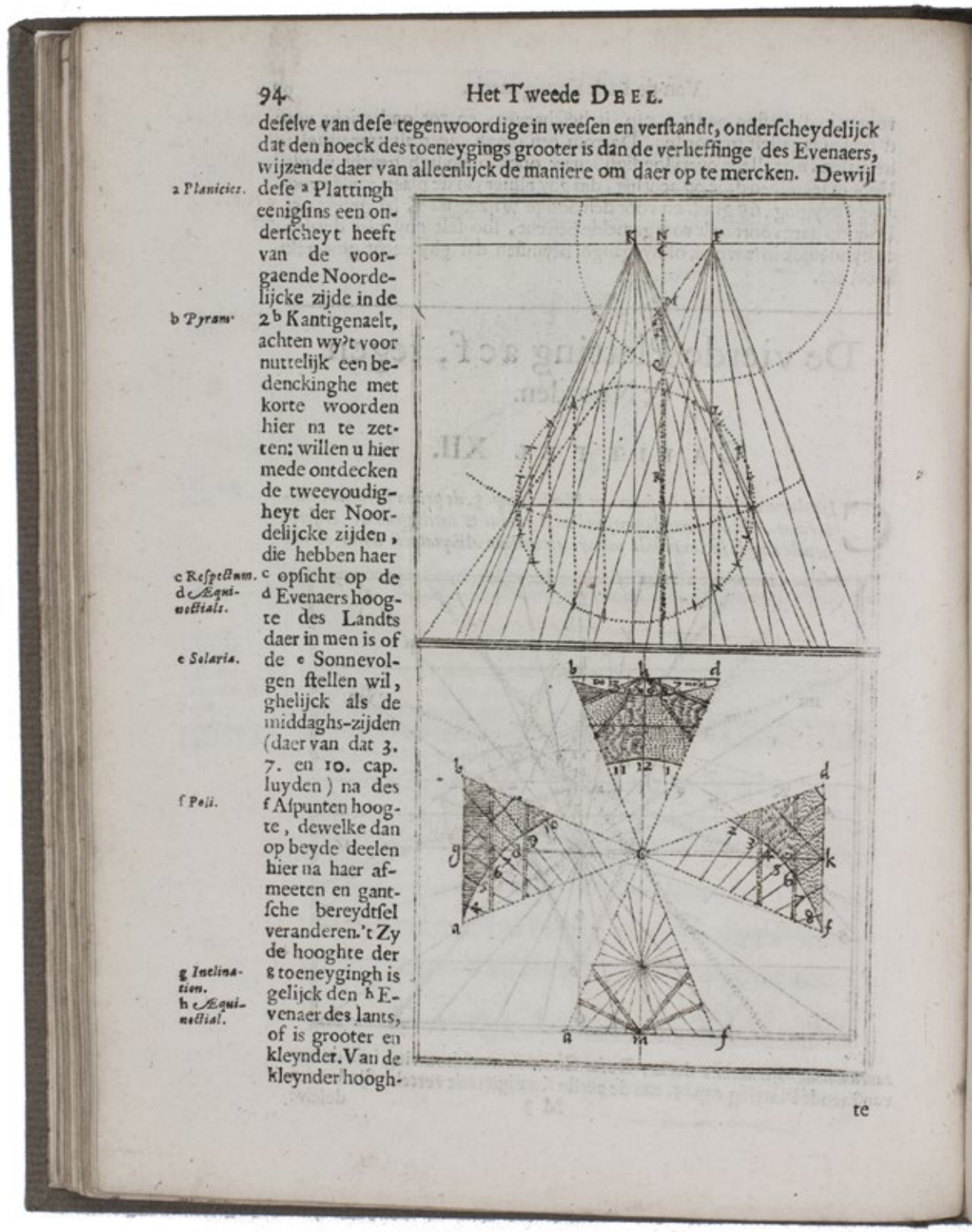
17. SCULTETUS, Bartholomäus. Winckelige-wyzer, van de sonnevolgen, of leeringe van de uytwerckinge des derden deels der sterrekunst van alderley sonnevolgen. Dat is, hemelsche circulen en uuren-linien, hoe men de selve aen de opgerechte plattingen of muren... afteyckenen en vertoonen zal.

Amsterdam, Johannes van Ravesteyn, 1670. 4°. With a small woodcut device on title-page and 84 mostly engraved mathematical figures in the text. Modern grey paper boards. € 1750

First edition of the Dutch translation of a well-known work on sundials by the German astronomer Bartholomäus Schultz (1540–1614). The original German, entitled *Gnomonice de Solariis ... Von allerley Solarien, dast ist, Himmlischen Circuln und Uhren...* was first published in 1572 at Leipzig. Schultz discusses sundials on flat surfaces, on the insides of cubes, prisms (six-sided ones) and pyramids, and, finally, on the insides of spheres, cones and cylinders. According to Sotheran, the work is especially interesting for Scultetus's transversal division on the circle, which was afterwards applied by Tycho Brahe on his quadrant. The engraved illustrations were made especially for the present Dutch translation, the German edition was illustrated with woodcuts.

With a few faint, marginal water stains, otherwise in very good condition.

Bierens de Haan 4267; Poggendorf II, col. 883; Sotheran, Second Suppl. 4207; Zinner, Astron. Instrumente, pp. 532–533.


94 Het Tweede Deel.

desselve van dese tegenwoordige in weesen en verstandt, onderscheydelijck dat den hoeck des toeneygings grooter is dan de verheffinge des Evenaers, wijzende daer van alleenlijck de maniere om daer op te mercken. Dewijl

a Planicies. dese a Plattingh eenigsins een onderscheyt heeft van de voorgaende Noordelijcke zijde in de

b Pyram. 2 b Kantigenaelt, achten wy?t voor nuttelijk een bedenckinghe met korte woorden hier na te zetten: willen u hier mede ontdecken de tweevoudigheyt der Noordelijcke zijden, die hebben haer

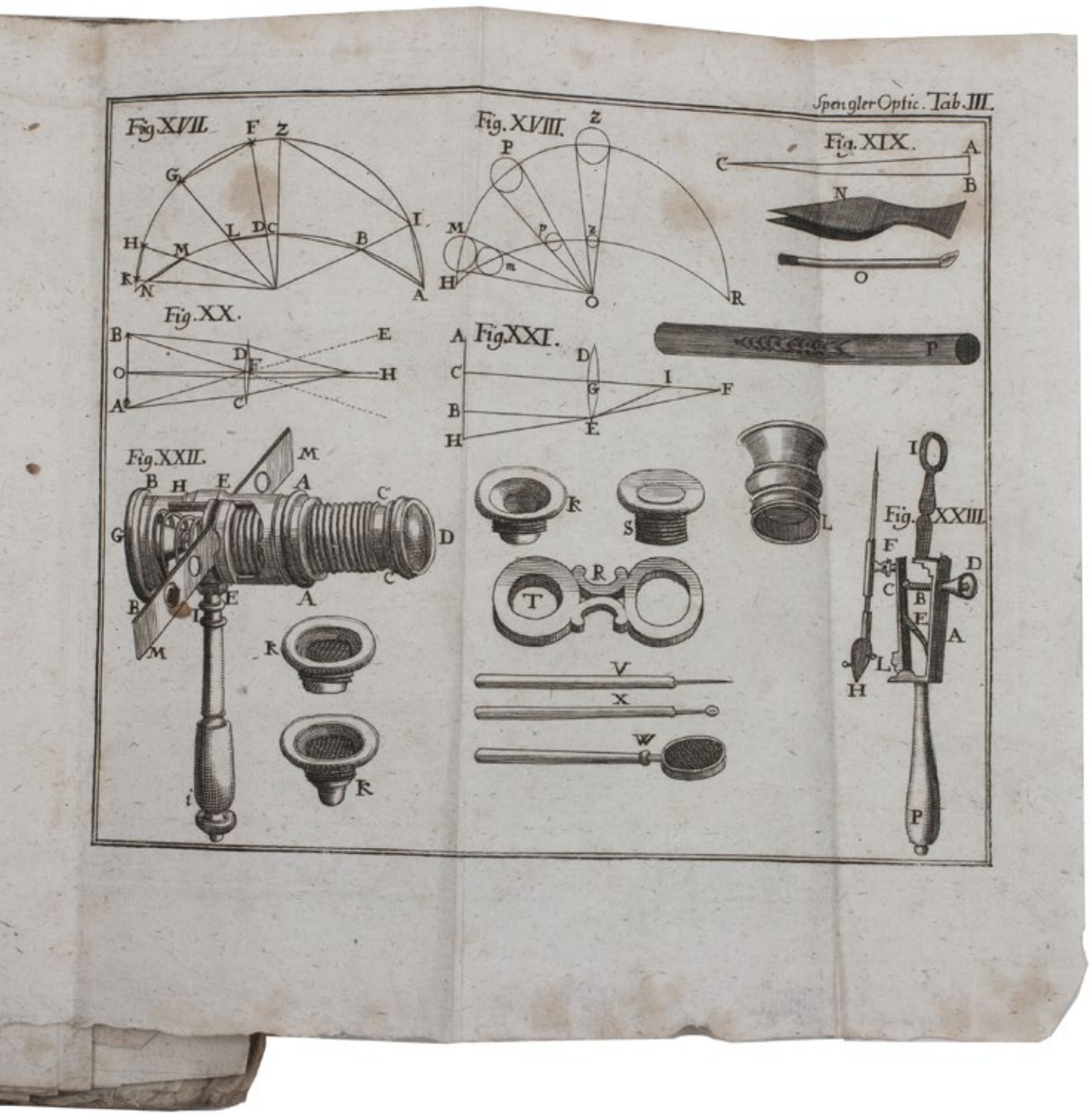
c Respectum. d Æquinoctials. c opsicht op de d Evenaers hoogte des Landts daer in men is of

e Solaria. de e Sonnevolgen stellen wil, ghelijck als de middaghs-zijden (daer van dat 3. 7. en 10. cap. luyden) na des

f Poli. f Aspunten hoogte, dewelke dan op beyde deelen hier na haer afmeeten en gantsche bereydtsel veranderen. 't Zy de hooghte der

g Inclinatien. h Æquinoctial. g toeneygingh is gelijck den h Evenaer des lants, of is grooter en kleynder. Van de kleynder hoogh-

te



On the refraction of light and interesting optical instruments

19. SPENGLER, Joseph. Optick, Catoptrick und Dioptrick in zween Theilen.

Augsburg, Matthäus Rieger & sons, 1775. 8°. With 14 numbered folding engraved plates with 68 figures (ca. 15.5 × 19.5 cm), some tables in text. Contemporary paper boards. € 12500

First and only edition of a work on optics, catoptrics (the optical qualities of the mirror) and dioptrics (refraction of light), illustrated with 14 folding plates showing detailed geometrical figures and all kinds of very interesting optical instruments. The work is divided into a theoretical part (pp. 1–131) and practical part (pp. 132–347) and contains chapters on microscopes, telescopes, magic lanterns and the camera obscura.

Joseph Spengler (Constanz 1736–Dillingen 1776) was a Jesuit and teacher of mathematics at the university of Dillingen.

With a contemporary owner's name, the purchase price and the cost of binding. Entirely untrimmed, giving generous margins. The first few quires with some worm holes in the head margin near the gutter, rarely touching the text (and a couple tiny holes in the plates rarely touching the image). In good condition.

De Backer & Sommervogel VII, col. 1435; Clay & Court, History of the microscope, p. 211; Poggendorf II, col. 970.

On the art of navigation

20. STEENSTRA, Pybo and Jacob FLORYN. Grond-beginzels der stuurmans-kunst. Bevattende in zes boeken, met een aanhangzel, de voornaamste zaaken, die elk stuurman noodzaakelyk weeten moet... Derde druk.

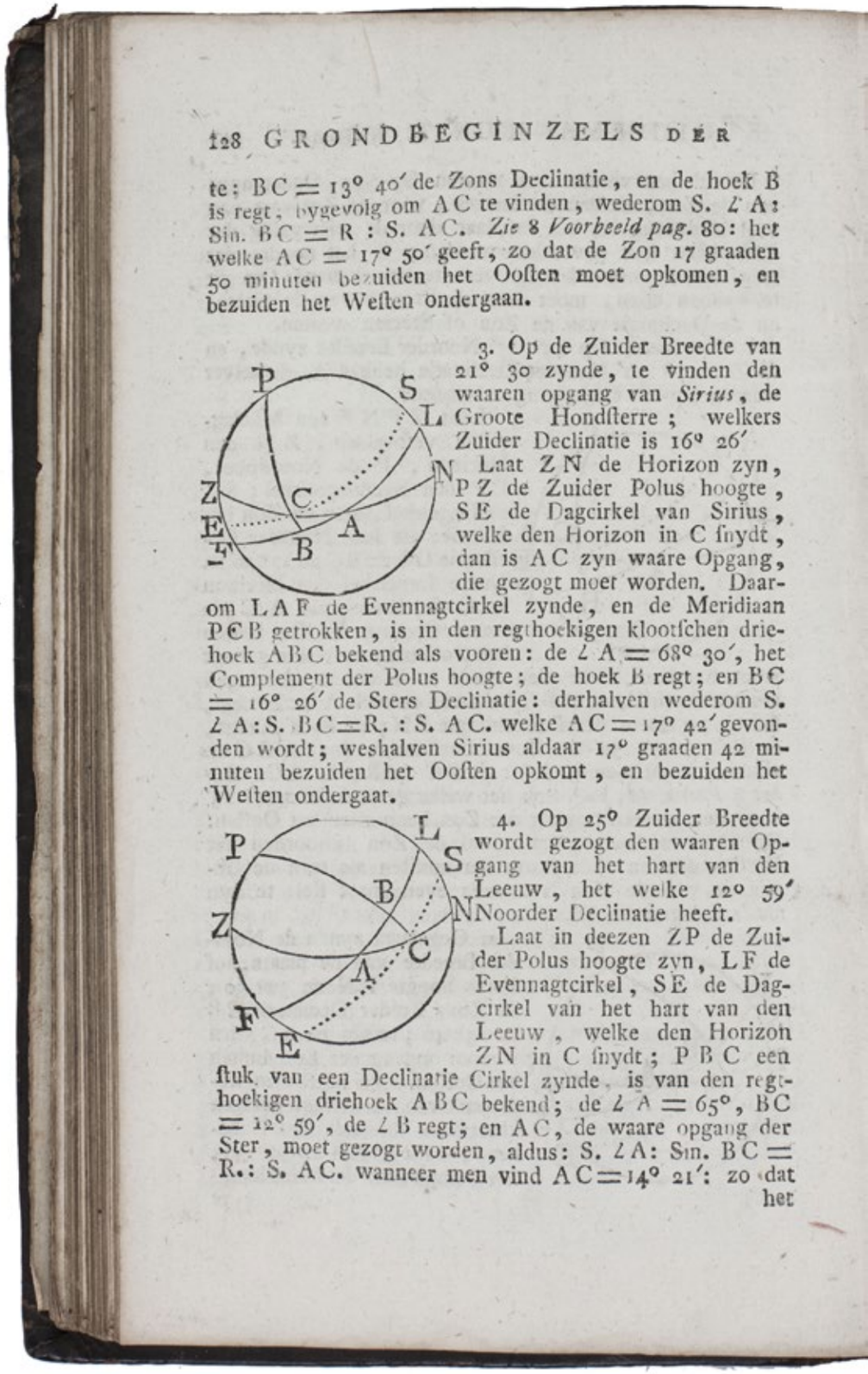
Amsterdam, Gerard Hulst van Keulen, 1791. With a folding engraved plate and many woodcut figures in text.

With: **(2) [DOUWES, Bernardus Johannes]**. Tafelen bevattende de sinussen, tangenten en secanten, van minuut tot minuut voor ieder boog van het quadrant, ... benevens derzelver logarithmen; als mede de logarithmen der gewoone getallen, ...

Amsterdam, Gerard Hulst van Keulen, 1800. With numerous letterpress tables. 2 works in 1 volume. 8º. Contemporary mottled calf, richly gold-tooled spine (with a charming tool of a bird on a vase surrounded by floral tools). € 2500

Ad 1: Very rare third edition of a guide to the art of navigation for novices by the Dutch mathematician Pybo Steenstra (d. 1788) and improved and enlarged by Jacob Floryn, also a mathematician. It is divided into six books, explaining among other things how to keep course, the calculation of the tides, navigating to the wanted longitudes and the use of globes, maps, compasses etc.
Ad 2: Third edition of a mathematical work consisting of tables of the sinus, tangent, secant as well as the logarithms of countless numbers by the mathematician Bernardus Johannes Douwes (d. 1808). This work is usually bound together with an edition of *Grond-beginzels der stuurmans-kunst* or other texts on mathematics or navigation.
Slightly browned with some occasional foxing or small spots, engraved plate creased and with a tear, otherwise in good condition. Binding rubbed along the extremities, slightly damaged at the top of the spine, corners bumped.

Ad 1: Bierens de Haan 4527; Crone lib. 680; STCN (2 copies); WorldCat (3 other copies); ad 2: STCN 303805706; cf. Bierens de Haan 1414 (1812 edition); Cat. NHSM, p. 686 (1815 edition).


128 GRONDBEGINZELS DER

te; BC = 13° 40′ de Zons Declinatie, en de hoek B is regt, bygevolg om AC te vinden, wederom S. ∠ A: Sin. BC = R : S. AC. *Zie 8 Voorbeeld pag.* 80: het welke AC = 17° 50′ geeft, zo dat de Zon 17 graaden 50 minuten bezuiden het Ooſten moet opkomen, en bezuiden het Weſten ondergaan.

3. Op de Zuider Breedte van 21° 30 zynde, te vinden den waaren opgang van *Sirius*, de Groote Hondſterre; welkers Zuider Declinatie is 16° 26′ Laat ZN de Horizon zyn, PZ de Zuider Polus hoogte, SE de Dagcirkel van Sirius, welke den Horizon in C ſnydt, dan is AC zyn waare Opgang, die gezogt moet worden. Daarom LAF de Evennagtcirkel zynde, en de Meridiaan PCB getrokken, is in den regthoekigen klootſchen driehoek ABC bekend als vooren: de ∠ A = 68° 30′, het Complement der Polus hoogte; de hoek B regt; en BC = 16° 26′ de Sters Declinatie: derhalven wederom S. ∠ A: S. BC = R. : S. AC. welke AC = 17° 42′ gevonden wordt; weshalven Sirius aldaar 17° graaden 42 minuten bezuiden het Ooſten opkomt, en bezuiden het Weſten ondergaat.

4. Op 25° Zuider Breedte wordt gezogt den waaren Opgang van het hart van den Leeuw, het welke 12° 59′ Noorder Declinatie heeft.

Laat in deezen ZP de Zuider Polus hoogte zyn, LF de Evennagtcirkel, SE de Dagcirkel van het hart van den Leeuw, welke den Horizon ZN in C ſnydt; PBC een ſtuk van een Declinatie Cirkel zynde, is van den regthoekigen driehoek ABC bekend; de ∠ A = 65°, BC = 12° 59′, de ∠ B regt; en AC, de waare opgang der Ster, moet gezogt worden, aldus: S. ∠ A: Sin. BC = R.: S. AC. wanneer men vind AC = 14° 21′: zo dat het

An extensively illustrated introduction to sundials

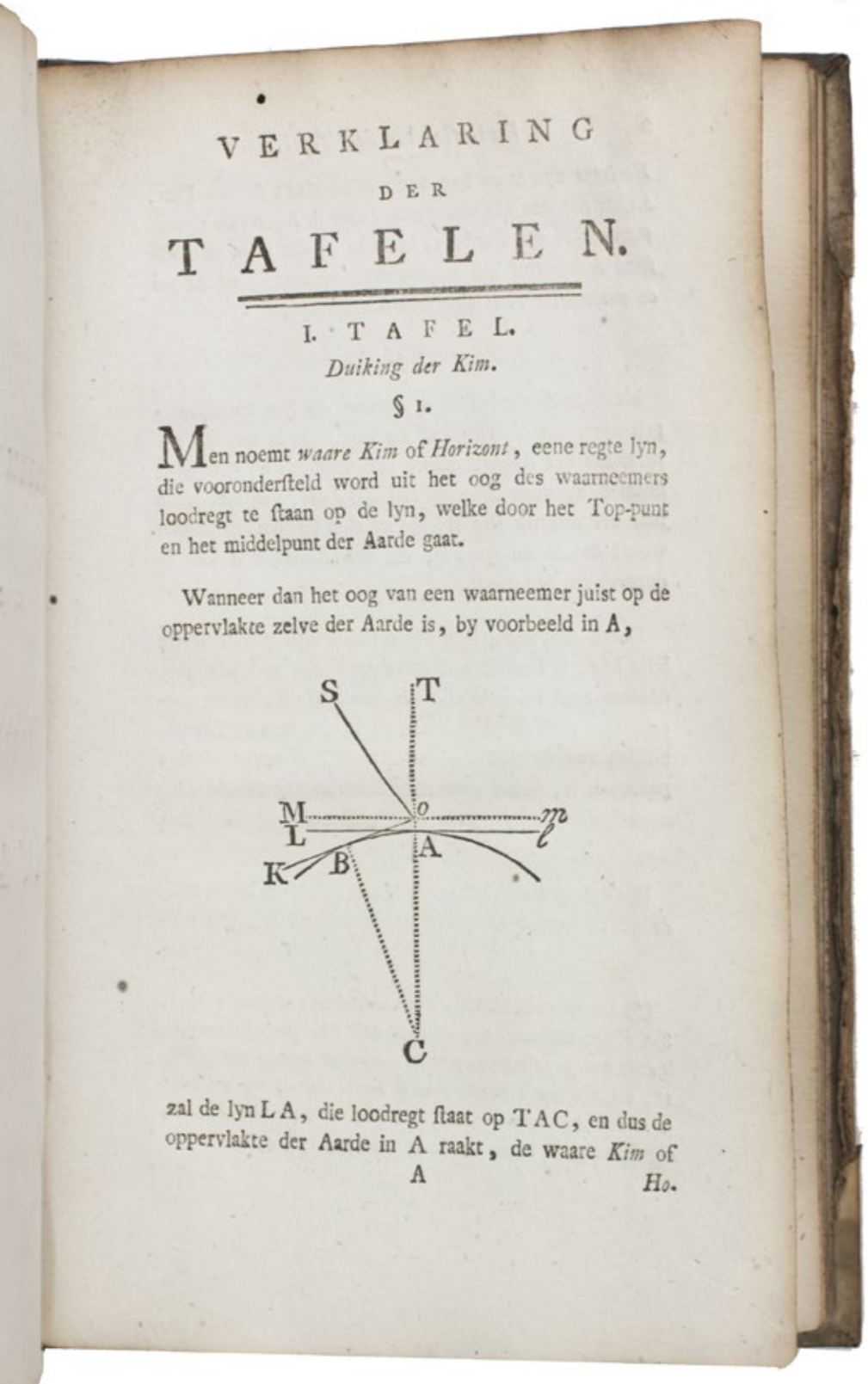
21. STENGEL, Johann Peterson. Gnomonica universalis, sive praxis amplissima geometricè describendi horologia solaria, stabilia quidem juxta omnes species, in quâcunque superficie planâ intra sphaeram rectam & obliquam, tum reflexa, et portatilia, in figuris 233 [= 232].

Ulm, Matthäus Wagner, 1679. 4 parts in 3 volumes. Small 8º (16 × 9.5 cm). With engraved frontispiece, title-page printed in red and black, 105 engraved plates, showing 232 sundials and related mathematical and astronomical figures (designated I–CCII & A–2G), 9 woodcut tailpieces and several decorations built up from cast fleurons. 19th-century boards covered with marbled paper, in matching marbled box. € 2250

First edition of the Latin translation of Stengel's extensively illustrated *Gnomonica universalis*, originally published in German in 1675. The work gives a detailed introduction to sundials, the measurement of time and other astronomical data, and is divided into four parts, treating the regular and vertical declining dials, reclining dials, horizontal dials, and portable dials respectively. The work proved very popular going through six editions in the original German and six in the present Latin translation.

Some occasional slight browning, minor stain on first half-title, one tiny restoration in the margin, and one plate detached. Binding slightly rubbed. Very good copy, complete with all plates.

De la Lande, p. 293; Houzeau & Lancaster 11525; VD 17, 23241626V (2 copies, incl. 1 incomplete); Zinner, Astron. Instrumente, p. 541.



VERKLARING
DER
TAFELEN.

I. TAFEL.
Duiking der Kim.

§ 1.

Men noemt *waare Kim* of *Horizont*, eene regte lyn, die vooronderſteld word uit het oog des waarneemers loodregt te ſtaan op de lyn, welke door het Top-punt en het middelpunt der Aarde gaat.

Wanneer dan het oog van een waarneemer juist op de oppervlakte zelve der Aarde is, by voorbeeld in A,

zal de lyn L A, die loodregt ſtaat op TAC, en dus de oppervlakte der Aarde in A raakt, de waare *Kim* of
A *Ho.*

How to calculate longitude at sea

23. SWINDEN, Jan Hendrik van, Pieter NIEUWLAND and Gerard HULST VAN KEULEN. Almanach ten dienste der zeelieden voor het jaar 1788.

Including:

(2) Over het bepalen der lengte op zee door de afstanden van de maan tot de zon, of vaste sterren, ...

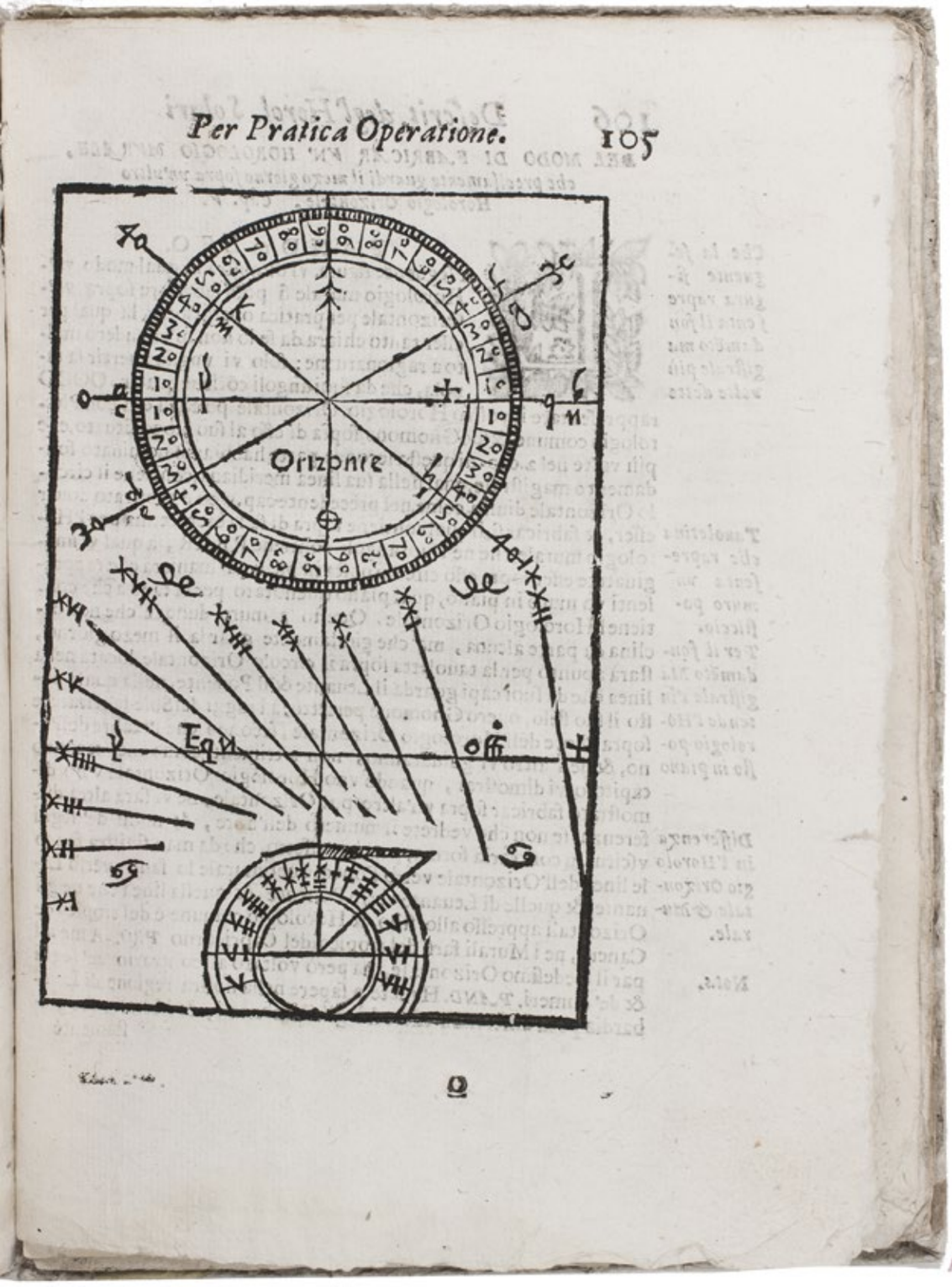
(3) Van tafelen, ten dienste der zeelieden, en voor al ter bevordering van het bepaalen der lengte op zee, door de afstanden van de maan tot de zon, of de vaste sterren; ...

Amsterdam, Gerard Hulst van Keulen, 1787–1788. 3 parts in 1 volume. 8º. With three title-pages with woodcut printer's device, mathematical figures in the text, letterpress tables, and 4 large printed folding tables. Contemporary half vellum. € 1500

First edition of an almanac for the use of seamen in three parts, published by order of the board of the Amsterdam Admiralty by the Committee for the establishment of longitude at sea and the improvement of nautical charts, in which committee Van Swinden played a leading role. The almanac is based on the English *Nautical almanac* and includes everything that can be of use for seamen, including a separate part on the calculation of longitude at sea and a part with letterpress tables necessary for the calculations.

In very good condition, only slightly browned around the margins. Binding worn along the extremities, sides chafed but otherwise good.

Bierens de Haan, 4789 (1), 4791 (2), 4793 (3); C.A. Davids, Zeewezen en wetenschap, pp. 188–190; Poggendorf II, col. 1058.



Last edition of a 16th-century manual on sundials

24. VIMERCATO, Giovanni Battista. Dialogo de gli Horologi Solari ... Nel quale con ragioni specolative, e pratiche facilmente s'insegna il modo di fabricar tutte le sorti di horologi. Novamente ristampo con le sue figure ... & con un agiunta di un horologio da servirsene al lume della luna.

Padua, [after the Venice edition by Giolito, 1585], 1672. 4°. With a large woodcut publisher's device on the title-page, 3 large folding woodcut plates, more than 30 woodcuts in the text, nearly all full-page, and numerous woodcut decorations. 18th-century stiff plain wrappers. € 2500

Rare last edition of one of the most popular and best illustrated 16th-century accounts of sundials and their manufacture, with a new chapter describing and illustrating a moondial. After briefly explaining the principles and the various kinds of sundials, it discusses their manufacture. Included are horizontal and wall sundials, and the affect of the location. The last chapter, apparently unique to the present edition, is devoted to the moondial, a sort of nocturnal for telling time at night, but using moonlight rather than the position of the stars. The three large folding plates (about 32 × 38 cm) and the dozens of large woodcuts provide numerous diagrams to aid the reader in both understanding and constructing sundials.

Riccardi I, B-col. 603; Sotheran 15399; Ist. Cent. Cat. Unico (3 copies, 1 possibly a variant).

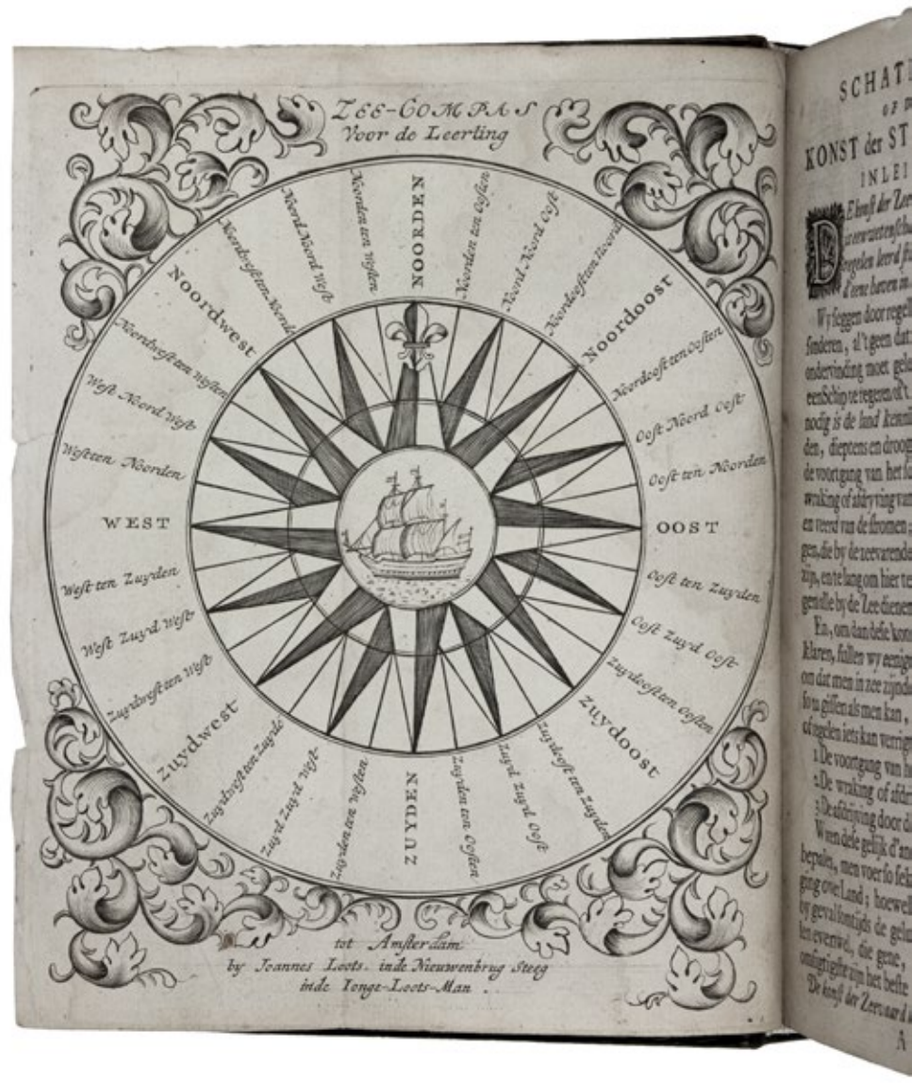
Rare second edition of a standard guide for ships' pilots, using the copperplates and woodblocks of the first edition

25. VRIES, Klaas de. Schat-kamer ofte konst der stuur-lieden; … tweeden druk verbetert … en vermeerdert …

Amsterdam, Joannes Loots, "171 " (changed to "1707" by stamping with printing types). With woodcut illustration of a ship's pilot with a plumb line and navigational instruments by Adriaan Le Duc (1693–1729) on title-page, 4 engraved plates (3 folding and 1 full-page). Further with many woodcut illustrations (mostly diagrams), and letterpress tables of tides and solar and lunar positions.

Including: **(2) SCHOOTEN, Frans van and Adriaen VLACQ**. De tafelen der sinuum, tangentium, en secantium, ofte der hoekmaten, raaklynen en snylynen, … achter de selve de logarithmi …

Amsterdam, Joannes Loots, 1707. With letterpress tables of logarithms and trigonometric functions. 2 parts in 1 volume. 8º. Modern brown goatskin morocco. € 4750



Very rare second edition, with additions and corrections, of a standard practical manual on the art of navigation, by the virtually unknown Klaas de Vries, teacher of mathematics in Amsterdam. Its illustrations are printed from the copper plates and woodblocks of the first edition of 1702, also published by Loots, and it repeats the 1701 dedication of that edition, to the famous Amsterdam burgomaster and one of the directors of the Dutch East India Company (VOC), Nicolaas Witsen, but now dated Amsterdam, 12 June 1706. In the preface De Vries summarises the content of the book, which is profusely illustrated (mostly with diagrams) and includes letterpress tables of the tides, the time lag between the positions of the sun and moon for the years 1707–1716, the declination of the sun, etc., as well as 4 engraved plates of a compass rose, the Jakob's staff and other navigational instruments, the "Platte Paskaart" and the "Wassende graadige paskaart". The work concludes with sections on the winds one can encounter on the journey from Holland to the Dutch East Indies; how to sail to the East Indies in autumn, during monsoons, etc.

Ad 2: Second Loots edition of tables of trigonometric functions and logarithms. The note to the reader in the first Loots edition, published with the *Schat-kamer* in 1702, explicitly stated that the tables were based on those published by Adriaen Vlacq in 1665 (*Tabulae sinuum …*), but that they had been corrected, in part based on comparisons with the folio editions of Pitiscus for the trigonometric functions and Henry Briggs for the (simple numerical) logarithms.

In good condition, with owner's inscription on title-page and another cut out and replaced by a blank paper slip.

Ad 1: cf. Cat. NHSM, p. 672 (2nd ed., 1713); Crone Library 409 (2nd ed., 1713); STCN (1727 ed.); WorldCat (1 copy of 2nd ed., 1710); ad 2: Cat. NHSM, p. 671; Crone Library 387; STCN (1 copy).

Standard work on astronomic instruments

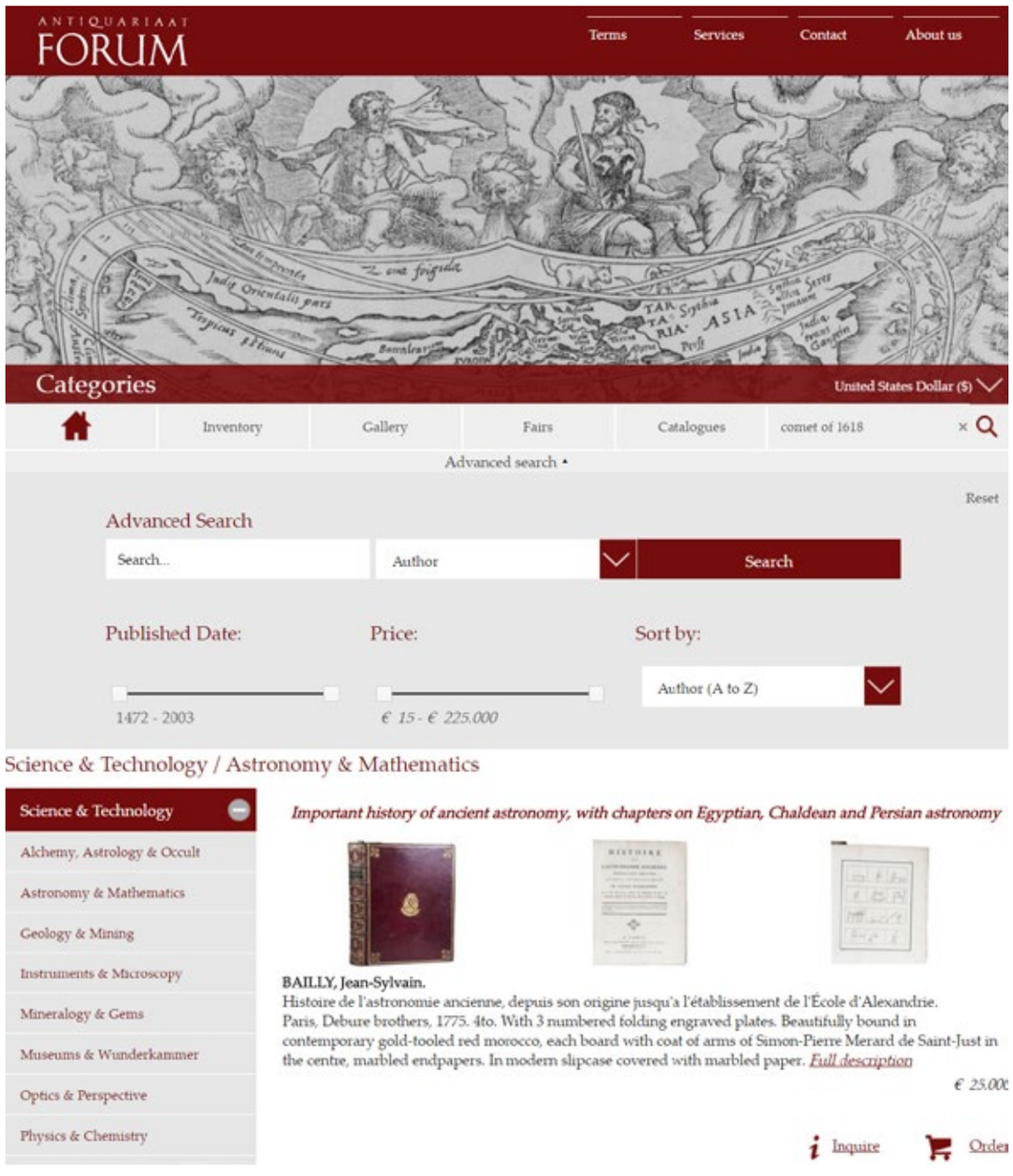
26. ZINNER, Ernst. Deutsche und Niederländische astronomische Instrumente des 11.–18. Jahrhunderts.

München, C.H. Beck'sche Verlagsbuchhandlung, 1956. With 80 numbered plates. Half cloth. € 250

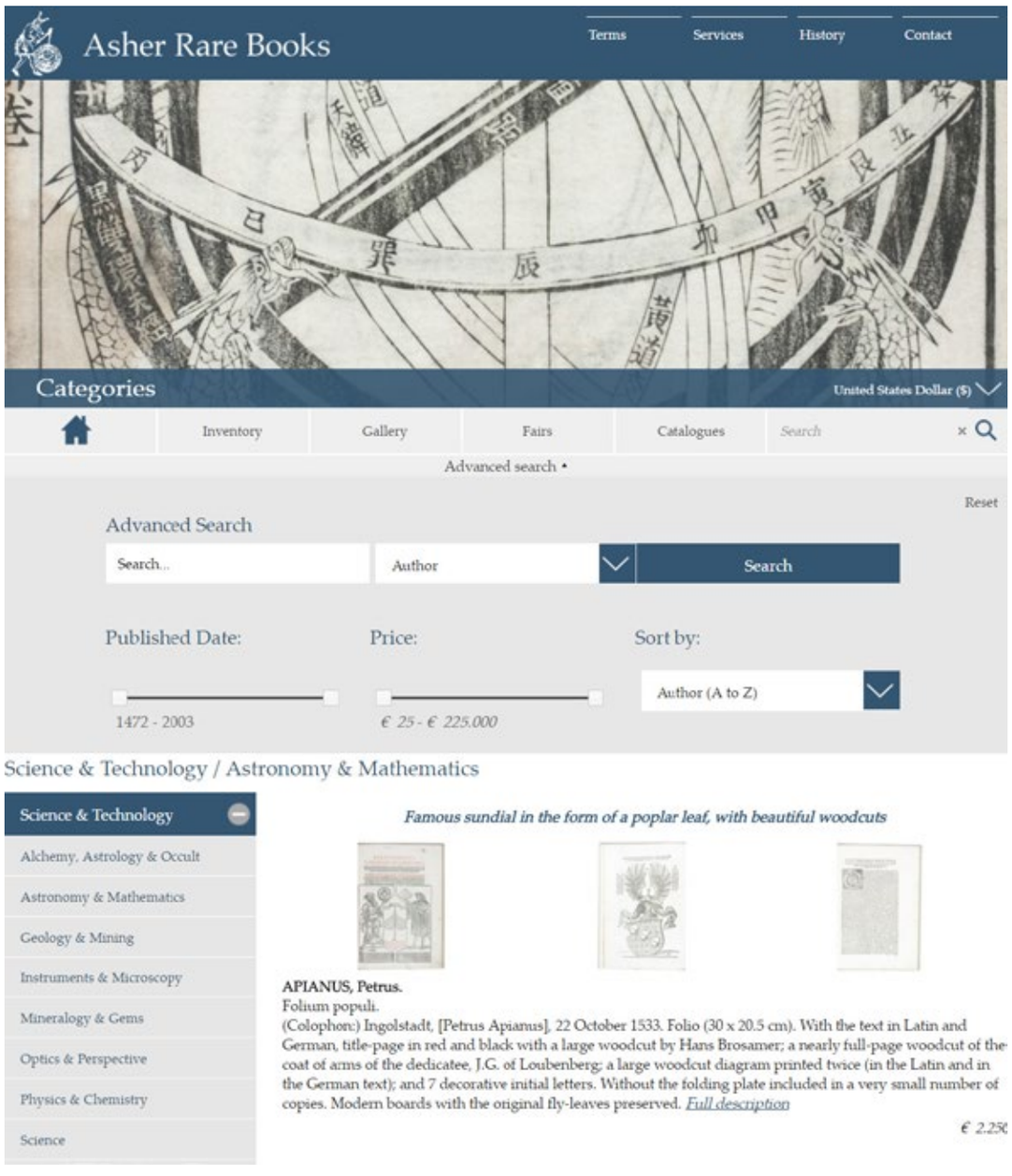
First edition of a standard work on astronomic instruments from Germany and the Netherlands by the noted historian of astronomy Ernst Zinner (1886–1970).
Very good copy

More books, maps, manuscripts and prints related to astronomy & mathematics available at our websites:

www.forumrarebooks.com/category/science_technology/astronomy_mathematics.html



www.asherbooks.com/category/science_technology/astronomy_mathematics.html



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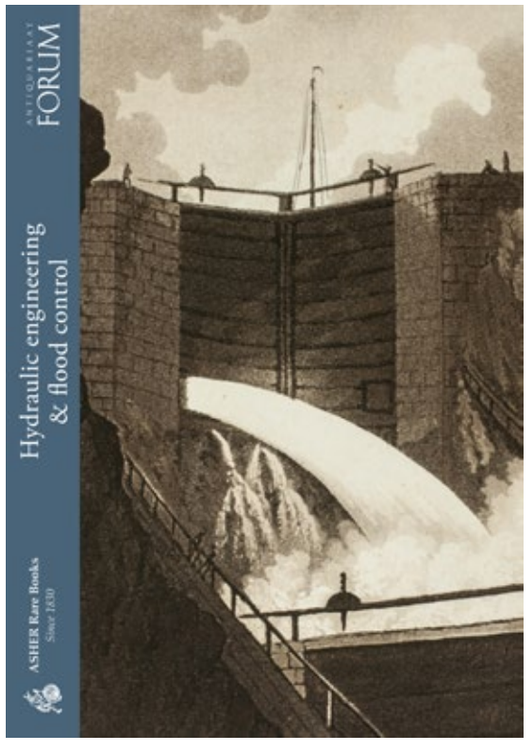

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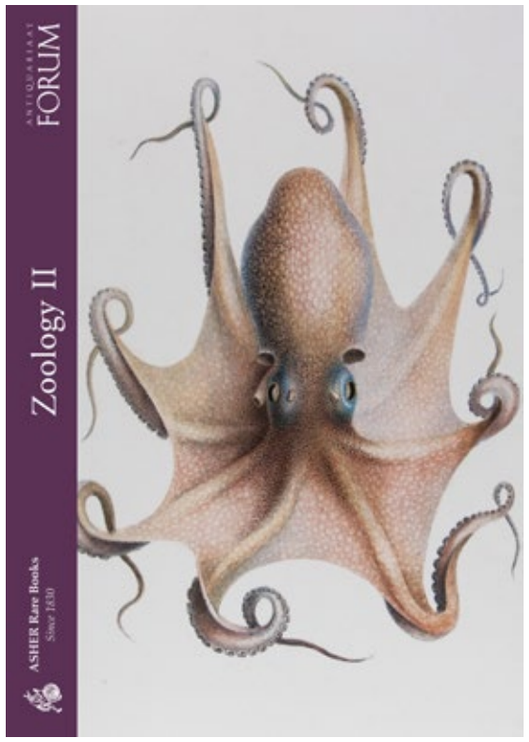

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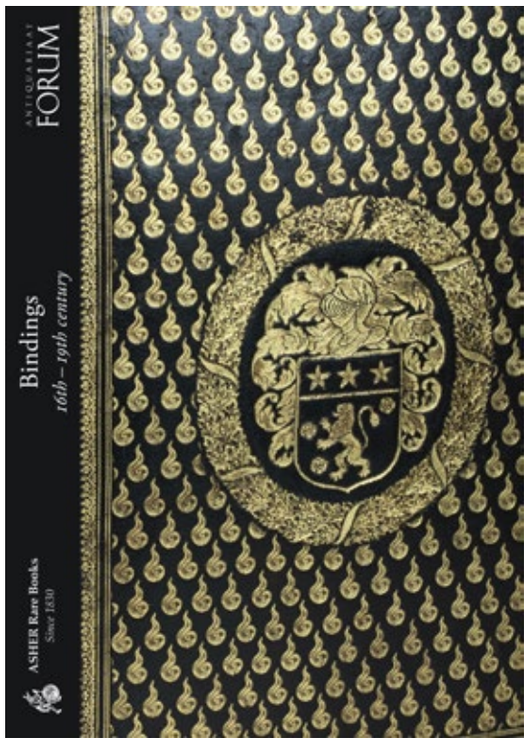

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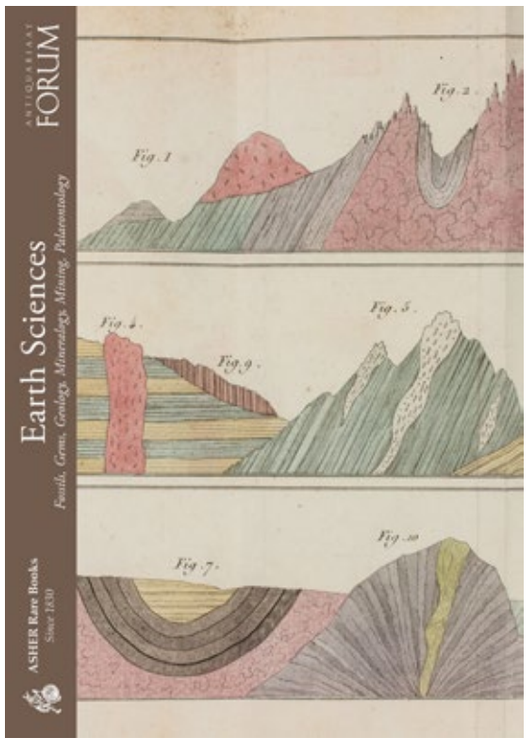

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