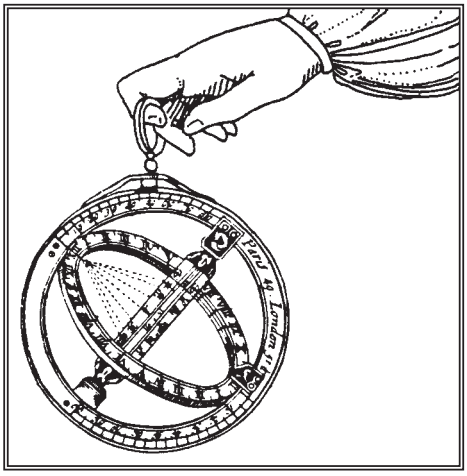

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Early Scientific Instruments

Catalogue One Hundred Five

Spring, 2017 $10

CATALOGUE ONE HUNDRED FIVE

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— Yola Coffeen, Ph.D.

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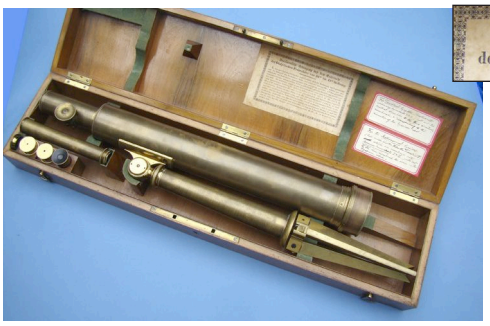
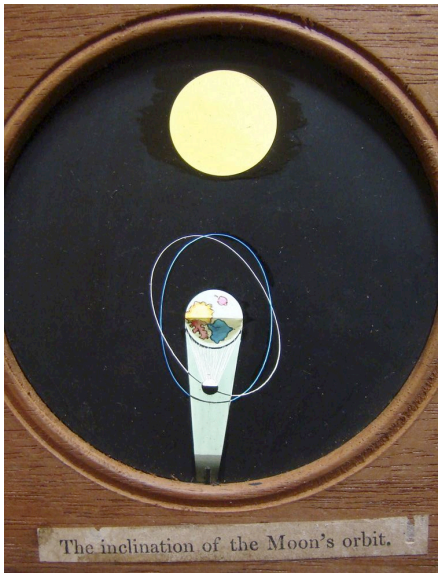
*** * * * * ASTRONOMY * * * * ***

1. PLOSSL DIALYTICAL TELESCOPE, Austrian c.1830, signed in script “Plössl in Wien.” This precision telescope, by a master craftsman, opens to a maximum length of 33-1/2” (85 cm), and stands 17” (43 cm) high on its fine tripod base. It has two very high power astronomical eyepieces in addition to the two "terrestrial" eyepieces with erecting optics, giving excellent images, and has drawtube and rack-and-pinion focus. Most important, it is an example of the rare “dialytical” design, whereby the “objective” consists of two singlets, one of crown glass at the far end (2-1/4” diameter lens in this case), the other of flint located midway along, connected to the eyetube. This separation permitted an achromatic design with a relatively small diameter of flint glass, and was Plössl's true specialty. Simon Plossl (1794-1868) became famous for his achromatic designs for microscopes and telescopes, and for his craftsmanship of the highest quality. This telescope, of excellent workmanship, is in very fine condition, the brass a rather uniform tan, with partial original lacquer finish. The original case is good, with replaced hardware, and carries the original instructions for use. A fine, rare example of the dialytical. $4800.





2. HAND-PAINTED ASTRONOMICAL MAGIC LANTERN SLIDES -- THE MOON, English, second quarter 19th century. These unusual sides are all double with twin 3" (7.6 cm) diameter hand-drawn and colored glass disks set in 9" x 4-3/8" x 3/8" (23 x 11 x 1 cm) mahogany frames. All views have printed labels as well as hand-written identifications. All relate to the moon, although they must have been part of a larger series. There are eight slides, for a total of sixteen views, including lunar eclipses, orbits, tides, phases, appearance, etc. They are in excellent condition throughout, and are a beautiful set. And we note some amusing artistic license as well as historic errors. In two views the orbits are fine but the illumination geometry impossible, with a crescent moon orbiting a full earth. And in an eclipse view Uranus has too many satellites (six, as announced by Herschel in the late 18th century, but four of which proved to be spurious misidentifications). Neptune is not yet discovered, dating the set pre-1846.

A splendid lunar set. $2500.

3. REMARKABLE ASTRONOMICAL COMPENDIUM REPLICA, signed "CS 1565," but c. late 19th or early 20th century. This substantial object is 7" x 7" x 2" (18 x 18 x 5 cm) overall (closed), the body constructed of wood bound in silver. The top has elaborate symbolism on a silver plaque, the four side panels with Latin phrases, the corners with red enamel panels visible through pierced silver designs. It opens to reveal twin instruments set within blackened wood quatrefoils, with wonderful repoussé brass scenes in the spandrels. The first instrument is a horizontal sundial with folding gnomon and inset glazed compass, the second a complex astrolabic calculator with rotating plate, "rete," solar index, and lunar index with aspectorium. There are even "replica" hallmarks on the silver. Craftsmanship is very elaborate but of medium quality, condition good with some wear.

This is an apparent "copy" of an unrecorded compendium. It was included in a 1985 Italian exhibition on sundials, illustrated and described by A. Turner (*Ritmi del Cielo...*, item 31). A very similar instrument is in the National Maritime Museum collections (item 413 in Higton, *Sundials at Greenwich*), although constructed without the elaborate case. And a third one, at the Adler in Chicago (ID #A-7), similar to ours with some variation in decoration, is signed for Hartmann 1558! Turner reckons a date of 1900-1920, based on the "Art Deco" style of the angels in the spandrels, and the Greenwich example has been known since at least 1931. In any case we have here a relatively recent construction, of remarkable complexity and presence. $3800.

ex: Beltrame collection

4. **CHARMING EARLY POCKET TELESCOPE,** English, early to mid-18th century. Beautifully constructed of turned lignum vitae wood, with brass lens cells and dust slides at each end, the telescope measures 3-3/8" (8.6 cm) overall with a 23mm diameter objective stopped down to 13mm. It focuses, and separates, by wood threads in the center. With its bi-concave eyelens, this Galilean design gives fine upright images with low power. A handsome early pocket telescope, in fine condition noting a shrinkage check. $975.

5. **IMPRESSIVELY LARGE EXAMPLE OF THE LIGNUM TELESCOPE,** English, c. early to mid-18th century, measuring 9" (23 cm) overall of beautiful lignum vitae with brass end caps with dust slides (the brass now dark brown). The telescope separates in the middle for focusing. The eye lens is plano-concave with ground periphery, and gives fine erect images, small but of moderate magnification. Condition is excellent.

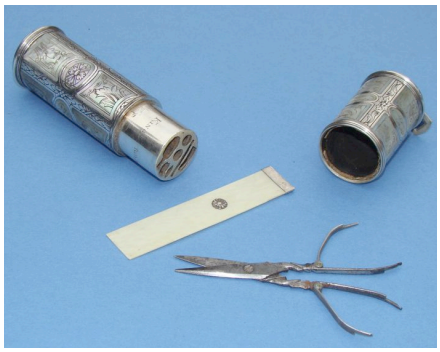
Over the years we have had several English pocket telescopes of lignum, in various sizes, but never one this large and handsome. They were never signed apparently, but we do find "Little Perspectives" advertised (see e.g., John Yarwell's 1683 card reproduced in Crawforth, *Annals of Science* **42**, p.540). $3500.

6. ELEGANT ASTROLABE RETE WITH FLORAL DESIGN, Indo-Persian, c.17th century, of pierced and hand-engraved brass, 6" (15 cm) in diameter. Engraved in Arabic script, the rete, with its map of the heavens and celestial coordinate system, has a circular ecliptic band labeled with the twelve Zodiacal houses and subdivided on the beveled edge for every two days. Arcs of the equator are included inside the upper half of the ecliptic, and outside the lower half. A horizontal bar is counter-changed at the equinoxes and at the center, and a vertical bar is interrupted by two fine multi-lobed bifurcated decorative frames. There are 26 labeled star pointers on elegant floral supporters, most with small incised points at their tips, to indicate the precise star positions. Condition is very fine, noting light wear and slight bending of the tips of the circumferential ring. Included is a star list, giving transcriptions of all the star names plus their equivalent modern constellation locations.

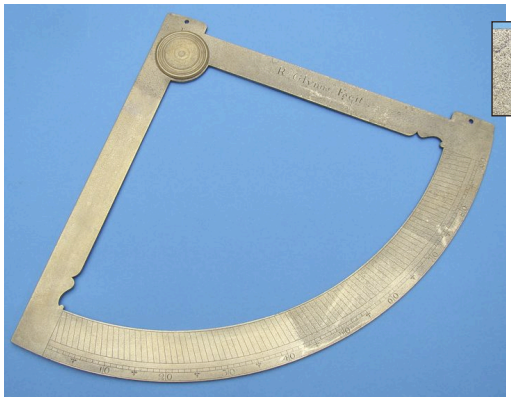
This decorated rete is in the Indian tradition, possibly from Lahore. It is notably similar to the rete on a large Indo-Persian astrolabe, illustrated and described by S.R. Sarma in his on-line *A Descriptive Catalogue of Indian Astronomical Instruments,* 2016, item B015. The present rete is B016 in Sarma's comprehensive catalogue. A fine early example. $2950.

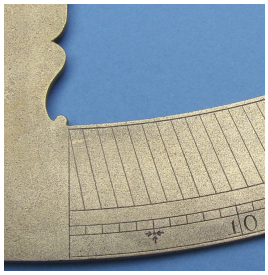
7. EXQUISITE MONOCULAR OF THE HIGHEST QUALITY, English, mid-18th century, signed "Ribright Optician Fecit London" and "By ye King's Royal Patent," and numbered "557." Of cylindrical shape, 4-1/8" (10.5 cm) long (closed), the instrument is made of silver, beautifully hand engraved with patterns of foliage, and inset with 24 hand engraved shaped lozenges of iridescent greenish mother-of-pearl. The ends are set with lenses (stopped down to 5/16" diameter and equipped with dust slides) forming a Galilean monocular system giving magnification of several times. The eye assembly withdraws for focusing and access to the interior. Midway along the tube, where the bundle of light rays is smallest, there is an internal fitting with six slots for various mathematical and domestic tools. Only two remain, both with silver handles and showing a bit of wear: a notepad for use with pencil, and a folding scissors. Condition of the monocular is excellent, complete with its case bound in decoratively stamped leather and lined in colored paper.

This system of compendium concealed within a telescope was patented (and produced) by Thomas Ribright in 1749, as "Making small perspective-glasses with mathematical and other instruments and twees in the same case...." All Ribright-form monoculars are rare, especially signed ones (see, e.g., the unsigned one in **Tesseract** Catalogue 90, Item 1). Some are more elegant and highly crafted than others, this the finest we have had. $6500.



8. JAPANESE POCKET TELESCOPE, c. 19th century, measuring 6-7/8" (17.5 cm) long closed, with its brass dust caps. The main tube is bound in red leather, gilt stamped, and the telescope opens to 16" (41 cm) on its two intensely-patterned black and lightly gilt-stamped drawtubes. The latter are tapered for a very snug stable fit when drawn open, and are removable only by removing the objective and withdrawing them through that opening. The eye surround is turned horn, the singlet objective surround brass, stopped down to a miniscule 6mm for acuity. Condition is very fine noting tiny losses to the binding. We have had larger Japanese telescopes, one bound in fully patterned leather (**Tesseract** Catalogue 102 Item 6), the other lacquered and patterned (98/1), but this is the first truly "pocket" form we have seen. $2200.

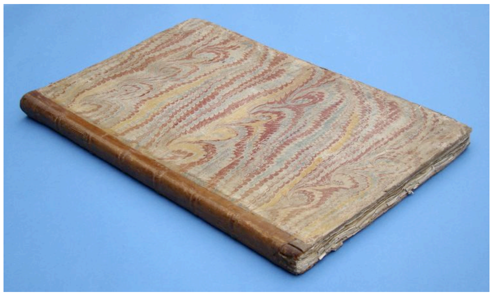


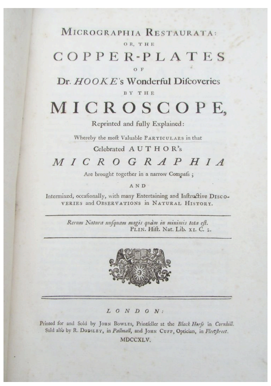


9. LARGE ENGLISH QUADRANT, c. first quarter 18th century, signed "R. Glynne Fecit." Measuring 9-3/4" x 10" (25 cm), this substantial brass quadrant has a 0° - 90° scale, divided every degree counter-clockwise, and with transversals probably for use with an alidade. A simple apparently original turned disk now sits at the vertex. The upper edge is shaped, with two holes (one numbered "I") probably for attaching sight vanes. There is lovely recurved shaping by the scale ends. Condition is good noting general fine pitting.

This is a very rare survival of a larger astronomical or nautical quadrant. Richard Glynne was a foremost instrument maker, apprenticed to Henry Wynne 1696, made free in the Clockmakers Company 1705, working c. 1707-1730. He is known for innovation and exceptional craftsmanship, noting for example a wonderful armillary-orrery at Oxford, and a spectacular set of drafting instruments we had (**Tesseract** Catalogue 57 Item 31). $3950.

*** * * * * MICROSCOPY * * * * ***





MICROGRAPHIA RESTAURATA:
OR, THE
COPPER-PLATES
OF
Dr. *HOOKE*'s Wonderful Difcoveries
BY THE
MICROSCOPE,
Reprinted and fully Explained:
Whereby the moft Valuable PARTICULARS in that
Celebrated AUTHOR's
MICROGRAPHIA
Are brought together in a narrow Compafs;
AND
Intermixed, occafionally, with many Entertaining and Inftructive DISCOVERIES and OBSERVATIONS in NATURAL HISTORY.

Rerum Natura nufquam magis quàm in minimis tota eft.
PLIN. Hift. Nat. Lib. XI. C. 2.

LONDON:
Printed for and Sold by JOHN BOWLES, Printfeller at the *Black Horfe* in *Cornhill*.
Sold alfo by R. DODSLEY, in *Pallmall*, and JOHN CUFF, Optician, in *Fleetftreet*.
MDCCXLV.

10. ROBERT HOOKE'S WONDERFUL VIEWS THROUGH THE MICROSCOPE, English, 1745, this being a first edition of *Micrographia Restaurata: or, the Copper-Plates of Dr. Hooke's Wonderful Discoveries by the Microscope, Reprinted and Fully Explained..."* Pagination is [4], 70 (including 4p. index), plus 33 full-page plates (3 folding). The book is a large 9-3/4" x 15" (25 x 38 cm). Margins are wide, binding seems original with patterned paper over board covers and leather spine. Condition is fine with light wear and essentially no soiling or foxing.

This is a magnificent presentation of the plates of Hooke's famous *Micrographia,* with updated language in the explanations of the plates. Produced 40 years after Hooke's death, it supplied a need explained in the preface: "The *Micrographia*...being grown extremely scarce, and the price thereof greatly raised, it can fall into the hands of the very few...." It is argued that the plates are much more instructive and entertaining than the text, and that all but seven of the original copper plates were recovered and used here, the few others being re-engraved as exact copies. Captions were added within the plates, and new discoveries added to the text. (*and see back cover of this catalogue*)

The plates in this copy are indeed magnificent, with rich blacks and fine detail. A wonderful presentation of some of the first drawings made through the microscope.

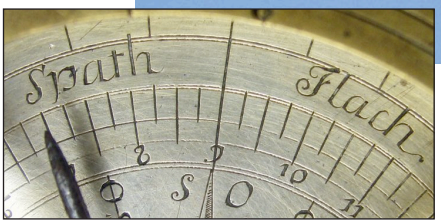
ex: Spottiswoode collection $12,000.

11. HENRY CRAIG'S HARD-RUBBER FUSED-LENS MICROSCOPE, American, c. 1865, signed on the eyepiece mount "Craig's Lens, Pat'd. Feb'y. 18, 1862," and on the base "Goodyear's Patent, May 6, 1851." Standing 5-1/2" (14 cm) tall, it is of finely shaped gutta percha, with banded body and festoons to the base. It is very fine noting one chip and crack to the lower body.

In 1862 Craig received patent #34,409 for his simple microscope comprising a high power lens mounted just above the specimen slide slot, atop a cylinder housing an adjustable mirror. A key feature of his patent was the lens, made with a globule of flint glass fused to a plate of crown glass. The focal point was at the bottom of the crown plate itself, which would be in direct contact with the specimen on slider, or fluid droplet specimen. No focus adjustment was necessary! Craig's invention has been described by Bell (*Rittenhouse* **8**, 73-77), who writes: "The first inexpensive American microscope was that patented in 1862 by Henry Craig of Cleveland, Ohio, one of the many self-taught inventors who flourished in 19th-century America. In 1861-62 Craig was working as a janitor in the Western Homeopathic College and living at the school. In 1863-64 he was 'Manufacturer of the Craig microscope.'" It was produced in various forms in various materials; all forms are rare, especially that in gutta percha. $2200.

12. UNUSUAL EARLY CYLINDRICAL MICROSCOPE, possibly Benjamin Martin, c. second half 18th century. The instrument forms a slim lacquered brass cylinder 6" (15 cm) long and 1" (2.5 cm) in diameter. The sliding microscope tube itself has a triple-lens ocular and single-lens objective, and gives good images. The body tube has large side openings for illumination, a tiltable plane substage mirror, a substage condenser lens in sliding cell, and a stage area with side slots for fish tubes, spring slots for sliders, and hole for specimen holder. The only accessories present are the adjustable specimen forceps with alternative black/white "stage," and one (warped) prepared specimen slider. The fitted case is bound in brown leather and lined in red velvet. Condition is fine.

Several aspects of this microscope are notable. The third lens mounted with the ocular is perhaps a form of Martin's "between lens" development of 1759. The leather bound case is more typically Continental. The perfectly cylindrical form is most unusual. We have found only one other example in the literature, that shown in Fig. 113 in Clay & Court's 1932 *The History of the Microscope*. The authors attribute it to Martin, as an all-brass evolution of his drum microscope constructed in heavy card bound in shagreen and vellum with lignum vitae fittings. A rare example. $3950.

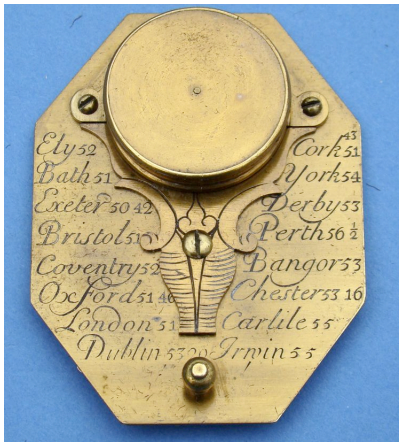


13. A FINE SWEDISH DIAL, c. 1740, signed "T. Fuchs." The brass main plate is 4" (10 cm) square, supported by four turned feet and divided by 32-point radiating lines. Atop this is mounted a fairly deep glazed compass, with finely engraved silvered face divided in a standard 16-point rose (with directionals NNO, WSW, etc.), and also in a circle of twice-12 hours subdivided by quarter hours, each eighth of the circle marked, clockwise from north: "Stehend, Morgen, Spath, Flach" (and repeating). There is a shaped arrow needle and needle lifter, and above the glass a horizontal sundial with circular chapter ring divided every 5 minutes from 3am to 9pm, and stick gnomon which flips up to the fixed latitude of 61°, and so marked. The finely turned brass cover is present, and all is complete and in fine condition with light wear.

The design latitude is even further north than that of Stockholm (59°) and Uppsala (60°). The instrument has interesting features of this area, *viz.,* the scale accommodating longer than usual daylight hours, and the compass well deep enough to accommodate considerable dip in the needle (typically caused by iron deposits in Sweden).

Thomas Fuchs was a German maker invited to Sweden by Anders Duhre, and recorded working there c. 1733-1745. He taught instrument making and mathematics at the *Laboratorium mathematico-oeconomicum* in Uppsala, which he ran, and was eventually appointed Instrument Maker to the University (Pipping, 1991, *The Chamber of Physics.)* $4500.

14. EXQUISITE GERMAN EQUINOCTIAL DIAL, c. 1700, signed "Johann Willebrand in Augspurg 48." Constructed of silver and gilt brass, the lovely eight-sided dial measures 2" (5 cm) across, mounted with hinged equatorial circle divided every 15 minutes, spring-mounted polar gnomon which can be set either above or below the equator (summer or winter), hinged latitude quadrant, and inset glazed compass. The base is finely engraved with an extensive gazetteer of European cities and their latitudes. There are floral scrolls at the end of the latitude arc (both sides), with a miniature cuffed hand as pointer. In very fine condition noting minor wear, a fine example by this master craftsman. It is complete with the original wood case covered in red morocco leather and lined in green silk, noting lid detached. $3200.



15. CHARMING PROVINCIAL ENGLISH DIAL, c. first half 18th c., possibly by one "Chevalier." This rare eight-sided English dial is made of bright lacquered, possibly gilt, brass, 2-1/2" (6.3 cm) overall, with spring-loaded adjustable gnomon and inset compass. There are three latitude rings, for 45°, 50°, and 53°. This is a form of "Butterfield" dial, but with distinctive details. The gnomon has fine floral and running-leaf-tip decoration on both sides, and is adjustable within the double-bird support for latitudes 45°- 60° North. Floral swirls continue in the dial center and compass center. The latter has a ±20° scale of magnetic declination and is silvered. The base is engraved with 16 English country towns, most of them well north of London, many given in degrees and minutes. Most northerly are Irvin(e), Carli(s)le, and even Perth at 56.5°. The dial is in very fine condition, noting an area on the base of slightly reduced thickness, suggesting the removal of the maker's name, possibly by a retailer. It is complete with the eight-sided case bound in black fishskin.

A closely related dial, with similar floral patterns and also designed for a restricted range of English towns (those within a degree of 51°) is Item 23 in **Tesseract** Cat. 24. That is signed "Chevalier," an unrecorded craftsman but conceivably related to the famous French family of microscope makers; one Chevalier is known to have worked on the island of Guernsey in the late 18th c., c. 1770 - 1791 (Taylor II, p.283). $2950.

16. NETSUKE-FORM POCKET COMPASS / SCAPHE SUN-DIAL, Japanese, c. first half 19th c. Measuring 1-1/2" (3.7 cm) in diameter, the flattened brass form is like that of a *Kagami buta* type netsuke. One side has writhing foliate engraving, the other set with a suspension ring. It opens to a compass on one side, surrounded by a circle of 24 directionals, with half divisions, and a scaphe sundial on the other, with two bands of 30 characters each, plus a chapter ring of seven hours, divided to the half hour and numbered clockwise 6, 5, 4, 9, 8, 7, 6. This is the old Japanese system of six daytime temporal hours, starting when clocks struck 6 at sunrise, 9 at noon, finally 6 again at dusk. Condition is very fine, the external brass now with a light brown patina. An excellent example of the Japanese pocket dial. ex: John Read collection $1350.

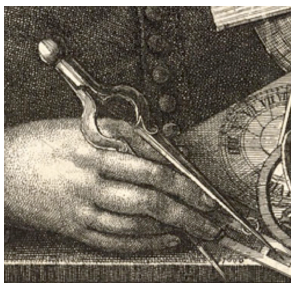
17. EXCEPTIONAL QUALITY BUTTERFIELD DIAL, French, c. 1680, signed with great flourish "Butterfield à Paris." The dial is solid silver, 2-5/8" x 3-1/16" (67 x 77 mm), and is made for a single latitude, 44°40' as marked on the single chapter ring. The main plate is engraved with a fine floral pattern housing two birds, and is set with a folding spring-loaded gnomon deeply engraved with floral designs, and with an inset compass with 32-point rose and delicate needle. The reverse has running leaf tip borders, compass base with fine flower in bloom, and spring plate with a cornucopia of fruit. Condition is excellent, complete with the original fitted case bound in black fishskin, lined in red velvet, and set with silver fittings.

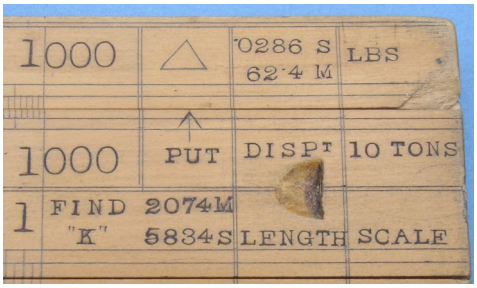
The design latitude is just south of Bordeaux center, and thus we have a superlative dial, by the pre-eminent maker, commissioned perhaps by a wealthy wine merchant or ship owner. This is the finest "Butterfield by Butterfield" dial we have been able to offer. $9800.

18. FINELY CARVED SHIP MODEL, French, c. early 19th century, hand-carved entirely of coquilla nuts, measuring 4-1/2" (11.5 cm) overall. The ship is hollowed out, and fitted with a hinged lid to form a tobacco box. The lid is deeply carved with a magnificent leader on horseback, with full regalia. The stern is carved with two angels blowing trumpets and the name of the vessel, "Sully." The ship carries a total of 66 guns arranged in three layers. Condition is excellent.

The coquilla nut is the fruit of the Brazilian palm tree and was carved by French prisoners of war held (often on moored hulks) during the Napoleonic wars. Over 100,000 such prisoners were brought to Britain between 1793 and 1815. The Duc de Sully (1560-1641) was a distinguished soldier, an important statesman in the French monarchy, serving as Henri IV's right-hand man and chief minister for 22 years. $1950.

19. NAVIGATOR'S SINGLE-HANDED DIVIDERS, probably English, c. 17th century, 7-1/2" (19 cm) tall, of beautifully shaped brass with eight-sided hub, five-leaf hinge, and inset steel tips. Condition is fine noting general wear. This form, with its distinctively shaped handhold, appears in the cartouches of early maps, and globes. A seemingly identical pair is depicted in the right hand of Elias Allen (c. 1602-1653), in his portrait by H. van der Borcht (see *e.g.,* the frontispiece of E.G. R. Taylor's *The Mathematical Practitioners of Tudor and Stuart England, 1485 - 1714*). $1250.

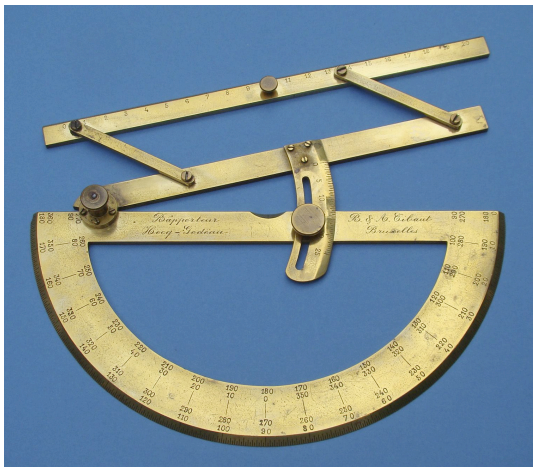


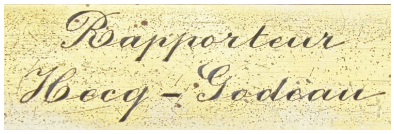


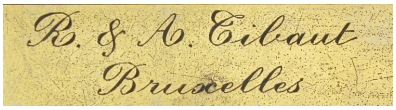
20. THE RARE "FROUDE" SLIDE RULE FOR SHIP MODEL STUDIES, English, c. 1890, signed "Froud's slide rule" and for the maker "Stanley, Great Turnstile, Holborn, London." Made of lovely boxwood, 24" (61 cm) long, the rule is fully divided with scales on both sides, and on both sliders, and with numerous equations and constants on the edges. There is a fine metal cursor with twin index points on each side. The rule is in excellent condition, complete with the original stained pine case (with Cooke, Troughton & Simms vendor's label) and instruction booklet.

The many mysterious scales and equations on the rule relate to the challenge of scaling the actions of a ship model, in a water tank, up to the real ship in the real ocean. In the instructional example, a 425 foot long vessel is scaled down by 31:1, requiring a realistic model almost 14 feet long. Calculation then involved the relative displacements, corrections for density of fresh versus salt water, finding the wetted surface of the model, also the speed at which the model must be run to "correspond" to a given speed of the ship, of velocity and resistance in standard units, surface friction corrections, effective horse power determination, etc.

R.E. Froude himself was a British naval engineer, prolific author and subject of books and articles. $1950.

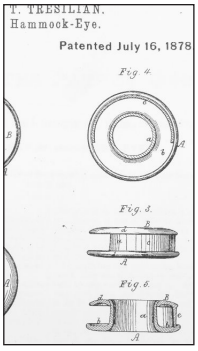






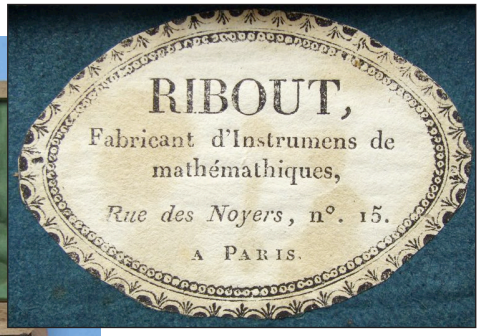
21. REMARKABLE COMBINATION PLOTTING TOOL -- A SEMI-CIRCULAR PROTRACTOR WITH INCLINING PARALLEL RULE, Belgian, c. 1900, signed for the inventor "Rapporteur Hecq-Godeau" and for the maker "R. & A. Tibaut, Bruxelles." Made of thick brass, 8-5/8" (22 cm) across, the protractor has a beveled edge divided every half degree and labeled 0-180, 180-0, 270-90, and 90-270. Hinged to this, and with two clamp screws, is a parallel rule with beveled edge divided every millimeter from 0 to 20 centimeters, and with guiding arc divided every half degree from 0° to 25°. Condition is fine throughout noting only some bending to the arc.

Ingenious and extremely rare. $1800.


T. TRESILIAN.
Hammock-Eye.
Patented July 16, 1878.
Fig. 4.
Fig. 5.
Fig. 6.

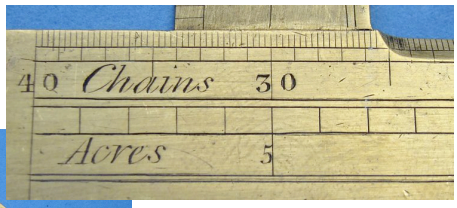
22. "IMPROVEMENT IN HAMMOCK-EYES" -- SECURE SUPPORT FOR THE SLEEPING SAILOR, American, 1878, signed on the 2" (5 cm) diameter brass fitting "Union Web, Gloucester, Mass." The two-part fitting is designed to partially encompass a braid of hammock strings. for secure mounting at each end. The fitting is complete with a considerable quantity of the red and white strings, plus the original patent office tags. Condition is good noting some wear.

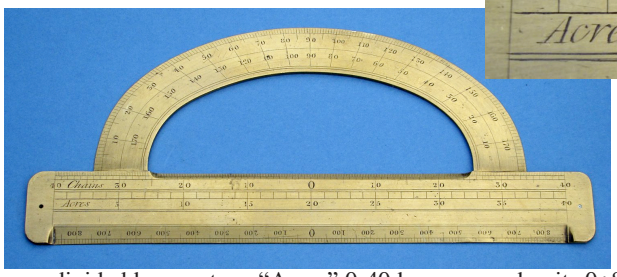
This is the original example submitted by Thomas Tresilian of the sea-faring town of Gloucester, for which he received patent 206,059, on 16 July 1878. Tresilian apparently frequented the sea; a publication of collections by fishing vessels, made for the U.S. Fish Commission, records him taking in a "great bush-coral" from George's Bank. A unique American invention. $695.



23.GOOD FRENCH DRAFTING SET, c. second quarter 19th century, signed on the trade label "Ribout, Fabricant d'Instrumens de mathématiques, Rue des Noyers, no. 15, à Paris." The 4-1/4" x 8" (11 x 20 cm) walnut box is fitted in green velvet and silk, and contains a good set of instruments of brass, steel, and mahogany. There are large and small dividers, each with interchangeable straight steel tip, articulated adjustable ink holder, and articulated pencil holder. The larger one has a long extension arm, for drawing circles and arcs with radii up to 15"! There is also a straight ink pen, and a transparent horn protractor hand-engraved and divided to half-degrees. All is original and in very fine condition, noting slight lid warping, one small item missing (pencil leads, perhaps), and just a little nibbling to the horn.

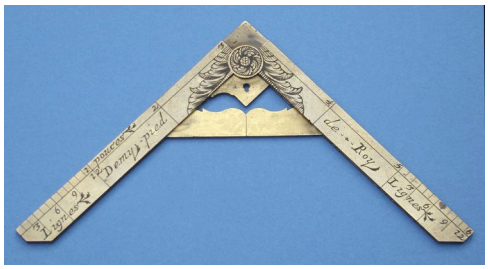
We have had one other instrument by Ribout, that a fine pair of architect's rules (**Tesseract** Catalogue 24 Item 42). $1450.





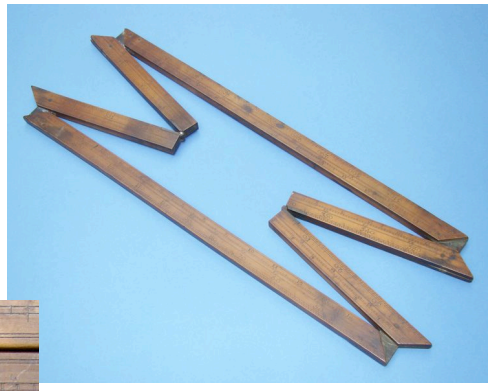
24. UNUSUAL OVAL PROTRACTOR / RULE FOR THE SURVEYOR, English, c. mid-19th century, the 6-5/8" (17 cm) wide brass instrument divided with three linear scales ("Chains" 0±40 divided by quarters, "Acres" 0-40 by ones, and units 0±870 by tens), and with fine oval "semicircle" (0-180 and back, by degrees). Condition is fine noting a few small irregularities. This is the first such oval instrument we have had, and quite handsome in design. $495.

25. FRENCH ENGINEER'S BUTTON, c. second half 19th century, the 7/8" (22 mm) diameter gilt brass button bearing the identification "Ingénieur Ponts et Chaussées" (Engineer, Bridges and Roads), plus a field of surveying instruments including graphometer, surveying square, and telescopic builder's level, each staff-mounted, plus a water level. A most unusual surveyor's insigna, in very fine condition. $95.



26. ELEGANT LEVEL / RULE BY BUTTERFIELD, French, c. first quarter 18th c., signed "Butterfield à Paris." This brass pocket instrument is 3-5/8" (9 cm) long (closed), with lovely decorative engraving on both sides. It opens, with a shaped strut, to form a right angle as well as a level with its plumb suspension hole, index line, and chamfered feet. It opens fully to form a half-the-King's-foot rule subdivided in inches ("pouces") and twelfths ("lignes"). In excellent condition, a fine merging of art and science. $895.

"The Table it felf is a Parallelogram, containing in Length about 14 inches and a half, and in Breadth 11 inches: it is compofed of three feveral Boards, which may be taken afunder for Eafe and Convenience in Carriage. For the Binding of thefe three Boards faft when the Table is fet together, there belongeth a joynted Frame, fo contrived, that it may be taken off, and put on the Table at Pleafure. This Frame alfo is to faften a fheet of Paper upon the Table, when you are to defcribe the Plot of any Field, or other Inclofure thereupon. This Frame muft have upon it, near the inward Edge, Scales of equal Parts on both fides, for the Speedy drawing of parallel Lines upon the Paper; and alfo for the fhifting of your Paper, when one fheet will not hold your whole work." (William Leybourn, 1722)



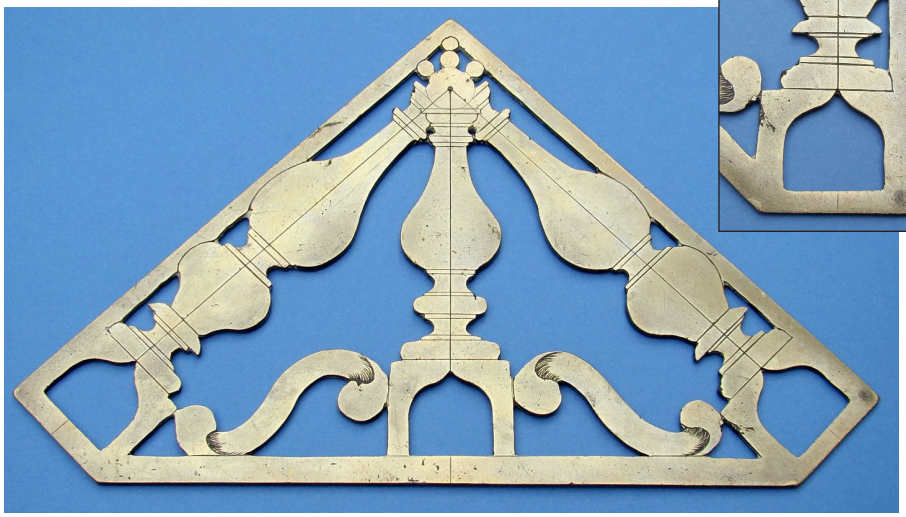
27. SIX-FOLD PLANE TABLE RULE, English, first half 18th century, the six-segment hinged boxwood rule 7/16" thick, opening to 13-1/2" x 16-1/2" (34 x 42 cm). It is stamped "F. Fletton" for a later owner. In use it would be slipped over an 12" x 15" plain board to hold down the paper, and provide direct plotting of angles and distances. It is divided and boldly numbered on both sides all around with scales in inches (divided every tenth) and in degrees (every half degree CW and CCW). One peripheral degree scale is centered on the plane table center, the other on a point just 2-1/2" in from the table's edge. Condition is good, noting some stains. The boxwood has a wonderful deep honey colored patina.

This was an important tool for the early surveyor, and seems to have been made for several standard format boards, including a 12" x 15" one (as here and in **Tesseract** Catalogue 98, Item 24) and an 11" x 13-3/4" one (68/26). We find an illustration of such a folding rule as early as 1611, by Arthur Hopton in *The Topographicall Glasse*. $1950.

28. EXCEPTIONAL SILVER DRAFTING SET, English, first quarter 18th century. The 7" (18 cm) wide rectangular fitted wood case is bound in black fish skin and lined in green velvet, and has silver fittings. Although the set is incomplete, the main tools are present: large silver dividers with fine five-leaf hinge and shaped steel points; auxiliary silver ink pen for the dividers, with hinged mount and adjustable line width at the steel tips; medium-size silver dividers with fixed points; and silver ink pen with ebony handle and reversible head mounting as pricker point. This is a fine silver set, of very high quality craftsmanship, and with the outstanding feature of exquisitely engraved decorative rosettes, running leaf tips, zig-zags, etc., on all the pieces. Condition is excellent, noting one case hook lacking.

The workmanship here feels like that of John Rowley (see **Tesseract** Catalogue 80 Item 37). An extremely similar silver set, with very similar decoration, and the same reversible pricker head, is found in the instruments of Charles Boyle, Earl of Orrery (1676-1731). The Orrery collection was inventoried by Thomas Wright in 1731 (see A. Turner, *Early Scientific Instruments*, Fig. 275.) $4950.

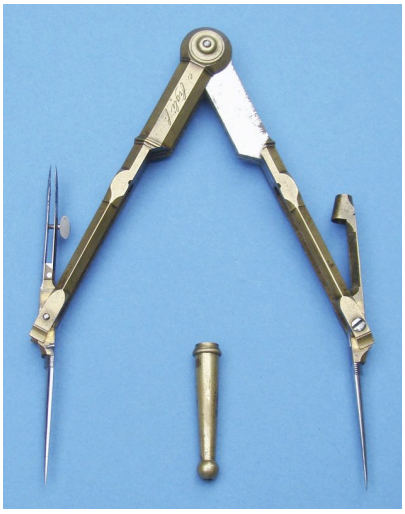
29. EXTRAORDINARY ARCHITECHTONIC TRIANGLE / LEVEL, probably English, 18th century. Measuring 7-1/16" (18 cm) along each of the orthogonal sides, this substantial brass square is pierced and engraved, on both sides, with three shaped columns and with twin scroll supporters. At the base of each column is an opening usable for plumb bob, hung by string from a hole at the intersection of the three column centerlines. The

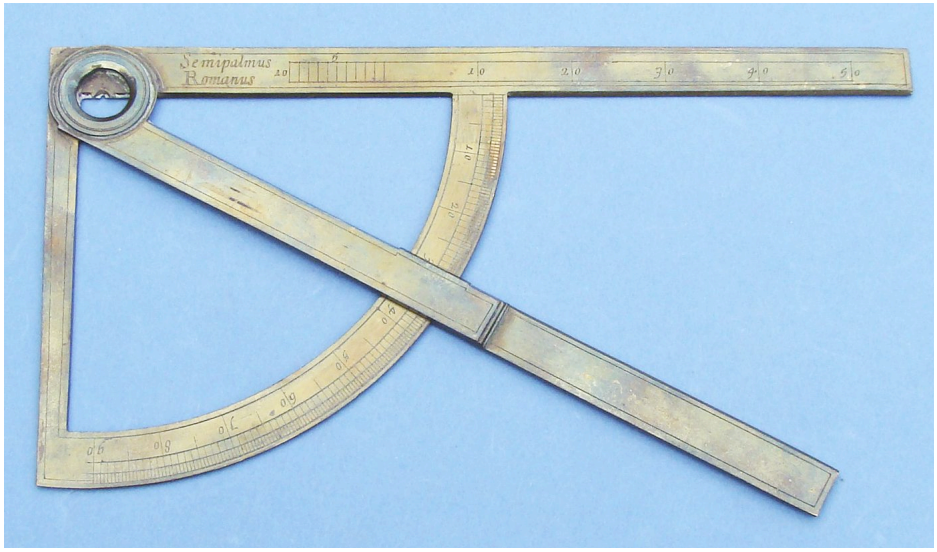


long side of the triangle is truncated, giving leveling bases for each of the plumb line positions. Condition is very fine, noting some spotting to the reverse. A lovely tool for the architect or draftsman, the only one of this form we have seen. $2950.

30. FINE REVERSIBLE DIVIDERS, Italian, c. mid-19th century, signed "C. Bordogna e figli f." Finely crafted of brass and steel, 5-1/4" (13 cm) long, the dividers feature a screw cap for protection, a precision five-leaf hinge, eight-sided body, and articulated points instantly reversible for pencil holder and/or adjustable ink pen. It is related to Bion's early design of "turn-up" compasses (see Fig. I in Plate IX of Stone's 1758 English translation). Condition is very fine.

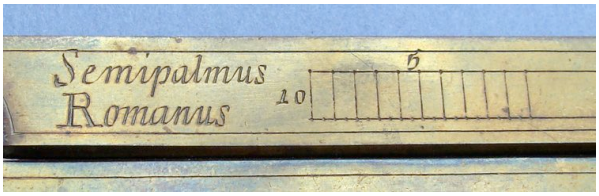
Signed dividers are uncommon, this by a Milanese workshop (C. Bordogna and Sons). A good cased set by Bordogna is recorded in the 1996 catalogue of the Beltrame collection. $1750.

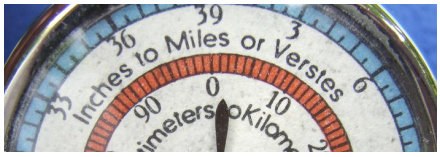




31. FINE ITALIAN PROTRACTOR / RULE, 1738, signed "Dominicus Lusuerg F. 1738." Measuring 6-3/4" x 3-1/2" (17 x 9 cm), it is beautifully divided and engraved on both sides with linear scales of "Semipalmus Romanus" (half the Roman palm, divided in inches from -10 to +50 tenths, with one inch being subdivided in twentieths) and of "Semipes Lundinus" (half the London foot, running from 0 to 6 inches with one subdivided to twenty-fourths). There is a fine quadrant scale divided every half-degree, serving as protractor with an encompassing alidade which forms a drafting square when open. Condition is excellent.

The instrument is beautifully and thoughtfully crafted, as typical of the works of the Lusuerg family of makers. A similar protractor / rule by Dominicus is present in the magnificent three-level Lusuerg set from the Medici collections, now in the Museo Galileo in Florence. $5800.



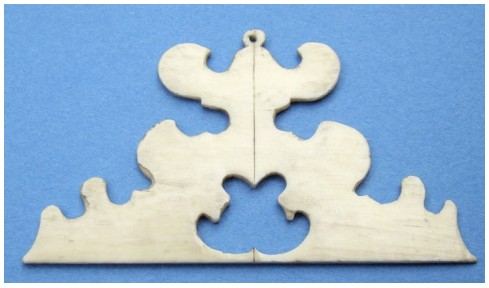


32. OPISOMETERS TO CHOOSE FROM, German, c. mid-20th c., the 12-1/2" x 11-3/4" (32 x 30 cm) fabric-covered fitted wood case containing a salesman's full diversity of 14 opisometers. Most have plated brass handles and mounts, and colored paper dials (recording Inches to Miles or Centimeters to Kilometers, or Nautical Miles, or Russian Verstes, etc.), and are two-sided. Each has a small rolling wheel geared to the hand(s), in order to measure, and convert, distances on a chart or graph. Some are combined with magnetic compasses, two have plastic cases (signed "Atlas"), two have calibrated wheels driving multiple hands, etc. Condition throughout is as new. A rare opportunity to acquire this complete collection / physical documentation. $1600./the set

33. RARE CULPEPER DRAFTING INSTRUMENT, English, c. 1700, signed "E. Culpeper Londini Fecit." This 6-3/16" (16 cm) long instrument is basically a 0° - 180° - 0° protractor (divided every degree), but of a most unusual execution whereby the first and last 13° are ruled onto extension "ears" forming a straight edge. Also the central vertical support is offset so that one edge aligns with the protractor center and the 90° mark. Condition is good, noting light wear and one hairline crack.

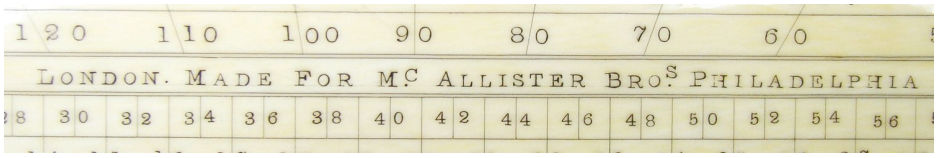
We have had two other Culpeper protractors, one brass (**Tesseract** Catalogue 40 Item 39), the other silver (88/27). Both were simple semicircles with no ears. $2250.

34. MINIATURE SILVER DRAFTING SET, German, 18th century, contained in a 3-1/8" x 1-5/8" x 1/2" (8 x 4 x 1 cm) rectangular case bound in leather with gilt-stamped borders throughout and covered with panels of special marbled paper. It is labeled "H." The interior has fittings of silver, and contains: silver square with shaped ends, silver rule of 50 parts with transversal readout to 0.1 parts, elegant parallel rule of silver and ivory, dividers with steel tips, retractable pencil lead holder of silver, steel pricker serving also as handle for steel knife blade, and a wonderfully shaped ivory level designed for plumb bob. One tiny slot is empty, and one leg of the dividers is broken. Otherwise condition is very fine to excellent.

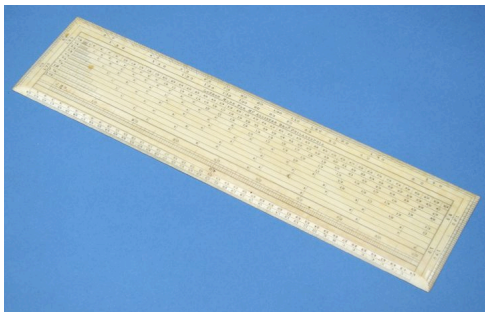


The lovely paper panels on the case are interesting. Sometimes called "agate marbled," they are not strictly marbled papers (where colors are floated on water and transferred to paper), but rather "sprenkelpapier" (with colors applied directly to the paper in a special sequence). It was used particularly in Germany and France in the 18th and 19th centuries.

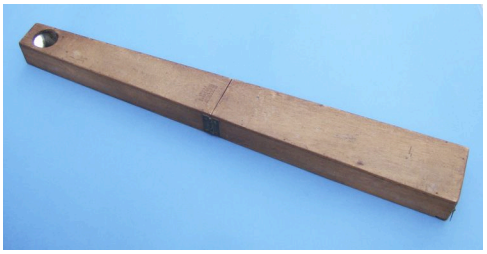
A remarkable, elegant miniature outfit, unlike any other we have seen. $4800.



35. IMPRESSIVE ARCHITECT'S RULE / PROTRACTOR, English / American, c. mid-19th century, signed "London Made for McAllister Bro's, Philadelphia." Made from a magnificent, large and stable panel of ivory, 12" x 3" (30 x 7.5 cm), the rule has beveled edges divided with a rectangular 180° protractor (every half degree) and with a linear scale of quarter-inches (0-44) subdivided into tenths. A central border surrounds a scale of chords, plus ten scales for plotting reduced and enlarged drawings. The reverse carries another nine linear scales at various reductions, plus one of chords. All is very finely divided, with stamped numerals. Condition is excellent, as new.

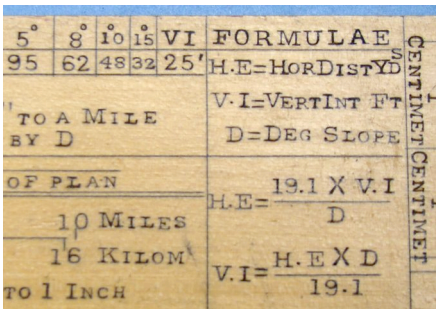


Apparently extra value was placed on London craftsmanship, so here we have a "London made" rule of exceptional size and quality. Thomas H. and F.W. McAllister were in partnership in Philadelphia until c. 1866 (see Padgitt, 1975, *A Short History of the Early American Microscopes*). The firm was apparently founded in 1783, and provided all manner of optical and mathematical instruments. $1450.

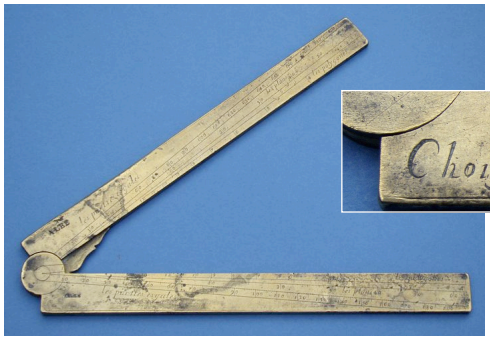


36. PORTABLE PERISCOPE, French, c. 1900, signed "H. Morin, 11 rue Dulong, Paris." Measuring 22-3/4" (58 cm) long, and made of lightweight mahogany, it has a tapered body of rectacular cross-section. It is hinged, folding and latching for portability, and is mounted with opposing rectangular mirrors at each end. Condition is fine, noting some crazing of the mirror silvering. It functions well.

An uncommon device by this famous manufacturer of surveying and drafting instruments, etc. $180.



37. THE GUNTER "RECONNAISSANCE PROTRACTOR," English, c. early 20th century, stamped with the signature of Edward Gunter, Lt. Col., registered #270665. The 6" (15 cm) long boxwood rule has beveled edges to the front, and is stamped both sides with a wealth of scales and equations for chart and map making, especially in surveying. Included are a rectangular protractor, linear reduction scales including with transversals, numerous map conversions including "Normal Scale of Slopes for Old Large Scale Maps," etc. Units of yards, inches, miles, chains, links, meters, centimeters, kilometers, hours, etc. are used. In very fine condition, it is a most uncommon rule. We find Gunter's instrument offered for sale in a 1907 edition of *The Very Best English Goods*. The design was first registered in 1896. $240.



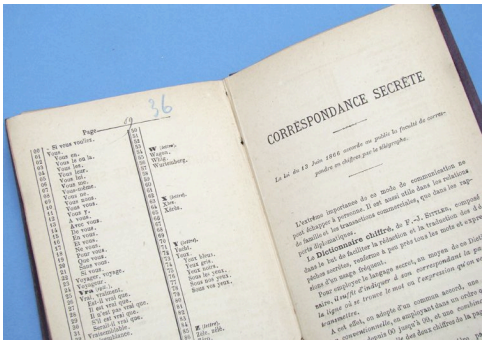
38. EARLY FRENCH SECTOR, 1670, signed "Choizy à Paris 1670," and stamped "A. Lee" for a later owner. The brass sector measures 6-3/4" (17 cm) long (closed), the arms engraved with three doubled sector scales on each side: les cordes, les solides, and les métaux, then les parties égales, les plans, et les polygones. Condition is fair to good, noting some pitting, nicks, and stains.

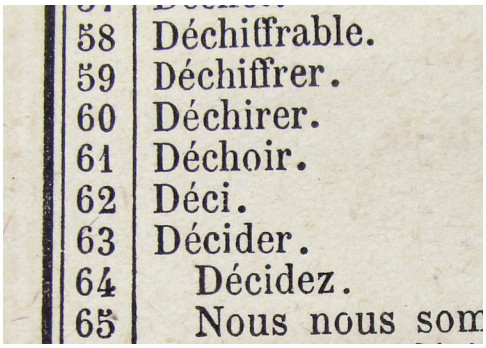
Jean Choizy, born in Limoges, is recorded working in Paris from 1649 until his death in 1682. Marcelin finds various instruments by him, including an undated silver sector in the Louvre. And Choizy's name appears on a fine surveying compass in the Huelsmann collection (Syndram, 1989, pp. 223-4).

A particularly early dated sector, earlier than our 1681 Pouilly (**Tesseract** Catalogue 91 Item 34). $1950.

39. THE "CRYPTOGRAPHE" -- A PATENTED SIX-WHEEL CODING / DECODING MACHINE, French, c. late 19th/early 20th century. Contained in a 4" x 6-1/4" (10 x 16 cm) hinged case of plated metal and simulated leather, the device is made of varnished lithographed paper applied to metal, with six manually rotatable disks. The main plate is printed in red and gray, with six identical circular alphabets running clockwise. Each is centered with an identical disk in blue. Six transpositions of letters are thus possible. Condition of the apparatus is very fine, the case showing light wear. An instruction book is lacking.

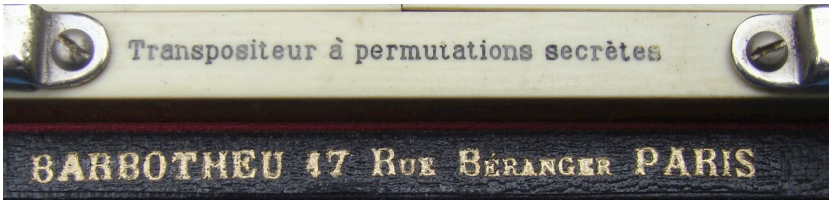
An intriguing cryptographic device, following the 1880 patent of Richard and Pantin. We had a similar single code wheel (**Tesseract** Catalogue 74 Item 29), but with the inner alphabet running counter-clockwise. $2200.



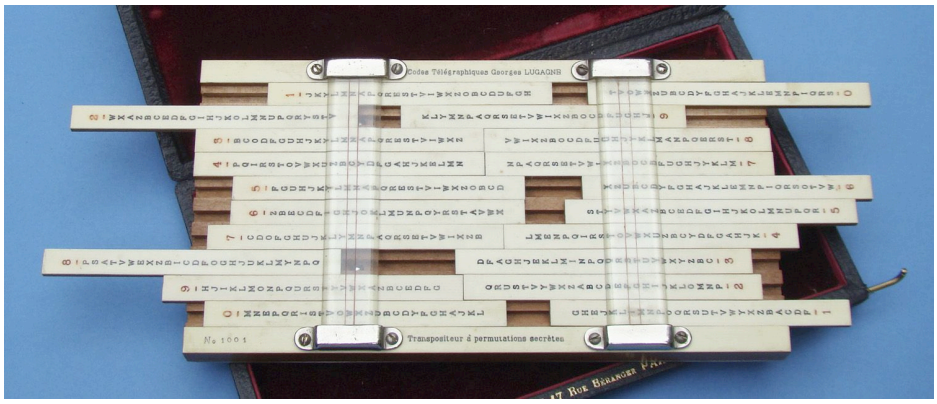


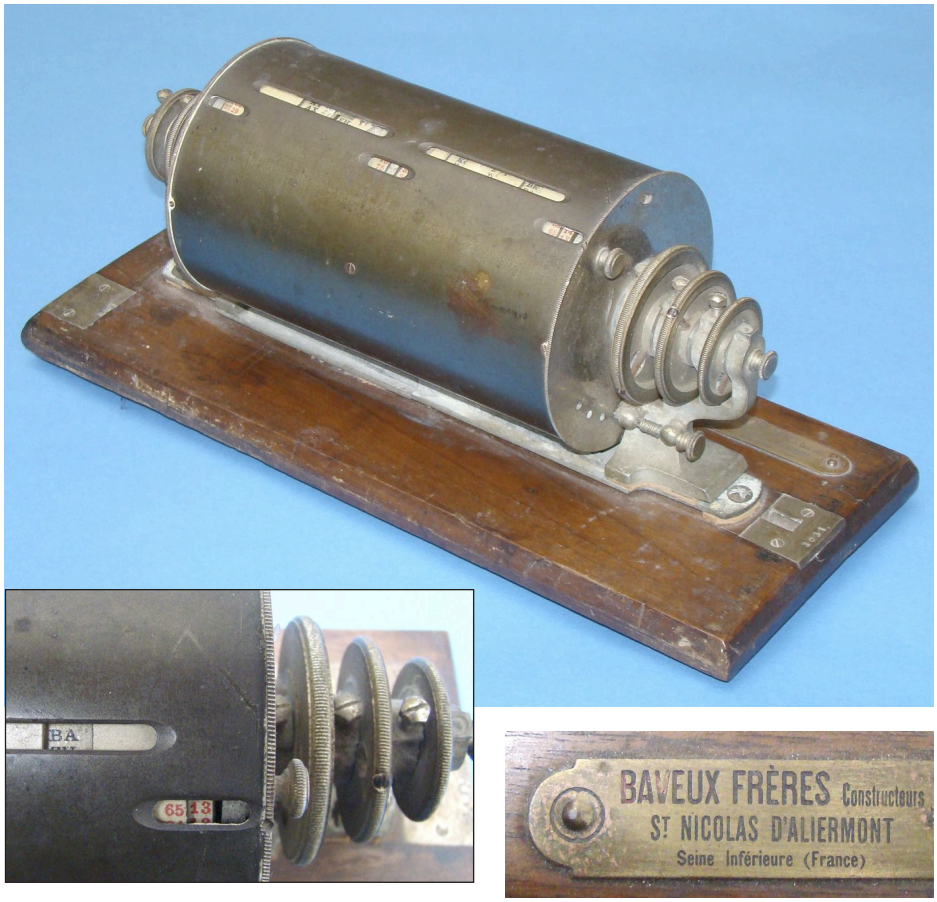
40. SITTLER'S CODE BOOK, French, published 1885, entitled *Dictionnaire Abréviatif Chiffré*. Bound in maroon fabric, 4-3/4" x 7-3/4" (12 x 20 cm), the book has 100 pages, each with 100 numbered words and phrases arranged alphabetically throughout, plus three pages of instructions, enabling "Correspondence Secrète." Condition is good, the last few pages coming loose.

This "7th edition" explains that all editions are the same, also that a French law of 13 June 1866 permitted the public to correspond by telegraph using number codes. In use you and your recipient need copies of the book, and you must both identically hand-number the pages in any order from 00 to 99. Identifying each word or phrase by the numbered page followed by its numbered entry, thus by a four-digit number, we can generate a message as follows, using our particular book:
1131 = Avez-vous acheter
5822 = Instrument
1420 = Anglais
and thus "Have you bought the English instrument ?" $195.



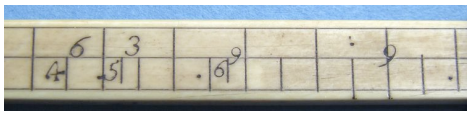
41. THE LUGAGNE CIPHER DEVICE, French, c. 1915, labeled "Codes Télégraphique Georges Lugagne, Transpositeur à permutations secrètes, No. 1001," and signed in the case by the maker "Barbotheu, 17 Rue Béranger, Paris." The 4-5/8" x 8-1/8" (12 x 21 cm) shaped wood case is bound in leatherette, lined in red velvet, and mounted with two glass cursors and two sets of 10 sliders. Each slider moves independently, riding in a slot against a ball bearing, and is stamped with the 26 letters of a scrambled alphabet. Each slider is numbered, and they can be rearranged at will. Condition is excellent throughout. This is a lovely example of Georges Lugagne's rather complex device. Patented in 1913, it was marketed for sending private messages by post and by telegraph. $2400.

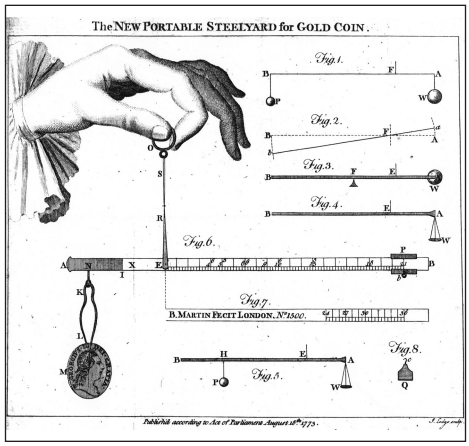




42. THE "CODIGRAPH," French, c. 1910, signed on a plaque "Baveux Frères, Constructeurs, St. Nicolas d'Aliermont, Seine inférieure (France)" and serial numbered 2031. Mounted to a 5-1/8" x 13-3/4" (13 x 35 cm) oak base, the substantial metal cylinder is pierced with five windows for viewing 14 internal cylindrical wheels. These metal wheels are printed, in black and red, with sequences of one or two numbers and letters, and are rotated by six independent knobs at the ends. Some wheels even have their own internal windows. Condition is good, noting some scraping and losses to the paint on the wheels, but with with only minor lossses to any numbers and letters. All seems original (although there is no cover), and it is fully functional.

This complex enciphering machine is a rare example of the Ideal Codigraph invented by Charles Durand. It has a fascinating special purpose, driven by early 20th century economics of communication by telegraph. Sending a telegram was quite expensive, and ITU (International Telegraph Union) tarifs charged by the word (up to ten characters for a one-word charge). Numbers were not sent as such by Morse code, but were transmitted as words spelled out in full. The Codigraph transforms large numbers into single pronounceable words ten characters long, with an enormous saving in transmission costs (see Frank Gnegel). A remarkable device. $4500.





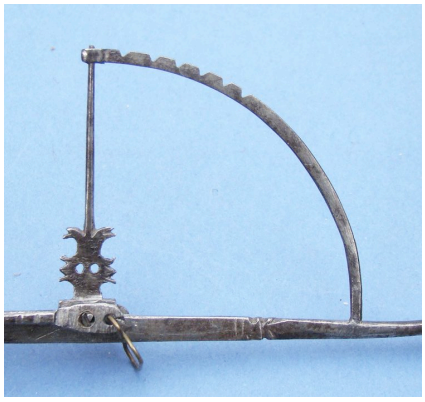
(Martin, 1773)

43. BENJAMIN MARTIN'S STATIC AND HYDROSTATIC BALANCE -- HIS "NEW PORTABLE STEELYARD FOR GOLD COIN," English, c. 1775, signed "Martin. Fecit. No. 272." Measuring 6-1/4" (16 cm) overall, this pocket balance has long arm of ivory, string suspension point, coin clip, and sliding brass weight. The arm is divided on both sides, one with a scale for weighing a gold guinea, the scale running to 21 units for the number of shillings in a guinea, each unit divided into halves (for sixpences). The other side reads from 18 to 36 for internationally recognized "Portugal Money." Additionally, both scales are marked with various dots for the corresponding weights of the coins in water, to determine their densities. This splendid balance is complete with its original wood case bound in black fishskin. All is in very fine condition.

Martin produced his scales to fill a need resulting from new coinage legislation passed in 1772, forbidding the passing of gold coins below a certain weight. With his steelyard one could quickly determine if the gold coin had been shaved down, or, using a glass of water, whether the coin was plugged with a base metal, or even an outright counterfeit. He described it in detail in 1773, in his 14-page *The Monied Man's Vade Mecum. Being an Explanation of the Nature, Structure, and Ufe of a New Portable Steelyard for Weighing Gold Coin.*

The present balance is a quite early example of his "first form," a later one (see **Tesseract** Catalogue 87 Item 39) having a choice of two positions for the coin clip.

$4950.



44. "WEIGHT-LESS" SELF-INDICATING DUCAT SCALE OUTFIT, German (Nuremberg), mid-18th century. This cleverly designed scale has a decoratively shaped cut steel beam 4-3/8" (11 cm) long, with suspension yoke, pointer, and integral arch cut with six tiny notches. Tan silk strings support the two turned brass pans, one of which is heavier than the other (by exactly one Ducat's weight), and stamped with the coin's design, showing a figure holding an orb and scepter, and with the letters "HD" (for the Hungarian Ducat.) The other pan is stamped "CM" over "8." presumably for the maker. The original shaped wood case bears a printed instruction sheet, and a similar coin stamp to the wood. Condition is very fine and all original throughout.

In use, no weights are needed! The heavier pan should just balance the weight of a gold ducat placed in the lighter pan. For a genuine ducat, untampered with, the pointer will be vertical. If the coin has been shaved down the scale tilts and the deficiency in number of grains is automatically indicated by the notches on the arch.

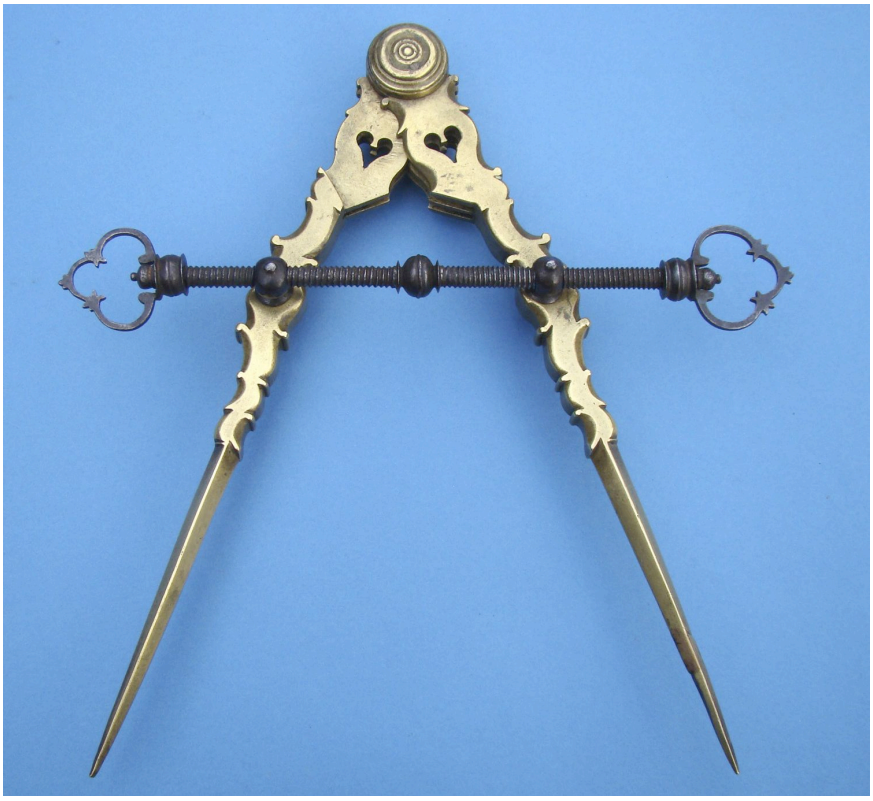
A fine example of this innovative form. $1950.

45. MINIATURE GOLD-CASED MAGNET, probably English, c. 1800, only 0.42" (11 mm) wide and 0.70" tall including suspension ring. The case ends are engraved "N" and "S," for the iron poles, and the side "8=150," implying that this magnet weighs 8 units, and could at one time lift 150 units, or almost 19 times its own weight! The finely made mounting is beautiful rose gold, in very fine condition throughout noting a tiny dent.

A remarkable miniature magnet, useful for educational demonstrations in elegant society, or even for remagnetizing needles of tiny compasses in sundials, etc. $3200.

46. ELEGANT METALLIC THERMOMETER, French, c. first half 19th century. The large wall-mounting wood support is 9-5/8" x 10" x 5/8" (24 x 25 x 1.6 cm) with a fine mahogany veneer and set with a Centigrade (Celsius) degree scale running from "Glace" at 0° up to 33° (equivalent to 91° Fahrenheit), the brass scale divided every degree. A short support arm has two little concave wells, the arm's tilt adjustable from behind. And there are two wall mounting lugs. The thermometer itself has two adjustable pins that sit in the wells and lead to a long index pointer, and to a side arm supporting the metal half-round which expands and contracts with the temperature. The end bears a ball weight, its position adjustable for calibration. The central area of the metal arc is filled with a thin wood panel. Condition is fine noting small cracks to this panel.

This professionally made instrument is the only one of its kind we have seen. Middleton (1966, *A History of the Thermometer*) discusses various "Deformation thermometers," primarily bimetallic. $2800.



47. IMPORTANT BRONZE AND IRON DIVIDERS, probably French, probably 17th century. Standing 10" (25 cm) overall, these extraordinary dividers are a *chef d'oeuvre*. Made of bronze, possibly gilt, the legs have multiple recurved shapes, pierced hearts, and meet in a five-leaf hinge. The threaded iron crossbar permits fine control over symmetrical opening, by fine fretted trefoil handles. Condition is excellent throughout.

Given that the tips are bronze as well, rather than inset steel, and the craftsmanship is complex, we see this exceptional instrument as perhaps an exhibition piece, or the final construction of an apprentice passing to master.

This particular instrument has a full-page illustration in Maya Hambly's 1988 *Drawing Instruments 1580-1980* (p. 78, there dated early 17th century), and also figures in David Russell's massive 2010 *Antique Woodworking Tools* (pp. 75-6, where it is likened to a pair in the Musée le Secq des Tournelles). $9500.

48. GOLD BROOCH WITH NATURAL GOLD-BEARING QUARTZ, probably English, 19th century. With an overall length of 1-5/8" (4 cm), this nine carat (and so stamped) gold brooch has integral pin with hook and attached safety chain. Set centrally is a natural specimen of quartz showing glitters of pure gold throughout. Condition is very fine.

An unusual item of "natural" jewelry. $450.

49. FIVE INGENIOUS WEIGHTS, English, c. first quarter 20th century, made of brass, stamped with, and weighing, 0.1 Troy ounce up to 0.5 Troy ounce. Some bear certification marks, e.g., a crowned "G2R" above "36." Condition is fine throughout.

The concept of number-shaped weights was patented by P. Edwards in 1903, and registered in 1904 (see M. Crawforth, *Handbook of Old Weighing Instruments,* 1984, p. 47). Choosing combinations of these five weights provides all values from 1 to 15 Troy ounces. They were apparently manufactured in both brass and aluminum, but are quite rare today, these the first we have encountered. $495.

50. FELINE EMBOSSING PRESS, American, second half 19th century, signed indistinctly "The Drew Press, Jacksonville" and with an eagle logo. This substantial cast iron press has a 5-3/8" x 2-1/8" (14 x 5 cm) oval base, and is modeled as a particularly hairy lion's head grasping the seal in his mouth. Pulling the handle down 90° presses the incised brass seal against the matching raised lettering on the base plate. The seal is for J.H. Follett, Inc. of West Palm Beach, Florida. Condition is fine and functional, noting some wear and losses to the black enamel and golden finishes to the iron. We note that the Drew Press was an historic Florida printing company founded 1855.

A fine desk accessory. $495.

51. THE CABLE CAPACITY GAUGE, English, c. 1915, by Simplex Conduits Ltd. of Birmingham. The four 2-1/2" diameter (6 cm) swivelling brass disks have holes labeled from 1/2" to 2", although the actual hole diameters are (intentionally) approximately 1/8" less than these numbers. The set is complete with leather pocket case and booklet illustrating the packing density of cables of various diameters. This unusual measuring outfit is in fine condition, by a company specializing in the manufacture of steel conduits for carrying electric cables. $220.

52. LID CARVED WITH COOPER'S AND VINTNER'S TOOLS, French, c. early 19th century. The 3-3/8" (8.5 cm) diameter turned wood lid has an interior lining, and is carved with approximately 22 tools of the barrel maker's and wine maker's trades, plus central barrel with inset "bung." Condition is very fine noting a small natural imperfection at the edge. The first such "tools of the trade" presentation we have seen.
ex: Brophy collection $1500.

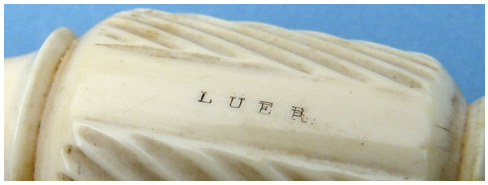
53. FULL SET OF CZECH-GLASS REPRESENTATIONS OF PRECIOUS AND SEMI-PRECIOUS STONES, c. 1935, contained in a 10" x 14-3/4" (25 x 37 cm) wood case bound in dark patterned paper. The 67 "stones" include 33 of variously faceted glass and 34 domed cabochons of patterned glass. Colors and patterns are intense and realistic. The faceted ones are not attached in the case, so it is unsure whether all are correctly placed. The set is complete with a placement chart and a large table of all stones and their properties (in Czech). Condition is very fine noting ink stain in the case, and one "stone" with an edge break.

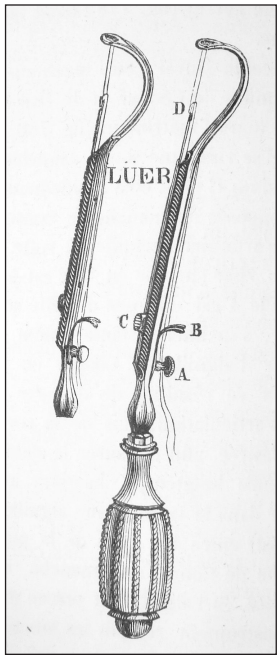
This is a product of the high quality glass craftsmanship from Rovensko pod Troskami, in the commune of Turnov, then in the northern Czech Republic. The area is an historic center for gemstone polishing and glass production. $2400.

*** * * * * MEDICAL * * * * ***

EXHIBITION QUALITY SURGICAL INSTRUMENTS

The following two entries came to us via descent from the original collection of exhibition pieces made and held by the Lüer firm, being their finest productions, shown at the great national and international exhibitions of the 19th century.
Maison Lüer was founded 1837.





(Spillman, 1872)

54. MECHANICAL SUTURING DEVICE, French, third quarter 19th century, signed "Lüer." Measuring 8-3/8" (21 cm) long minimum, the instrument has a finely shaped ivory handle, with contrasting polished steel, blued steel, and gilt brass. Near the handle the steel is cut eight-sided and with a finely faceted section. The curved arm is slotted to carry sutures, and a straight shaft with hook end can be slid back and forth, through the "eye" of the needle, by thumb motion. Condition is excellent. It is fully functional, unused, and exhibits all of the beautiful original finishes to the materials.

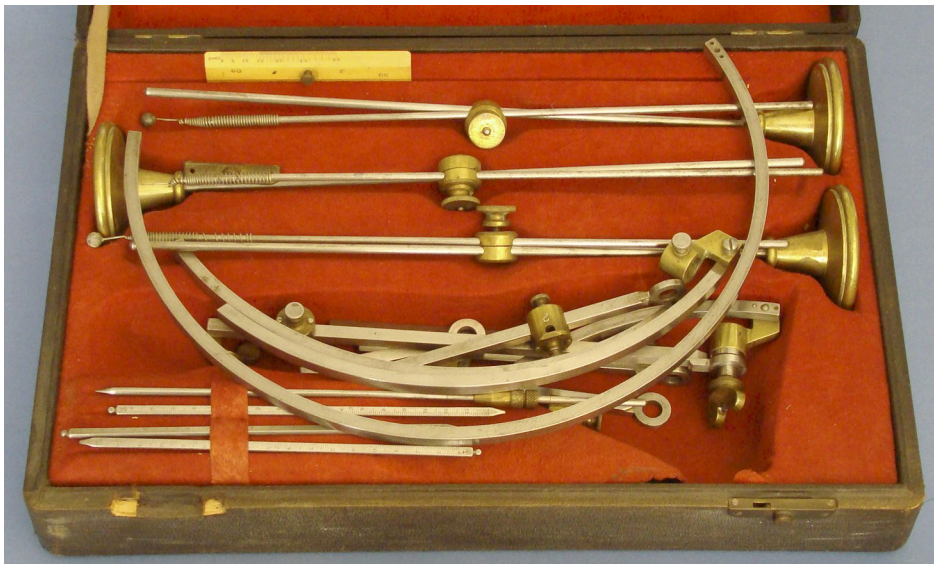
Lüer's "needle" is described by Spillman (*Arsenal de la Chirurgerie Contemporaine,* 1872, pp. 291-293). Designed to replace the simple fixed "needles" of Cooper and of Deschamps, it has a sliding crochet hook which moves through the eye to grasp the suture string. A trough for the suture leads down the back of the instrument through a slot in the little blued steel arm, to the gilt knob. $2400.

55. LUER'S DIVERGENT HOOKS FOR REMOVAL OF UTERINE POLYPS, French, third quarter 19th century, unsigned but by Lüer of Paris, 9" (23 cm) overall, of polished steel with partially-gilt brass ferrule, and four-sided ivory handle cut with criss-cross banding. The tip presents a pair of sharp hooks, one forward, one back. It is an uncommon device, invented by Lüer, and is in excellent condition.

This device is designed to most effectively snare a polyp, a tumor, without damaging the vaginal wall. It combines traction and torsion as opposed to simpler hooks and forceps. (see Spillman, 1872.) $950.

56. PRECISION DYNAMOMETER, French, c.1875, signed "A. Gougeon." A finely shaped oval steel spring is connected by geared linkage to the elegantly shaped pointer reading against 0 - 220 scale on brass of "Traction" and 0 - 77 scale of "Pression." An auxiliary pointer records the maximum deflection. A well made device, in good working condition, designed to measure quantitatively the gripping power of each hand. $295.

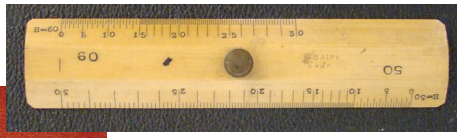
57.
DENTAL MALLET, European, c. 19th century. Measuring 10-5/8" (27 cm) overall, the hammer has a turned wood stained handle, and shaped double-ended head of horn. Condition is good noting wear from use. Useful for pounding and shaping and inserting gold or other filling material, also for extracting dentures from moulds, the horn mallet is an infrequently found and identified dental tool. $220.

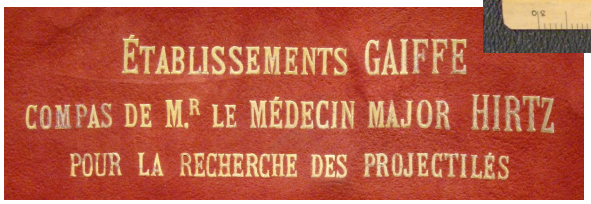


58. RARE SURGICAL BULLET EXPLORATION SYSTEM OF MAJOR HIRTZ, French, c.1915, contained in the original leatherette covered fitted case 16-1/2" x 11-1/4" x 3-3/4" (42 x 28 x 9 cm), signed in gilt on the red chamois lining "Etablissements Gaiffe, Compas de Mr. le Médicin Major Hirtz pour la recherche des Projectiles." There are numerous devices of polished steel and brass, including three standards with articulated holders for various accessory devices (three straight arms with spring-mounted balls of lead, three flat probes calibrated in millimeters, a straight probe, six straight bars, four arcuate bars, and various connectors). A boxwood rule is signed "Gaiffe a Paris." The outfit assembles to precisely locate internal foreign bodies, used in association with early X-ray equipment. Condition is fine throughout.

The inventor of this forerunner of modern stereotaxic instrumentation was Major Eugène-Jules Hirtz (1869-1936), who saw medical service in Algeria and in World War I. He developed the French Army's first physiotherapy service, organized the Army's radiologic services, set up a central service of electro-radiology and a school for X-ray technicians (directed by Madame Curie!), and held, from 1920 to 1928, the chair of radiology-electrology-physiotherapy at the Ecole d'application du Val de Grâce. The maker was the firm A. Gaiffe of Paris, specialists in electro-medical and X-ray apparatus. We note Gaiffe catalogues on record covering the years 1874 to 1911.

A remarkable outfit. $5500.





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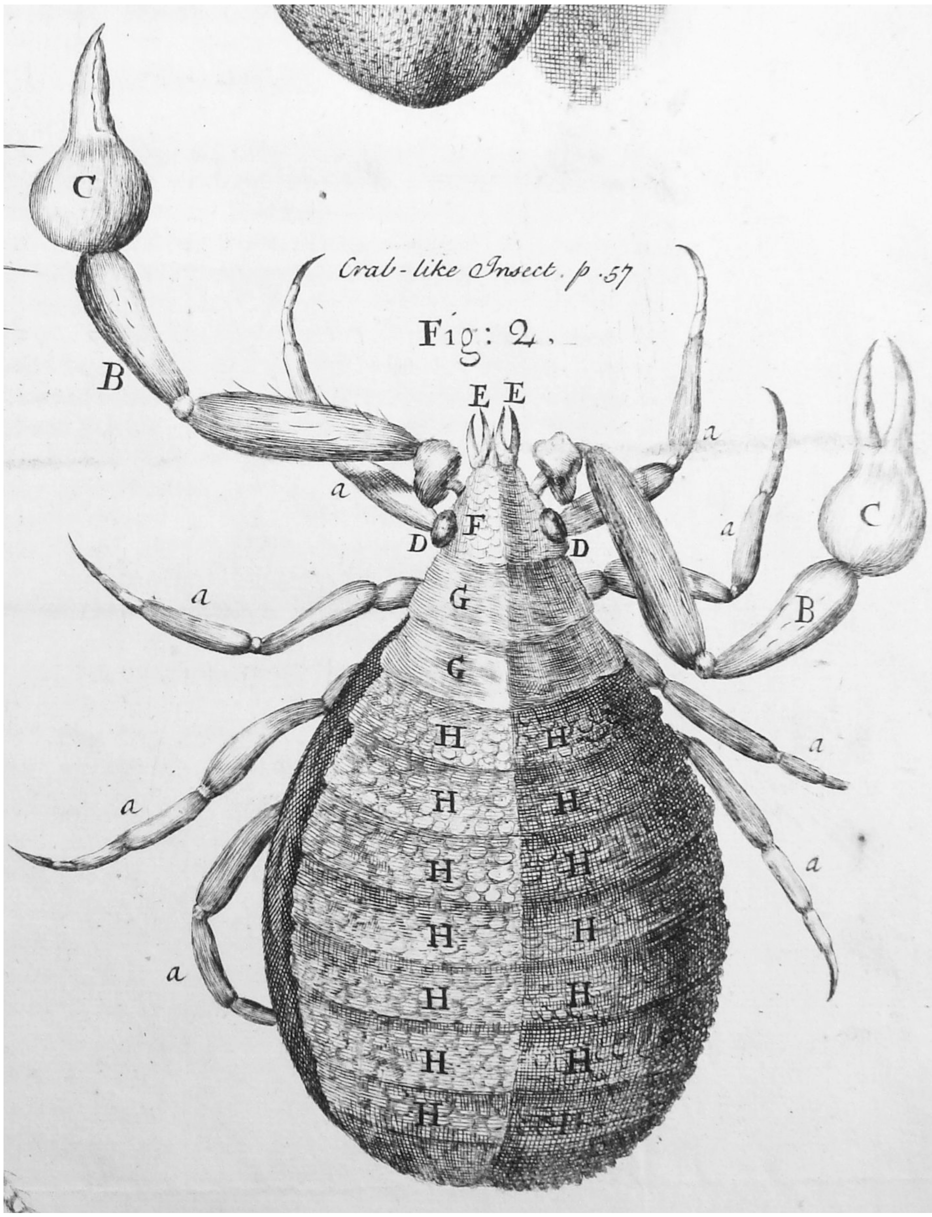

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