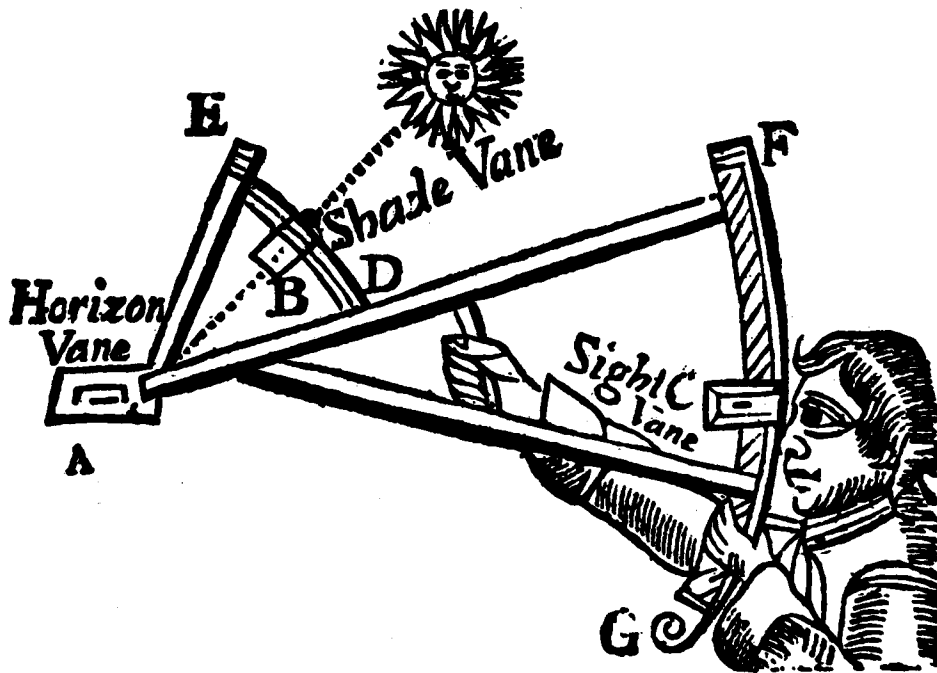


Historical Technology

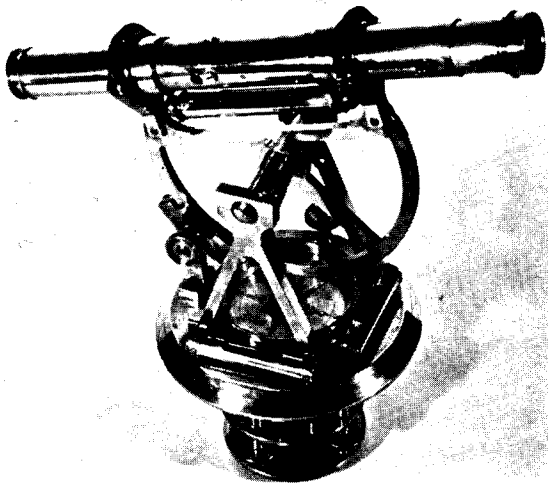
Catalog 103



SAUL MOSKOWITZ INSTRUMENT ENGINEERING

6 MUGFORD STREET MARBLEHEAD, MASSACHUSETTS 01945

(617) 631-2275



47. RARE EARLY THEODOLITE - English, between 1800-15, signed "Fraser & Son London". Brass with silvered compass dial standing 11" h, telescope 10 $\frac{1}{2}$ " long with 3 $\frac{1}{2}$ " bubble level. Telescope objective slide, eyepiece draw tube focused. Telescope mounted in wyes for reversal (it does not transit). Center mounted vertical rack and readout circle 6" dia; vernier readout to 1 minute of arc on one side, other marked "Links" for rough height determination. 3 $\frac{1}{4}$ " dia compass, (replacement) needle 2 $\frac{1}{2}$ " long. Horizontal 6" dia divided scale reads to 1 minute of arc by vernier. Azimuth rotation by internal circular rack and pinion. Early 4 screw leveling base. Except for added cross hair illumination holes (see illustration) theodolite is in fine condition. Dovetailed mahogany carrying case 11 $\frac{1}{2}$ " w, 6 $\frac{1}{2}$ " deep, 11 $\frac{1}{2}$ " h (top modern replacement) may or may not be original.

48. FINE CASED COVERED SET OF WEIGHTS - Nationality uncertain, 18th cent, no maker's name. All weights stamped "850" and numbered on the inside bottom 1, 2, 4, 8, and 16 with a total wt of about 1 $\frac{1}{2}$ pounds (5 pieces in total). The cover also stamped "864" and engraved "WI" and hall-marked with a shield. Excellent condition.

(3 pounds,UP,PS) \$ 70

49. MINIATURE CASED SET OF WEIGHTS - Nationality uncertain 18th century, extensively marked: on cover "I. NED, ONC. 100 W", inside cover "30 W", in bottom of outside wt. "NED. LODEN" and stamped with 11 distinct letter hall-marks as are the 5 other weights. They are also stamped 20 W, 10 W, 10 W, 5 W, and 2 W. Total weight about 3 oz. Fine condition.

(1 pound,UP,PS) \$ 50

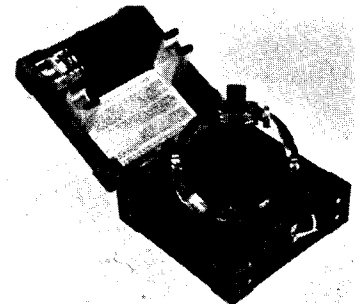


50. MICRO-STERILIZER - French, late 19th cent, marked "CREUZAN & SOULARD/47, Cours de L'INTENDANCE/BORDEAUX" and the serial no. "3416". Brass and copper, 14" high, 4 $\frac{1}{2}$ " dia base, internal pressure chamber cylinder 8 $\frac{3}{4}$ " long, 2 $\frac{1}{2}$ " dia. This laboratory sterilizer resembles the modern pressure cooker with its sealed chamber (with 3 hold down clamps), safety valve, and pressure release stop-cock. In beautiful condition and truly a rare example of 19th century laboratory apparatus.

(8 pounds,UP,PS) \$ 115

51. CASED AZIMUTH CIRCLE - English, c. WW II, no maker's name. Brass ring, to fit 5" dia compass, marked "Pat. 1880/No. 794. H./Instructions for use in stowage box". Sighting assembly contains dark mirror, two swing-away semi-circular filters and scanning prism with knurled knob. Fitted case 6 $\frac{1}{2}$ " sq by 3" high contains instruction card. Instrument complete and in excellent condition.

(5 pounds,UP,PS) \$ 35



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Please send one dollar now for a one year's subscription so as to have your copies arrive by first class mail as soon as they are issued.

EARLY RARE BOOKS ON DIALLING

69. William Leybourn, "THE ART OF DIALLING Performed GEOMETRICALLY ... ARITHMETICALLY ... INSTRUMENTALLY By a Trigonal Instrument", Tooke and Sawbridge, London, 1669. Rebound in full leather 7½" h, 5 3/4" w; 175 pages, many woodcut diagrams in text, one foldout copperplate engraving, many early annotated remarks and diagrams in text. Fine condition for such a book of the 17th century. According to Taylor 1, this was William Leybourn's (1626-1716) earliest book on dialling. In many ways it is the forerunner of his great folio volume of 1682 on the subject. The book offered here is rare and seldom becomes available to the private collector. (postpaid) \$ 130
70. François Bedos de Celles, "LA GNOMONIQUE PRATIQUE, Ou L'Art De Tracer LES CADRANS SOLAIRES Avec La Plus Grande Précision", Paris, 1760. Fine leather binding 8" h, 5" w; 404 pages; engraved frontispiece; 33 foldout copperplate engravings, some of instruments and dial making tools and many of the geometrical relations needed to construct a great array of sundials. Even without a working knowledge of French, this book can be of great use to a person interested in the construction of sundials. (postpaid) \$ 82

ENGLISH & AMERICAN SURVEYING

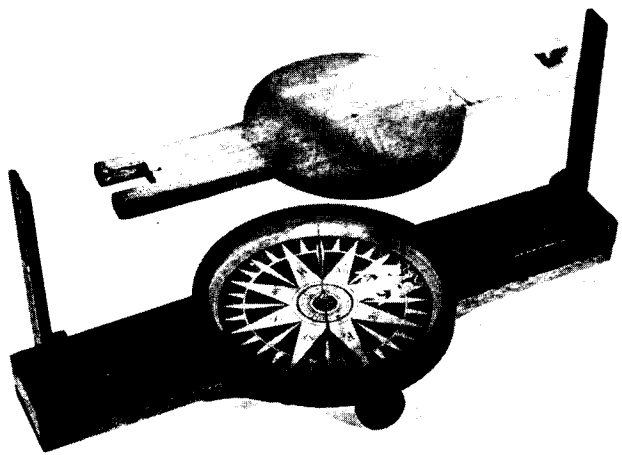
71. Edward Laurence, "THE SURVEYOR'S GUIDE: Or, A New Introduction To The Whole Art of Surveying Land, Both by the Chain and all Instruments now in Use", 3rd Ed, London, 1736. Full leather binding 6½" h, 4" w; 231 pages text; 145 pages tables; 6 foldout copperplate engravings; bindings and text in excellent condition. First published in 1716, this edition includes "a New Method of Surveying large Tracts of Land by Sounds as well as Sight, by Vertue of distant Explosions, first Invented and Published by those two great Genius's and Improvers of Natural Philosophy, the Learned Mr. Whiston, and Mr. Ditton. (postpaid) \$ 60
72. THE CLASSIC 18TH CENTURY REFERENCE - John Love, "GEODAESIA: Or The ART of SURVEYING And MEASURING LAND made Easy", 9th Ed, London, 1771. Full leather binding 8¼" h, 5" w; 196 pages text with many woodcut diagrams; 56 pages tables; and the 9 page appendix on surveying by chain only. Bindings and contents in fine condition. The 1st edition was published in 1688 just after Love returned from surveying in Carolina and Jamaica. "The author who had been a Colonial land-surveyor, had in mind the needs of young men taking up grants of land in America, which they would probably have to stake out themselves." (Taylor 1) (postpaid) \$ 75
73. A HIGHLY REGARDED AMERICAN BOOK - Abel Flint, "A SYSTEM OF GEOMETRY AND TRIGONOMETRY: Together With A TREATISE ON SURVEYING", 2nd Ed, Hartford, 1808. Original leather binding (cracked hinges) 9" h, 5½" w; 168 pages; the 4 foldout copperplate engravings complete; despite signs of use, condition is good. The 1st edition of 1804 was so well received that editions continued to be published for half a century. (postpaid) \$ 25
74. Abel Flint, "A SYSTEM OF GEOMETRY AND TRIGONOMETRY, With A TREATISE ON SURVEYING" 6th Ed, Hartford, 1830. Original leather binding (in nice condition) 8" h, 5" w; 122 pages text; 162 pages tables; the diagrams originally on the foldout plates have now been included in the text. Fine overall condition. (postpaid) \$ 18
75. IN EARLY USE AT HARVARD - (John Farrar), "An ELEMENTARY TREATISE On The Application of TRIGONOMETRY to Orthographic and Stereographic Projection ... Surveying and Leveling ... designed for the Use of the Students of the University at Cambridge, New England", 1st Ed, Boston, 1822. Original board covers 9 3/4" h, 5 3/4" w, pages uncut; 153 pages text; 73 pages tables; 9 foldout plates. Fine condition. (postpaid) \$ 30
76. Robert Gibson, "THE THEORY AND PRACTICE OF SURVEYING", 9th printing of 9th Ed, J. & J. Harper, New York, 1828. Original leather binding 8 3/4" h, 5½" w; 251 pages text; 184 pages tables; 9 foldout plates in rear; engraved frontispiece of the theodolite, Hadley quadrant and azimuth compass. Contents complete and except for some foxing, contents and binding in fine condition. Taylor 2 notes that the 2nd ed of Gibson's book was published in 1767, and that he may have been Irish. The 1st American ed of Gibson came out in 1785. (postpaid) \$ 20

THE DIDEROT - D'ALEMBERT ENCYCLOPAEDIA

77. MATHEMATICAL PLATES from a late 18th century edition, in modern cloth binding, 10" h, 8" w. 35 pages of descriptive text (in French); 1 triple page, 10 double page, and 2 single page copperplate engravings. This set is of particular interest to the student of early computers because, in addition to pictures of surveying, astronomical, and navigational instruments, there are 3 plates just on mechanical analog computers. (postpaid) \$ 50

Surveying in America

109. A GREAT RARITY - American wooden surveyor's compass, late 18th century, with the compass label of "D. PEARSON/NEWBURYPORT" pasted in the center of a blank compass card engraved by Joseph Callender of Boston. Constructed of walnut and oak, compass is 6 $\frac{1}{4}$ " dia, needle 5 $\frac{1}{2}$ " long, overall base length 15", sight vanes 5 $\frac{1}{2}$ " h, overall ht 8". Pine compass cover (probably of later date). Compass all original except for compass glass. Hand cut wooden thumb screw for holding compass onto tripod. Excellent condition. Also the original wooden tripod, legs 4 $\frac{1}{2}$ ft long, in very good condition.



Little is found in the books about David Pearson except for Mr. Smart's (Am. Survry.) listing of his son, Henry Sleeper Pearson, who was born in 1789 in Newburyport. About Joseph Callender (1751-1821); Brewington lists him as "a Boston engraver, pupil of Paul Revere and die-sinker at the Massachusetts mint." This is probably one of his best compass cards, with the American Eagle at north and a standing Indian for east. Not in Brewington, Bedini (Early Am.) points out that 18th century American compasses in wood are rare; in 1964 he was able to locate but 31 examples. Such compasses are uniquely American. This one belongs in a collection representing the early technological history of our country.

110. GEORGE WASHINGTON, LAND SURVEYOR AND PRESIDENT- Original colored lithograph by Currier & Ives, 125 Nassau St., N.Y. titled "The Washington Family". Picture size 8 $\frac{1}{2}$ " h by 12 $\frac{1}{4}$ " w in 19th cent gold frame 14" by 18". Excellent condition. This symbolic portrayal of George Washington with globe and map would make a valued addition to any fine collection of American surveying instruments.

(20 pounds,UP,REA) \$ 425

(5 pounds,UP,PS) \$ 85

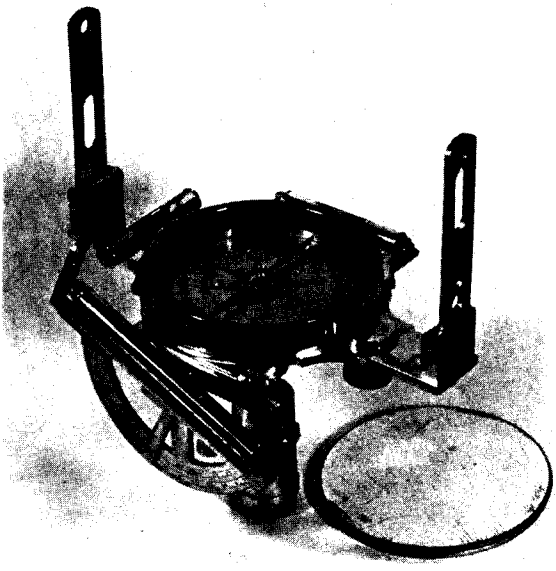


111. BUILDING THE BOSTON & PROVIDENCE R. R. - English wye level, c.1830-40, signed on silvered compass dial "J. Newman Regent St./LONDON". Brass telescope 24 3/4" long, 1 $\frac{1}{4}$ " dia, rack and pinion focusing of objective lens, 8" bubble level. Wyes with 11" separation. Compass 4 3/4" outside dia, 3 3/4" long needle. Simple tapered support pillar slides onto Jacobs Staff. Excellent condition. Original mahogany case 26" long, 6 $\frac{1}{2}$ " w, 6 3/4" h (only in fair to good condition) with original label of C. G. King, 7 Broad St., Boston.

In 1894 Joseph W. Capron placed this instrument on exhibit stating that he had used it in running the first lines in the survey of the old Boston and Providence R. R. (now the old New Haven). Taylor 2 places John Newman at 122 Regent St in the period 1827-38 and points out that more than a dozen of his instruments are in the George III collection. He furnished barometers for the Royal Society's Ross Antarctic Expedition. He was a maker of quality instruments. Charles Gedney King took over his father's business at 7 Broad St in 1839 and remained there until 1858. The Boston and Providence R.R. was incorporated in 1831 and first opened in 1835. If the C. G. King label represents a repair label, then the instrument can date c.1830. If it is a sale label, then 1840 is a more likely date and we must assume that Capron actually worked on one of the later surveys. In either event, this is a fine instrument representing an important period in American surveying.

(18 pounds,UP,REA) \$ 275





105. EXTRAORDINARY SURVEYOR'S COMPASS - English, c.1830-40. Dial engraved "R. FIELD, & SON/New St. Birm^g". This is a vernier compass with folding sight vanes, 2 bubble levels, and a complete theodolite attachment with sight vanes, 4 3/4" long bubble level, and 5 1/4" dia semi-circular read-out scale divided in 1 deg intervals. (There is a second, tangent scale marked "LINKS OF CHAIN".). The instrument, in brass, is 10 1/2" h, 10" long, 6 1/2" wide, with silvered compass dial 5" dia divided in degrees. The vernier reads to 3 arcmin. Compass sight vanes 5 1/4" h. Pull-out rotation locking pin, rotation drive knob, compass needle lock all on underside. Theodolite sight vanes 5 3/4" apart. Brass cover for compass but no case. Excellent condition.

Surveyor's compasses of this complexity and in the state of the one offered here are extremely rare. The maker has combined every possible refinement with the standard compass to produce an unusual and very attractive item.

(12 pounds,UP,REA) \$ 290

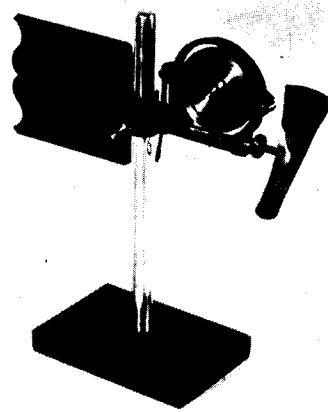
106. RARE EARLY RICHEST FIELD TELESCOPE - English, late 18th cent, draw tube signed "Dollond/London" and in the same script, the owner's name, "Capt Josth Baker/Royal Navy". Wooden tube 3 1/2" dia with brass ends, lens cap and single draw tube. Length closed 27", open 33 1/2". Objective clear aperture 2 3/4". Massive eyepiece. Single lenses throughout (no achromats). Inverting (astronomical) optical system.



That Peter Dollond, the pioneer in achromatic optics, chose to construct this (obviously) fine telescope with uncorrected lenses is indicative of the use for which it was intended. Low magnification, about 9mm dia exit pupil, large aperture, minimum glass for maximum light transmission - all the characteristics of a richest field telescope. That is, a telescope so designed that its combination of field-of-view and stellar magnitude capability will yield the highest density possible of stars when viewing the Milky Way - the richest field. It was no slighting of the telescope, however, if Captain Baker, Royal Navy chose to take it to sea for use as the finest nightglass obtainable anywhere.

(8 pounds,UP,REA) \$ 250

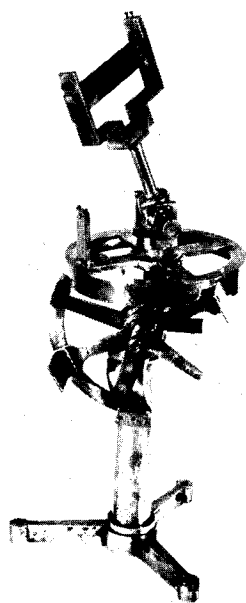
107. FINE ANEMOMETER - English, late 19th cent, no maker's name. Brass construction, bright and black oxidized finish. Overall ht on stand 13"; length (front to back) of anemometer 12 1/4"; propeller 4 1/2" long; readout dial 2 3/4" dia; vane 4 1/2" h, 5 3/8" long. Dial reads out in yards, furlongs and miles. Mahogany base (6 1/2" long, 4 1/2" w, 1" h) and brass post of modern origin. All else original and complete. Condition excellent and suitable for exhibition purposes. Air flow is measured when spring-



loaded loop (on bottom) is held down.

(6 pounds,UP,PS) \$ 165

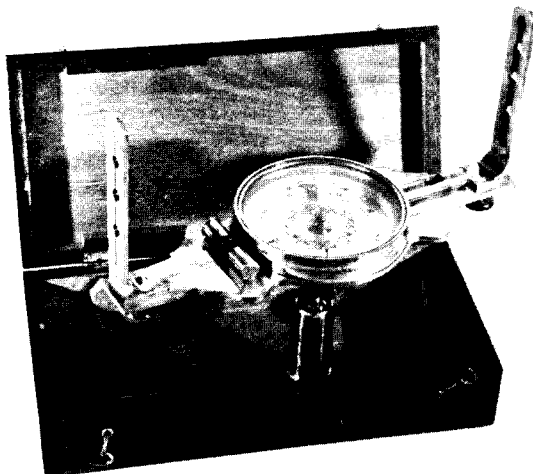
108. BASEMENT INSTRUMENT MAKER'S SPECIAL - French, before 1845, signed "Lerebours a Paris". Instrument stand in brass 21" h consisting of stand 8" h surmounted by yoke and then all sorts of shafts, divided readout circles, sight vanes, brackets, etc. By one of the leading French makers before 1845 (see other write-ups), this complex, & partially complete, apparatus offers a challenge to the collector of fine instruments. It is offered as shown.



(16 lbs,UP,PS) \$ 55

IS THE ITEM YOU WANT STILL AVAILABLE ?
It may be. Why not call or write and find out? An interest in instruments is very much an individualistic pursuit. Often an item is almost uniquely suited to but one person.

Surveying in America



112. BENJAMIN PIKE, JR. SURVEYOR'S COMPASS - American, before 1864, probably c.1845-50, silvered dial marked "B. PIKE Jr. 294 Broadway, N. York." Brass construction, 4 3/4" dia compass, 3 3/4" long compass needle, base 12 1/2" long. Sight vanes 5 3/8" h; overall ht including Jacobs staff ball joint, 11". Crossed bubble levels 2 1/8" long ea. Original dovetailed mahogany case 13" long, 6 1/2" w, 3 1/2" h. Compass and case in excellent condition.

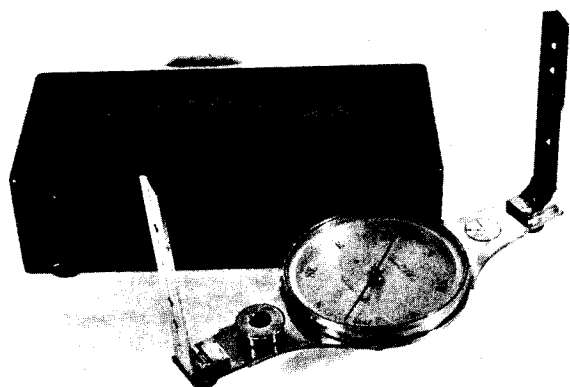
Benjamin Pike Jr (1809-64) followed his well known father in the instrument business, but did not succeed him, that being (it seems) the fortune of his brother Daniel. Thus Benjamin Jr set up at 294 Broadway (1843-64) while the firm of Benj. Pike & Sons continued at 166, then 518 Broadway (1841-1867) first with Benj. Jr. and Daniel (1841-43), then probably just Daniel with his father, and lastly Daniel and a third brother, Gardiner (1850-67). All seemed to have made fine instruments,

(11 pounds,UP,REA) \$ 225

113. PHILADELPHIA VERNIER SURVEYOR'S COMPASS - American, c.1840-50, signed "Wm Helffricht Maker/Philad^a". Brass construction; 6" dia compass with 5" needle, silvered face marked with cardinal points and outer scale divided to 1/2 degrees. External vernier reading to 5 arcmin for setting in the variation. Surveying leg counter, 1 to 16, has window near vernier, operating from rear. Extremely early use of circular bubble level. Compass base 14" long; vanes 6 1/2" h; overall ht 8 3/4". Jacobs staff mount ball joint missing. Original dovetailed mahogany case 14 1/4" long, 7" w, 3 3/4" h with engraved brass name plate of William Rank on front. Compass in very good to fine condition; case which shows chipping on the ends is good.

William Helffricht was born in Germany in 1807, moved to Philadelphia before 1837 and died there in 1876. He is first listed in the Philadelphia directories in 1837 at 26 S. Front St. He was joined by Charles Helffricht in 1841. Despite the quality of thier work, very few instruments by them have been recorded and the one offered here would be an important addition to any good collection of American surveying instruments.

(13 pounds,UP,REA) \$ 235



114. RARE CHICAGO SURVEYOR'S COMPASS - American, mid 19th cent, signed "Arnold & Co./Chicago Ills.". Brass construction; 6" dia silvered compass dial, 5 1/4" long needle; base just under 15" long, sight vanes 7 3/4" h. Counter pointer with ring of numbers 1 to 16 on base on one side of compass; circular bubble level on other. Stands 10 3/4" h. Fine condition. Missing Jacobs staff ball joint. Original dovetailed mahogany case 15 1/2" long, 7 1/2" w, 4 1/2" h, damaged at right hand end and so is classified as only fair.

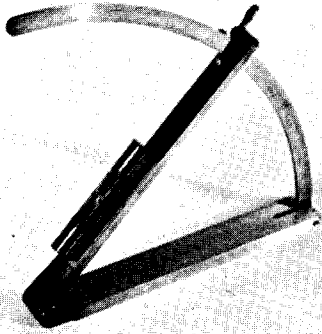
Early western makers of surveying instruments are almost unknown and any such work is quite rare. We have not been able to locate any other recorded instrument by Arnold and he is even unknown to Mr. Smart. A true find.

(14 pounds,UP,REA) \$ 225

115. SURVEYOR'S CLINOMETER (illustrated on next page) - American, c.1850, signed "J. Prentice. N.Y." Brass construction; base 6 1/4" long, 7/8" w, 1/4" h; arc 6" rad; 2 1/2" long bubble level. Scale divided by 1/2 degrees and numbered every 10 deg. Fine condition. James Prentice was born in London in 1812, served a 7 year apprenticeship with John Beal of London and came to America in 1842. His firm made instruments under the name James Prentice from 1846 to 1883 when it became "& Son". The son was Dr. Charles Prentice who became the first president of the Optical Society of New York State in 1896.

(3 pounds,UP,PS) \$ 55

Surveying in America

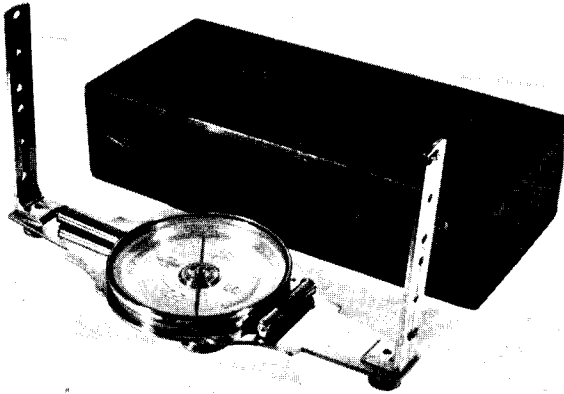


Item 115 (above)

116. FINE GURLEY VERNIER SURVEYOR'S COMPASS - American, 4th quarter 19th cent, signed "W. & L.E. Gurley, Troy, N.Y." High quality brass construction, 5½" dia, silvered face. compass, 4 7/8" long needle; vernier scale for setting in the variation reading to 1 arcmin has been moved from its earlier external position and is now within the dial of the compass. Crossed bubble levels. Length of base 15"; sight vanes 7 5/8" h; overall ht 10". With Jacobs staff mount which, however, is incomplete. The edges of the forward sight vane marked for the measurement of elevation and depression angles. Swing away peep sights on the rear vane. Original dovetailed mahogany case 16¼" long, 7½" w, 4"h. Both compass and case in fine condition.

The W. & L.E. Gurley Co., established under this name by the Gurley brothers in 1852 (earlier they were partners in Phelps and Gurleys) is doing business to this day. They are widely known as a major American producer of high quality surveying instruments.

(15 pounds,UP,REA) \$ 235



117. YOUNG & SONS WYE LEVEL (see below) - American, late 19th cent, engraved "Young & Sons/Philadelphia/7248". This is a high quality wye level by one of the earlier Philadelphia makers. Constructed of brass, the telescope is 18" long with a 7" bubble level, and including the 4 screw leveling base, is 9" h. Rack and pinion objective focusing. No case. Excellent condition.

William J. Young, first listed in the Philadelphia directories in 1825, was born in Scotland in 1800 and died in Philadelphia on July 4, 1870. At various times the firm included his sons Alfred and T. Benton, Charles S. Heller (later to go into business with Brightly) and Thomas N. Watson. The firm name of "Young & Sons" was used from 1881 to 1918 at which time they were acquired by K & E and the patterns and equipment were moved to Hoboken, N.J.

(15 pounds,UP,PS) \$ 165

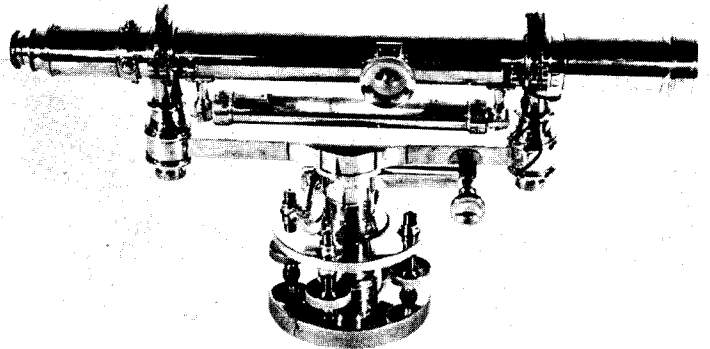
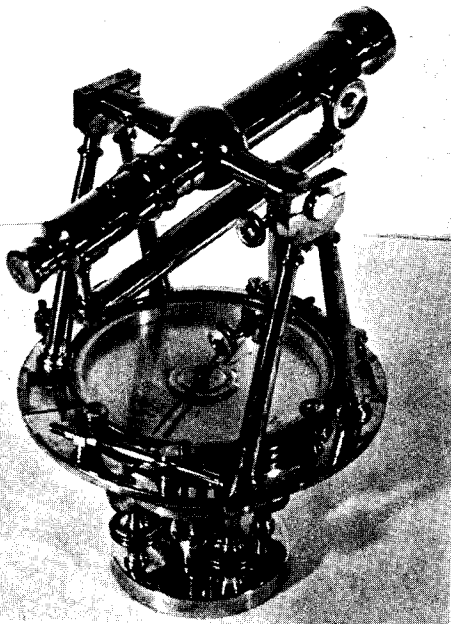
118. THE FINEST AMERICAN TRANSIT - Signed "G.W. WILSON/MAKER/CONCORD, N.H./1886"
Brass construction with silvered scales and compass dial. Telescope 10½" long with rack & pinion objective lens focusing and draw tube eyepiece. Bubble level 7" long. Base plate 8¼" dia; 7½" dia azimuth scale with opposing vernier readout to 1 arcmin; compass dial 6" dia,

needle 5 3/4" long. Overall ht 12¼". Standards (telescope axis supports) instead of being cast in one V shaped piece

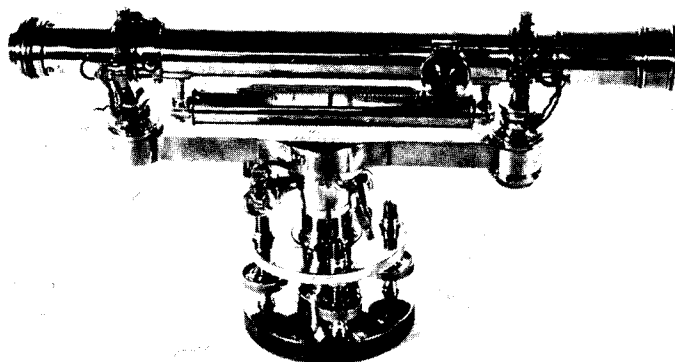
consist each of 7 individually machined parts, with long tapered rods. Each subassembly is made up of many individually machined parts rather than being formed from one rough casting. The selective use of different color brasses further heightens the elegance of the instrument. Condition, of course, is superb.

George W. Wilson (1831-1910) born in Bradford, Vermont, was one of the country's last true mathematical practioners. During his own life-time the production techniques of the large manufacturers made his own hand-produced instruments non-competitive in a growing market. Originally listed in the Concord Directories (1864-1901) as "optician", "optical instruments", "optical and mathematical machinist", he eventually became "sewing machine repairs". This is the finest transit (American or English or French or anything) that has ever come to our attention. If you want the best, this is it.

(22 pounds,UP,REA) \$ 375



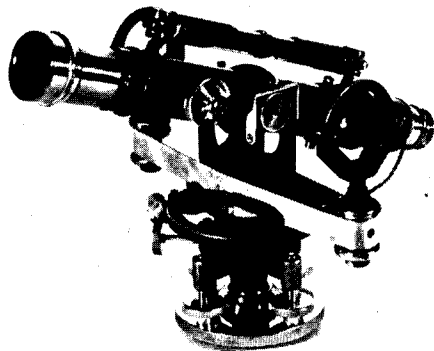
Surveying in America



120. FINE 21 INCH WYE LEVEL - American, early 20th cent, signed "W. & L.E. GURLEY/TROY, N.Y." and the serial no. 1650. All brass construction; telescope 23" long fully extended; rack and pinion eyepiece and objective lens focusing; $7\frac{1}{2}$ " long bubble level; overall ht $8\frac{1}{2}$ ". 4 screw leveling base with spring loaded azimuth tangent screw. Display condition.

Although not as early as some of the instruments offered here, this one must be the winner in terms of appearance. It is a pleasure to be able to offer instruments in this class.

(18 pounds,UP,PS) \$ 175



122. FINE SMALL TRANSIT - American, 4th quarter 19th cent, marked by the maker "W. & L.E. Gurley, Troy, N.Y." and by the seller "C.C. Hutchinson Boston Mass". Brass construction with silvered compass dial and scales. 8" telescope with eyepiece and objective lens rack and pinion focusing. Telescope mounted 4" bubble level. Compass $4\frac{1}{2}$ " dia with 4" needle. Opposing vernier readouts on azimuth scale read to 1 arcmin. Base dia $6\frac{3}{4}$ ", overall ht including leveling base 10". $2\frac{1}{2}$ " bubble levels on base plate. This high quality engineer's transit is in excellent condition. No case.

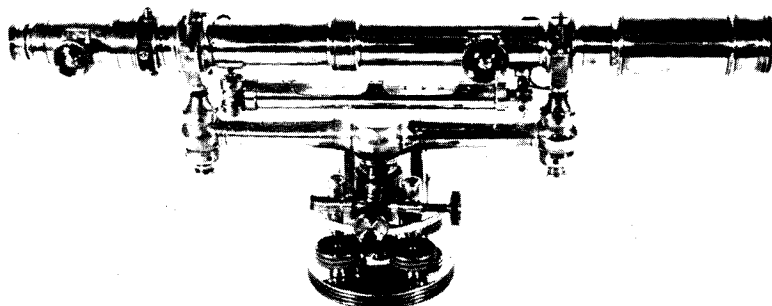
This transit is another example upon which Gurley's reputation was based. It is American surveying instrument making in its heyday.

(14 pounds,UP,REA) \$ 225

119. HELLER & BRIGHTLY WYE LEVEL - American, c.1900, signed "Heller & Brightly/Makers/Philadelphia/4915". All brass construction; telescope 16" long, 7" leveling bubble, $9\frac{1}{2}$ " between wyes, and $9\frac{1}{2}$ " overall ht including 4 screw leveling base. Rack and pinion focusing of objective lens. Azimuth locking thumb screw and interesting tangent screw attached to wye level frame rather than leveling base. No case. Fine condition.

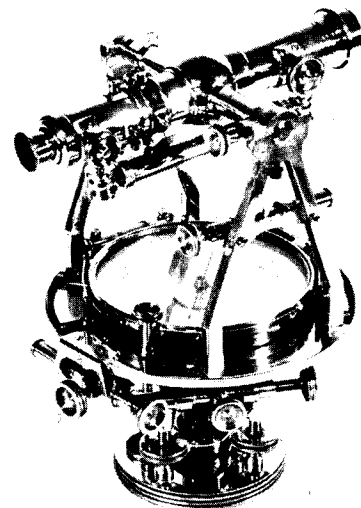
Charles S. Heller (1839-1912) had been working for William Young for 15 years when Young died in 1870. Then he and Charles J. Brightly (1816-1897) formed the partnership. After Brightly's death, Heller continued the business until his own death in 1912 at which time the firm was continued under the same name.

(15 pounds,UP,PS) \$ 155

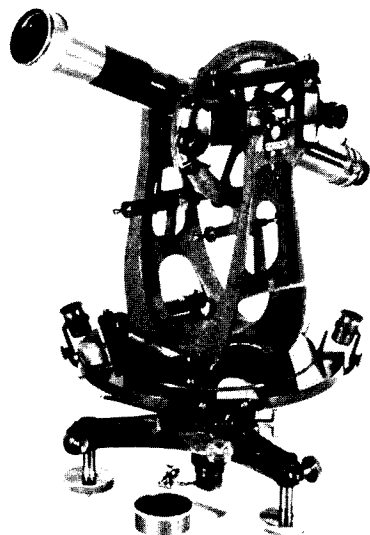


121. COMBINATION SURVEYOR'S INSTRUMENT - American, c.1920, signed "A.L. Aloe Co./St. Louis/7807" and the patent date "7-24-1917". This is an interesting combination instrument intended to be used both as a wye level and a theodolite for bearing measurements (as shown). The instrument, all in brass, is finished in an attractive combination of bright and black oxidized brass. The sighting telescope $11\frac{1}{2}$ " long; bubble level 5" long; wye level base 7" between wyes; silvered azimuth ring $3\frac{1}{2}$ " dia; vernier readout to 5 arcmin; overall ht with 4 screw leveling base 7". Level vial is cracked and so missing liquid, otherwise instrument in fine condition.

(9 lbs,UP,PS.) \$ 110



Surveying in America

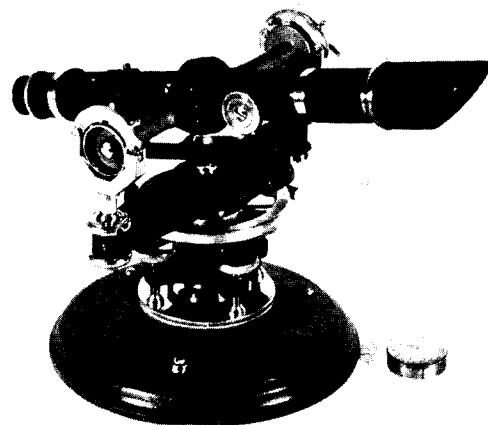


123. BRANDIS TRIANGULATION THEODOLITE - American, 1913, marked "F. E. BRANDIS & SONS M'FG CO./BROOKLYN, N. Y./2960". All brass construction standing 16" h, it retains 99+% of its original finish in bright and black oxidized brass and grey flocked standards (for thermal balance). 13" long rack focussing telescope. 5" vertical circle with dual vernier readouts to $\frac{1}{2}$ minute of arc. 8" horizontal circle with dual vernier readouts to 10 seconds of arc. Base plate 8 $\frac{1}{2}$ " dia. 3 leveling legs. Magnifiers on all readouts. Original mahogany case 22 $\frac{1}{2}$ " h, 13 $\frac{1}{2}$ " deep, 11 $\frac{1}{2}$ " w. Inside of door has original delivery certificate dated 1913 and the checkout label of the Mississippi River Commission dated 1926. Case in fine, theodolite in excellent condition.

Founded as F. Brandis & Co. in 1875, Smart (Am. Survey) states that the firm was called F. E. Brandis, Sons & Co. from 1890-1916 and Brandis & Son from that point on. This instrument suggests an earlier date for the name change. It is an example of the finest instruments of its time and represents an important stage in the technology of surveying instrumentation. To find one in the condition being offered here does not happen too often.

(REA) \$ 250

124. FINE SURVEYOR'S COMBINATION INSTRUMENT - American, 1924, marked "KEUFFEL & ESSER CO/NEW YORK/47625". All brass construction in bright and blackened brass finish. Combination wye level and theodolite; shown in theodolite configuration. Telescope 11" long, with 5" bubble level, rack and pinion focusing objective lens. For wye level use, horizontal shaft fittings unscrew and telescope placed in wyes. 7" separation between wyes. 4" dia azimuth circle with vernier readout to 5 arc min. 4 screw leveling head. 7 $\frac{1}{2}$ " overall ht when mounted on 7 $\frac{1}{2}$ " dia wooden exhibition base. Excellent condition. Original oak case 12" long, 5" w, 7 $\frac{1}{2}$ " h in almost fine condition.



Keuffel & Esser was founded in 1867 by Wilhelm J. D. Keuffel (1838-1908) and Herman Esser (1845-1908); first manufactured surveying instruments in 1885. They also produce a range of drafting and engineering equipment and supplies and are well known for the high quality of their products.

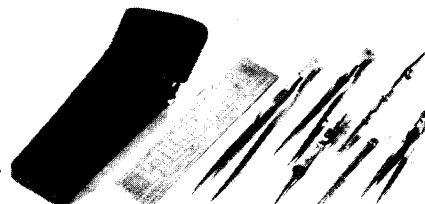
(15 pounds, UP, PS) \$ 145



125. GOOD SHIP'S PELORIS - American, 20th cent, with label of "KELVIN -WHITE CO. NAUTICAL INSTRUMENTS BOSTON - NEW YORK". Brass base and structure. 10" outside dia, 7" h plus 5 $\frac{1}{2}$ " more for the folding sight vanes. Glass compass disk 7 $\frac{1}{2}$ " dia with provision for bottom illumination with protective over disk 8" dia (fine crack in compass disk). Dark mirror at forward sight vane is also cracked. Still, condition is at least fine. This instrument is in exhibition condition.

(16 pounds, UP, PS) \$ 100

126. FISHSKIN CASED DRAWING INSTRUMENTS - English, c. 1800, no maker's name. Case 6 $\frac{3}{4}$ " long, 2 $\frac{5}{8}$ " w, 1" thick. Contains 7 instruments: 6" boxwood scale, and (in brass and steel) large dividers, ruling pen, compass pen attachment for large dividers, small dividers, medium dividers, and compass pencil attachment for large dividers. Missing one small screw. Overall condition fine. Complete early sets such as this can make a fine addition to any nautical or surveying instrument collection.



(2 pounds, UP, PS) \$ 100