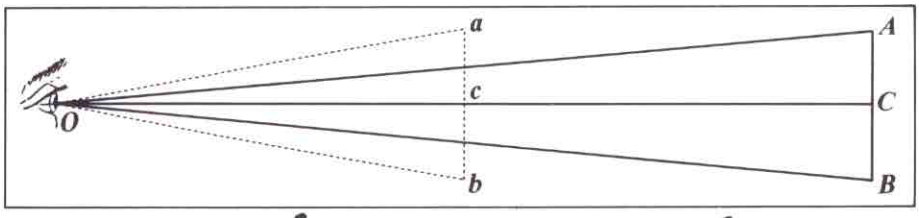
CAT. #5 $3.50



PERCEPTIONS SCIENTIFICA

Instruments & Curiosities
of Early Science, Technology & Medicine

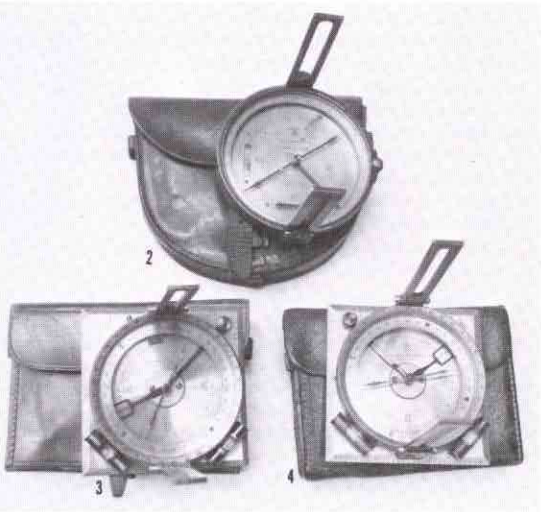
WINTER 89/90

1. U.S. COAST & GEODETIC PATTERN PRECISE LEVEL, American. Signed, "The A. Leitz Company San Francisco U.S.A. 8172", and an interior adjustment verification label is dated "1919". This massive precision level incorporates a 17" long telescope fit with an interior mounted level tube and opposing mirror. The bubble image is projected by mirror and may be observed through a side-mounted prismatic viewing tube. An adjustment on the viewing tube also enables a separation adjustment of the index lines to compensate for the change in bubble size due to temperature variation. The level also includes a side-mounted bulls-eye bubble with a separate silvered viewing mirror, a drum micrometer screw, a tangent screw suspended below the main tube, the whole is mounted on a three-screw leveling base. The instrument shows no signs of use and is in excellent condition. It retains all of the original dark green and bright lacquered brass finish. It is housed in the original fitted mahogany case (the finish is scuffed on the top), and is accompanied by all the original accessories including an auxiliary eyepiece, lens cover and shade, 3 adjustment tools, and a fine and massive walnut tripod. American precision surveying instruments are exceedingly rare. This example is complete and in extra-fine condition....$1650

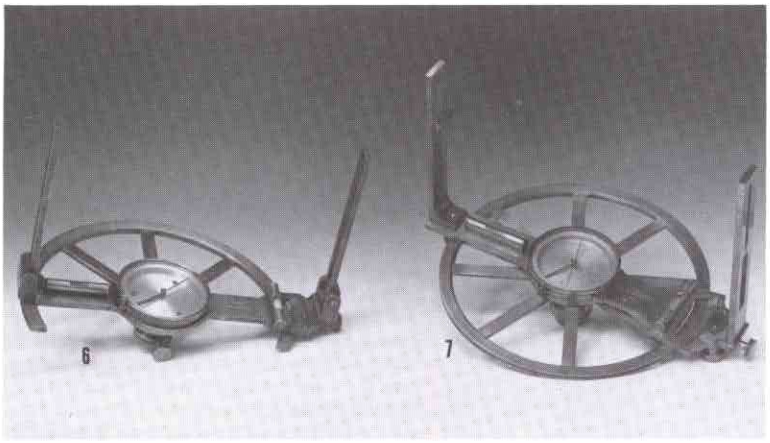
2. "U.S. LAND OFFICE". VERNIER STAFF COMPASS, American, made by K&E, late 19th or early 20th century. This rare staff compass has a 3 1/2" needle and includes opposed level bubbles, folding sight vanes, case, and a staff mount. We have never seen another instrument representing valid Government Land Office provenance...$275

3. GEOLOGISTS VERNIER COMPASS-IN-CLINOMETER, American, early 20th century. Made by K&E, this complex combination instrument is mounted on a 4" square aluminum plate with opposed level bubbles and protractor divisions for plane-table. The compass well has a 2 1/2" needle interior-variation index, inclinometer needle with index, and folding sight vanes. The instrument is in very fine condition retaining 99% of the original lacquer finish and is complete with the staff-mount and leather case...$250

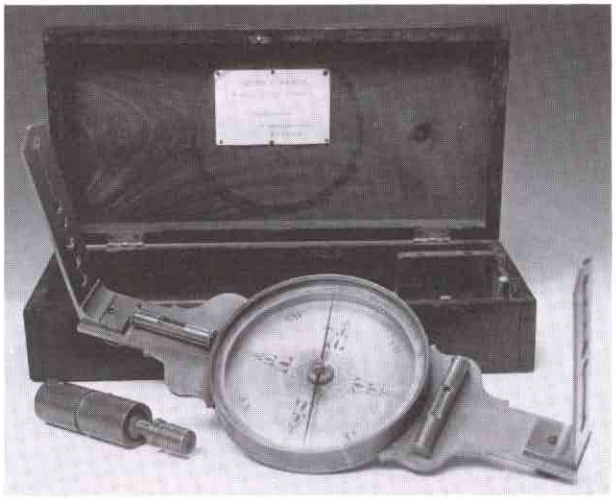
4. GEOLOGISTS VERNIER COMPASS-IN-CLINOMETER, American, early 20th century. Identical to the previous instrument except showing signs of moderate field use. Complete with case and staff mount....$175



5. HENDERSON'S RAPID-TRAVERSER FOR MINING APPLICATION, English, late 19th or early 20th century. Signed, "E.T. Newton & Son Ltd., Makers, Cambourne, England, Henderson's Rapid Traverser..Patent. I.C.S.T. Min. Surv. 212" This extraordinary instrument incorporates an 8" diameter table with a pivoting arm, on which may be clamped a set of two folding sight-vanes, both fit with peep-sights and sliding bars for taking rough vertical angles, or, a divided semi-circular vertical arc with attached peep-sight and level. Based on plane-table surveying, Henderson's patent instrument enabled reference mapping of topography on either paper or celluloid discs. The instrument is in very fine condition and retains 98% of the original grayed and bright-brass lacquered finish. It lacks an accessory trough compass, one clamp screw and the plummet. This is a very unique form of specialized mine surveying instrument, both attractive and well signed...$795

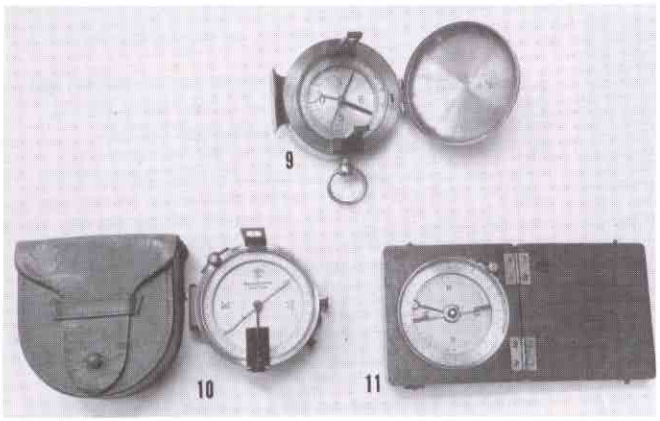


6-7. JOHN HALE'S PATENT SURVEYING INSTRUMENTS; A CIRCUMFERENTOR/SEMI-CIRCUMFERENTOR REVIVAL, American, both instruments signed and dated, "J. Hale, Patd. Mar. 10, 1885", the semi-circumferentor carrying serial number "57" and the circumferentor marked serial number, "72". According to patent papers, Hale's patent surveying instrument was "...specially adapted for use in mines...[enabling] running true parallel lines without the needle compass". Both instruments are large, with 10 5/8" diameter divided circle\semi-circle and carrying a centralized compass with 2 7/8' needles. The pivoting compass-plate arm includes opposed level vials, vernier and two sight vanes. The full circle instrument is fit with rigid sight vanes while the semi-circular instrument has folding sight vanes; possibly to offer a more compact and portable instrument. We know of only 2 other examples of Hale's patent instruments; both are semi-circles. Gauging from the serial numbers of instruments extant, Hale probably produced few of his patent instruments. Although unconventional and primitively designed, these instruments represent a very rare and specialized American patent form. 6. Semi-circle .....$1250 7.Full circle.....$1675



8. MASSACHUSETTS PLAIN COMPASS, pre-1828, signed in flowing script, "J. Poole & Compy, Easton Mafs." This early and decorative surveyor's compass has a 14 3/4" mainplate fitted with opposed level vials, and 7 1/2" tall sight vanes. The compass circle is 6" in diameter and is engraved with a decorative 4-point design, including floral points and a central motif of crosshatching and pineapples. The compass is complete with a swivel jacobs staff mount and hand-dovetailed walnut case. This is an attractive, decoratively enhanced early American compass in very good condition...$1175

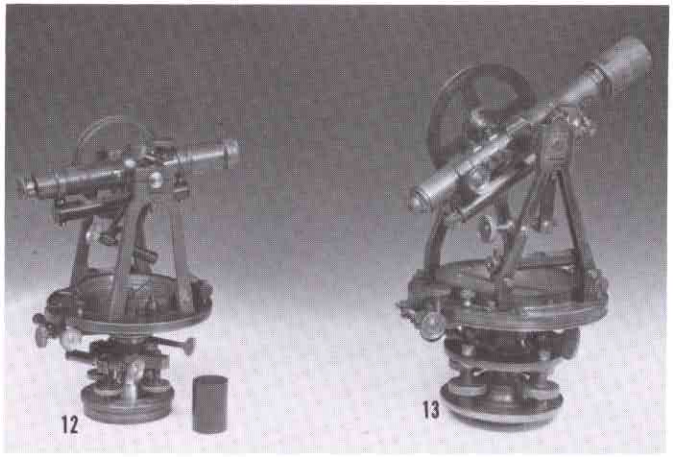
9. POCKET COMPASS/INCLINOMETER, French, late 19th or early 20th century. Contained within a nickel-plated case with a folding cover, is a compass with two folding sight vanes. The compass needle pivot is fit with a pendulum inclinometer arm and the compass face is divided for recording both horizontal and vertical angles. The condition is very good....$165



10. K&E VERNIER COMPASS/INCLINOMENTER, American, c-1900. This little combination instrument is 3' in diameter and 1 1/4" deep within an aluminum case. The compass portion is fit with folding sight vanes and a magnetic variation and vernier. The other side of the instrument is a pendulum-type inclinometer with a direct view of the internal scale. The instrument is in very good condition and is complete with the original leather case...$195

11. ENGLISH COMPASS/INCLINOMETER, mid-19th century. This attractive instrument is within a mahogany case that is 3 1/8" square. The silvered compass and inclinometer face is retained under glass by a lathe-turned brass ring. A knurled screw arrests the needle while at the same time frees the inclinometer pendulum arm. The instrument is very finely made and is in very good condition; note, one latch hook is lacking the tip...$295

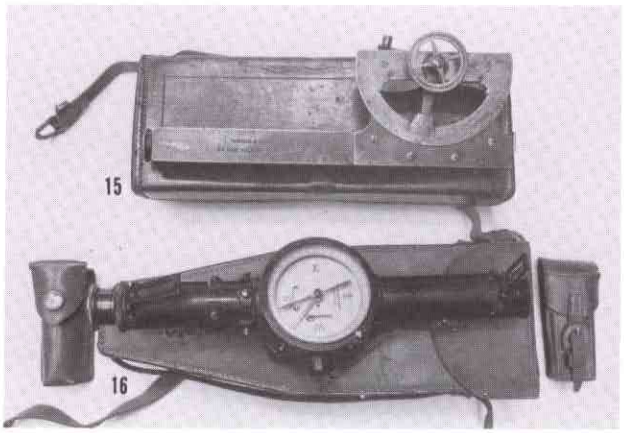
12. DIETZGEN LIGHT MOUNTAIN/EXPLORATION TRANSIT, American, early 20th century, signed on the silvered compass face, Eugene Dietzgen Co., Chicago & New York, 3183". A finely made instrument, this petite transit stands only 10 1/2" tall with a 6" diameter 1 vernier limb and 3 1/2" compass plate with internal variation index. The instrument is also outfitted with a standard set of 3 level tubes and spring-opposed tangent screws throughout. Small transit instruments such as this are very scarce. This example is in very fine condition, complete with 95% of the original finish, lens cover, sunshade, case and tripod. With proper adjustments, this instrument could perform to it's originally designed accuracy.....$1100



13. NEW YORK SURVEYOR'S TRANSIT, 1866-1868, signed on the compass face, "Blunt & Nichols, New York". This early American transit was made during the limited partnership (only a 3 year period) of Edmund Blunt jr. and John Henry Nichols. The heavily built instrument is 13" tall and has a silvered compass plate with a 4 1/4" needle, two vernier limb, full vertical circle, a standard set of three level tubes, and carries early clamp and tangent-screw features on both the upper and lower horizontal motions. The transit has an attractive field patina, and is accompanied by a sunshade, case and tripod with the thread protector cap. This is a good American transit instrument made during the brief association of these New York makers.....$1150

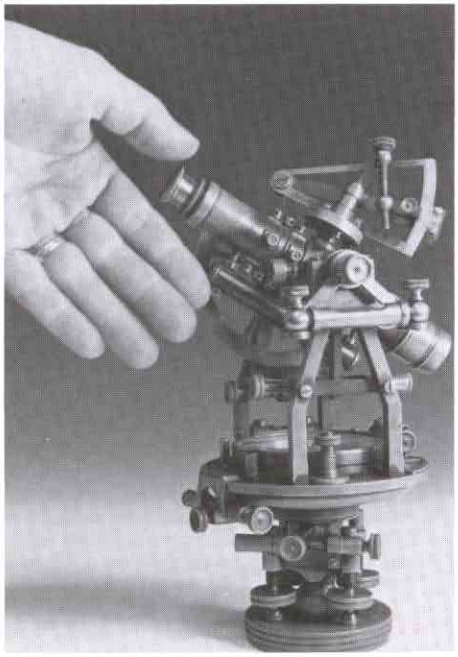
14. CONTINENTAL-PATTERN THEODOLITE FROM THE PHILIPPINES, second half 19th century, signed on the compass face, "G.G. de Altenoga, Manila". This instrument stands 12 1/2" tall on a three-screw leveling base with a beveled horizontal circle on two vernier limb set above a drum with two sighting slits. The 8" long telescope carries a top-mounted level tube and the vertical circle has two opposing verniers. The compass has a silvered and divided circle and a 2 1/2" needle. The instrument is fit with spring-opposed tangent screws and two parallel (?) level tubes. The theodolite is in very good condition and complete with a partially velvet-lined mahogany case.....$795

15. HUGE ABNEY/INCLINOMETER, English, signed, "Watson & Sons, 313 High Holborn, London". This large instrument is used for observing vertical inclines. It is 9 1/2" in length and fitted with a divided semi-circle and index arm and vernier. It is in good condition though lacking much of the original finish, and is complete with the original red velvet-lined fitted leather case....$275



16. K&E COMBINATION INCLINOMETER/VERNIER COMPASS, American, early 20th century, signed, "Keuffel & Esser Co. New York". This rare combination instrument incorporates a sighting tube 10 1/4" in length and is fitted with two folding sight vanes. A compass well carries two level vials, a 2" needle and an internal variation index. The back portion of the compass has a pendulum inclinometer, with both a lock and a release button, the scale of which is viewed through the telescope. The instrument in very fine condition, and is complete with a velvet-lined leather carrying case. Both the jacobs staff mount and auxiliary handle accompany the instrument; both with their own respective leather cases.....$395.

17....another, unillustrated, in good condition with black lacquered finish and complete with the original leather case.....&195

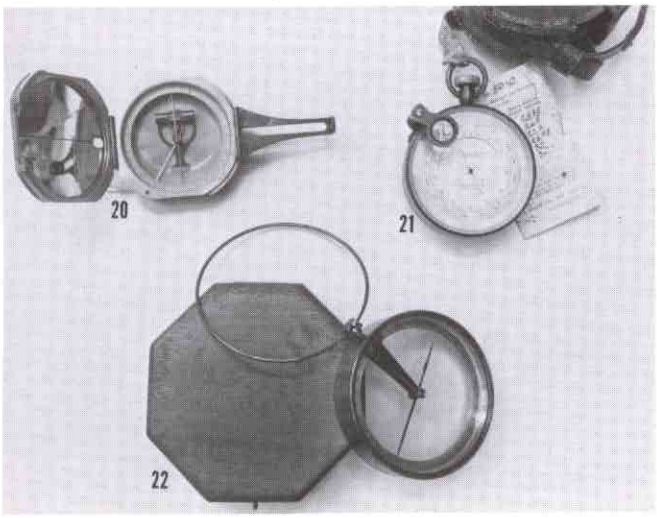


18. W.& L.E. GURLEY EXPLORATION SOLAR-TRANSIT, American, late 19th or early 20th century. This very rare and compact form of solar instrument stands only 8 1/4" tall at the top of the 6 3/4" long telescope. The 4 3/4" two-vernier limb has a silvered compass well with a 2 3/4" needle and an internal variation index. The instrument also includes a set of 4 level tubes (a side mounted latitude bubble is used for quick reference to latitude), spring-opposed tangent screws, a 4" vertical arc, and a Burt\Schmoltz-pattern top-mounted solar attachment on a polar cone. The transit is in very good condition with the exception of one replaced slotted screw. It has an attractive field patina and includes the original leather-covered mahogany case 11"x 5 3/4"x 7 1/2", sunshade, and adjustment accessories for the solar attachment. This instrument represents Gurley's smallest form of transit. We have seen one other Gurley exploration instrument in the past; we have never seen another exploration solar-transit by any other manufacturer....$3250

19. T.F. RANDOLPH'S PATENT VERNIER TELESCOPE COMPASS, American, late 19th century, signed, "T.F. Randolph, Cincinnati O. 4655". Theodore F. Randolph (1829-1898) received the patent for his telescopic compass on June 24th, 1879. The instrument incorporates a 6 1/2" compass with a 5" needle, internal variation index, opposed level tubes, and a chain-counter wheel. The telescope -attachment allows the telescope to pivot on the detachable 'A' frame, suspended over the vertical axis of the compass. The instrument is in good condition, has a light field-worn patina and is complete with the original sunshade attachment. Although Randolph was in business for over 45 years, few of his patent instruments are extant today.....$1275

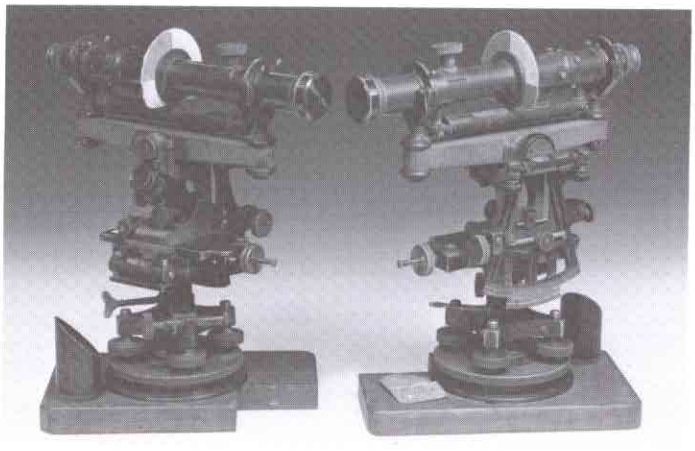
20. "D.W. BRUNTON'S PATENT Sept. 18, 1894, Wm. Ainsworth & Sons. Sole Manufacturers, Denver Colo, U.S.A. [#] 1662". This early form of the popular brunton pocket transit incorporates an aluminum alloy case 2 3/4" x 2 3/4" with both graduated circle and arc for horizontal and vertical readings. The mirrored lid (a crack in the mirror) and folding sight vane allow viewing of the compass face while viewing line. This is a particularly early and nicely signed example....$175

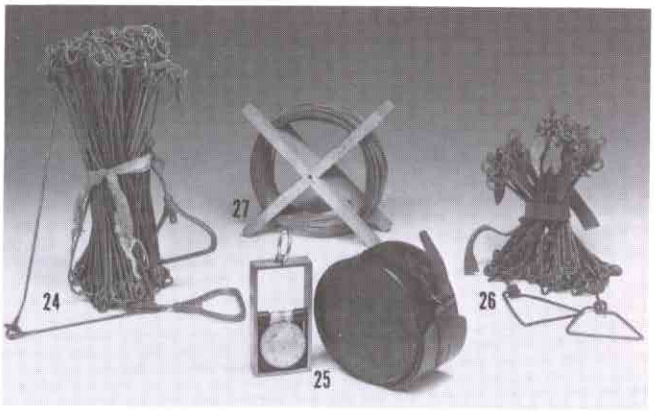
21. "SURVEYING ANEROID COMPENSATED" ALTIMETER/BAROMETER, signed, "Made in England [for] Keuffel and Esser Co., New York". This precision surveying instrument is 3" in diameter and has a beveled-glass crystal face. The index reads from 18 to 31 inches of mercury, and on the altimeter scale from 0 to 14,800 feet. It reads by opposed vernier and through a swing-away magnifier, directly to 5 feet. The vernier is activated on an internal rack-and-pinion, and activated by a top knurled knob. It is complete with the original leather case and calibration paper, the latter dated, "June 30, 1892"....$225



22. CASED DIP-NEEDLE, American, mid-late 19th century. This prospecting/exploration related instrument is comprised of a 3 3/4" double-glazed brass housing with an internal silvered and graduated circle. A delicate needle with dual arrestor arms is activated by a single push/pull motion and the whole is held by a suspension ring. The handheld dip-needle is associated to surface exploration for rich ore bodies. It was affordable standard equipment for the late 19th century gold-seekers of the American west but is rarely seen today. This example is in very good condition, and retains 90% of the original lacquer. It is enclosed in it's original octagonal mahogany case...$225

23. HOLDEN BASE-LINE CLINOMETERS, FOR PRECISION LINEAL MEASURING, American, both instruments signed, "Keuffel & Esser, New York, Patented March 3, 1910.", with consecutive serial numbers, "21803 and 21804". Each of this highly accurate pair of identical instruments is 12" in height with wye-yokes to facilitate an 11" telescope with a suspended level tube and attached target. The telescope mount-bar is pivoted and carries an 'A' frame mounted level tube and a partial vertical arc with opposed vernier. This feature, in part, enabled the instruments to view each other, thereby substantiating line and gradient. Above a standard four-screw leveling base is attached a milled runner and sliding table with index and vernier. Atop the sliding table is an index post and attached magnifier for positioning and observing the chain. This form of instrument enables measurements by chain accurate to 1/10,000 of a foot. Edward H. Holden was the Engineer in charge of surveying in the Bronx Burroughs of New York. He designed these instruments for accurate traversing in city streets, bridges and tunnels. We believe that few of these instruments were produced. K&E discontinued advertising the Holden instruments by 1921. These are impressive and extraordinary American-designed high-precision instruments...$2200 pr.





24. 100 FOOT LINK CHAIN, American, late 19th century, one handle marked, "A.S. Aloe Co.". This early surveyor's chain is equipped with two brass handles, brass tally tags and brazed links. G.L.O. surveyor's were required to use chains with brazed links after 1881. The condition is very good.....$250

25. PENDULUM ODOMETER, American, early 20th century, signed, "Keuffel & Esser, New York". This spoke-mounted odometer incorporates a heavy double-index pendulum and frame that fits within a leather-covered tin case. In use, the device was strapped to the spoke of a wheel and would count each revolution. With a known wheel circumference, one could calculate distance traveled. The odometer is in very fine condition....$225

26. 2-POLE LINK CHAIN, American, mid-19th century. The heavy wire chain incorporates wire handles, brass tally tags, and an unusually large mid-chain swivel. The condition is good.....$275

27. 'HOOP-SKIRT' BAND-CHAIN, American, late 19th or early 20th century. This 200 foot band chain has laid-on solder points with stamped numbers. It is unused and complete on the original wooden holder....$225

28. A MEMENTO OF THE 1858 TRANS-ATLANTIC TELEGRAPH CABLE, MADE BY TIFFANY & CO. American. A section of steel-wire and gutta-percha sheathed cable 4" in length, with the ends retained by brass ferrules, bears a brass label that reads, "Atlantic Telegraph Cable ****Guaranteed By**** Tiffany & Co. Broadway. New York. 1858". This is a very interesting souvenir of the first, and failed attempt to cross the Atlantic with a telegraph cable. Frenzied jubilation in New York was short-lived as the failure was realized only a few days after the cable's celebrated completion. A successful conclusion of the project was not accomplished until July of 1866, making this well marked memento from the first magnanimous attempt, quite interesting....$295

T. F. RANDOLPH.

Surveying-Instrument.

No. 216,759. Patented June 24, 1879.

Fig. 1

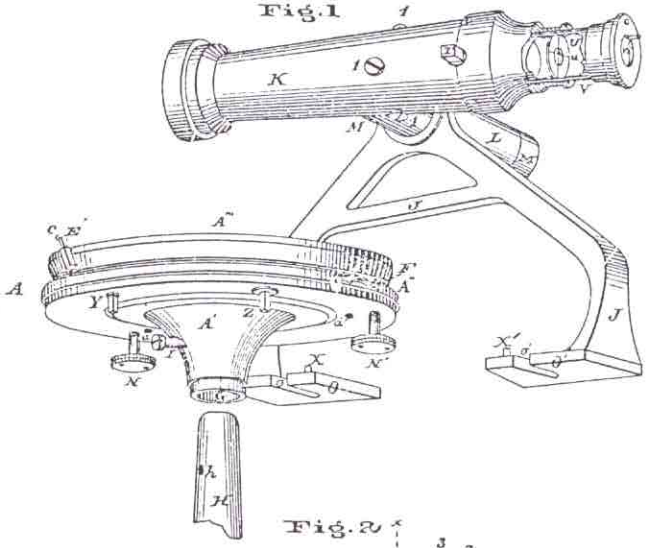
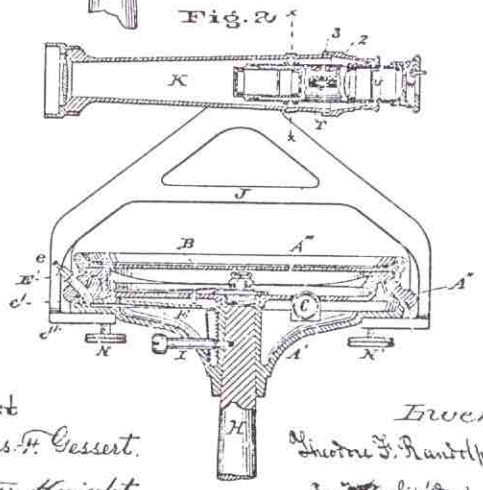


Fig. 2



Attest

Chas. H. Gessert.

Walter Knight

Inventor:

Theodore F. Randolph

By Knight Bros. Attys.