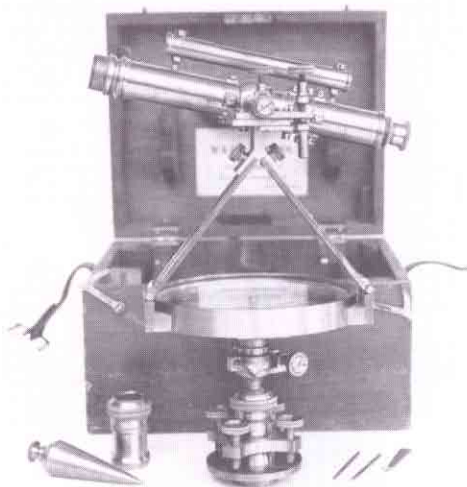


PERCEPTIONS SCIENTIFICA

*Instruments of Early Science, Technology & Medicine*

WINTER 86/87

1 POCKET VERNIER COMPASS WITH TELESCOPE, American, c-1890, signed, "W. & L.E. Gurley, Troy, N.Y.". This is a rare adaptation to the folding sight-vane vernier compass. The instrument, on a 4-screw leveling base, measures 11 1/2" tall and is equipped with offset sight vanes. The accompanying telescope can be attached to the top of the sight vanes and over the central horizontal axis of the compass. The compass carries a 4 1/2" needle and external-variation index. The instrument is in very fine condition retaining 95% of the original bright-brass lacquer finish. The dovetail-jointed mahogany case carries a 4-screw leveling base, plumb bob, jacobs-staff mount and adjusting pins. A fine stiff-leg tripod made of ash accompanies the instrument.....\$890



2 100 FOOT ENGINEERS LINK CHAIN, English late 19th century, signed, "Chesterman, Sheffield England.". This chain consists of 100 1-foot-links that are .105" in diameter, two brass handles, and brass tally tags every 10 feet. The chain is in good condition.....\$165

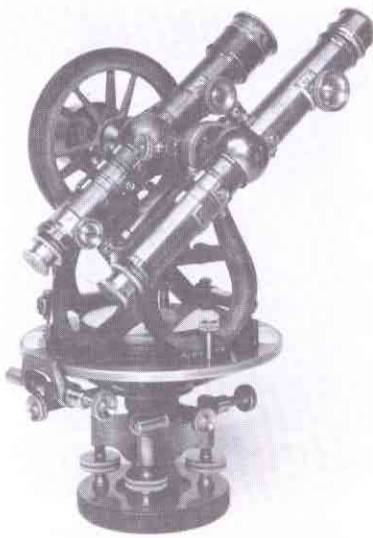
3 2 POLE LINK CHAIN, American, c-1890, signed, "W. & L.E. Gurley, Troy, N.Y.". this early chain incorporates brazed links, a requirement for all chains used for G.L.O. surveys after 1881. The chain is in good condition.....\$195

4 HEAVY 100 FOOT ENGINEERS LINK CHAIN, English, c-1890, signed, "Chesterman, Sheffield, England.". This chain consists of 100 1 foot links that are .154"

in diameter, two brass handles, and brass tally tags every 10 feet. The chain is in very good condition.....\$165

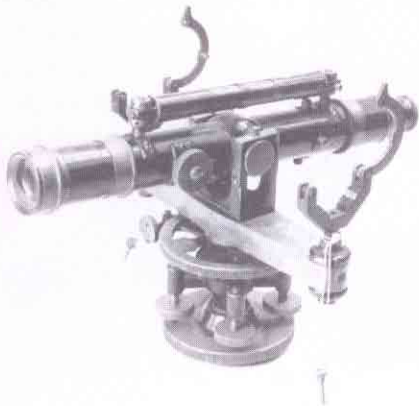
5 EARLY AMERICAN VERNIER COMPASS, c-1850 signed, "Roach & Warner, New York.". This early brass, surveyor's compass measures 14" in length and has two 6 3/4" long sight vanes, a 5" needle, and two level vials. An external variation index is adjustable by a top-mounted tangent screw. The nicely engraved compass face is lacking most of the original silvering and the needle arrestor screw is an early replacement. Charles Smart's book, The Makers of Surveying Instruments in America since 1700, list the partnership of John Roach and Henry Warner as lasting from 1847 through 1858. This compass is in good condition. \$495



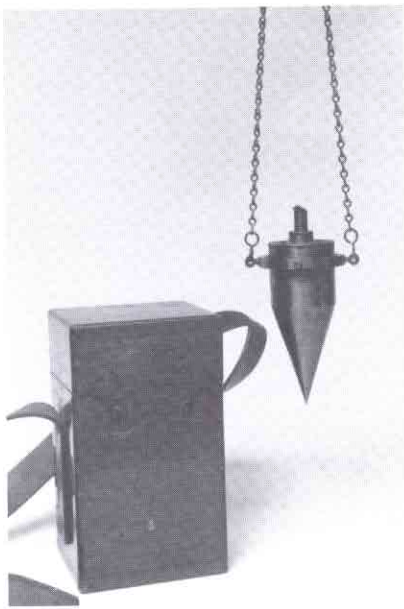


6 MINING TRANSIT WITH AUXILLARY TELESCOPE, American, 1920, signed, "W.& L.E. Gurley, Troy, N.Y., 201596.". This rare mining transit, constructed from brass, measures 12" tall with a 7 1/2" central telescope, and a 7 3/4" auxillary side-mount telescope. Auxillary telescopes are necessary for viewing up shafts and steep slopes. A removable counterweight opposes the auxillary telescope at the vertical axis of the instrument. The silver horizontal and vertical circles and verniers, are both fit with clamps and slow-motion tangent screws. The compass carries a 3" needle and internal variation index. The 4-screw lower motion and leveling base also is fit with a clamp and slow-motion tangent screw. This is a fine example of an American mountain and mining transit. The fitted mahogany case retains most of the original accessories, both objective caps, a lens hood, adjusting pins, thread protector caps, hand magnifier, and a prismatic eyepiece with swing-away filter. The transit and tripod are in fine condition, retaining 80% of the original finish.....\$1390

7 GIMBALED HEDLEY MINING DIAL, English, mid-19th century, signed, "J. Casartelli, Manchester.". The compass plate of this elaborate instrument measures 11 1/2" long, and carries two folding sight-vanes that are 5 3/4" tall. The beautifully hand engraved compass face has a 4 1/4" needle and an internal horizontal circle and vernier; the circle is adjustable by an internal, circular rack-and-pinion. The compass, complete with tripod and leveling base, incorporates a gimbaled exterior plate with attached sight vanes, and a side-mounted inclinometer for recording vertical angles. The compass is in very good condition, retaining 90% of the original lacquer. The case still has intact the trade label of the maker, Joseph Casartelli. ....\$725



8 CONVERTABLE WYE LEVEL, American, c-1917, signed, "A.S. Aloe, St. Louis, #9768, Pat. 7-24-1917.", and on a hidden surface, "Made by Wissler, St. Louis.". The telescope measures 11 1/2" long and is removable from the two wye yokes in order to mount perpendicular in a separate centrally mounted cradle. This conversion enables vertical movement of the telescope. The instrument is in good condition although lacking a horizontal lock screw. Adolph Wissler was granted a patent for this instrument, the "Combination Transit and Level" in 1917. An unusual American patent, combination surveying instrument.....\$295



9 GIMBALED MINING PLUMMET LAMP, American, c-1890. Underground surveying differs considerably from daylight surveying. First, most stations or fixed points are set into the ceiling, as constant activity would obliterate points set on the tunnel floor, and second, the station must be illuminated for sighting purposes. This early specialized plumb bob, measuring 6 1/4" long, has a wick and well for fuel-oil. When hung from a point in the ceiling of the tunnel, it is lit and easily observed by the instrument man. The plummet is fitted within a fine mahogany case. Both plummet and case are in very fine condition..... \$320

10 TRANSITING-TELESCOPE VERNIER COMPASS, American, c-1875, signed, "W. & L. E. Gurley, Troy, N.Y.". This instrument is a transitional form of design, from the compass to the transit. Early examples are found associated with the design of the first American transits during the 1840's. The instrument, very slight and petite, measures 10 3/4" tall and has a compass with a 4" needle and internal variation index. There is no horizontal or vertical circles or verniers. The 4-screw leveling base is fitted with a ball-and-socket, and clamp and slow-motion tangent screws. A spring-mounted button releases the entire lower assembly. The instrument is missing 3 small screws, and has 1 replaced level vial. It is in good overall condition and includes an old replacement case.....\$665

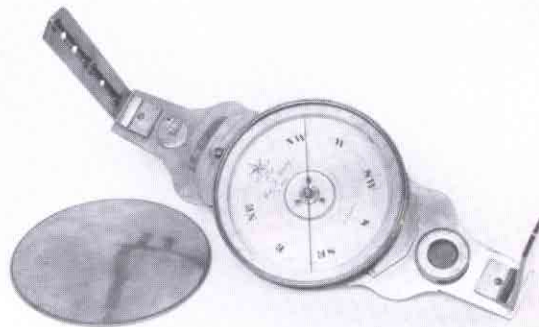


11 AMERICAN PRISMATIC COMPASS AND MILITARY INCLINOMETER, c-1917, both signed, "Keuffel & Esser Co., N.Y.", and both leather cases marked, "Eng. Dept. U.S.A., 1917". These pocket instruments are probably WWI surplus. The compass is a Hutchinson's type prismatic, and the inclinometer has a suspended prism with attached graduated wheel. Both are in very good condition.....\$155 pr.

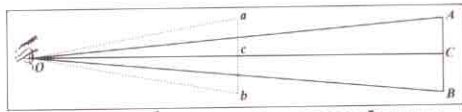
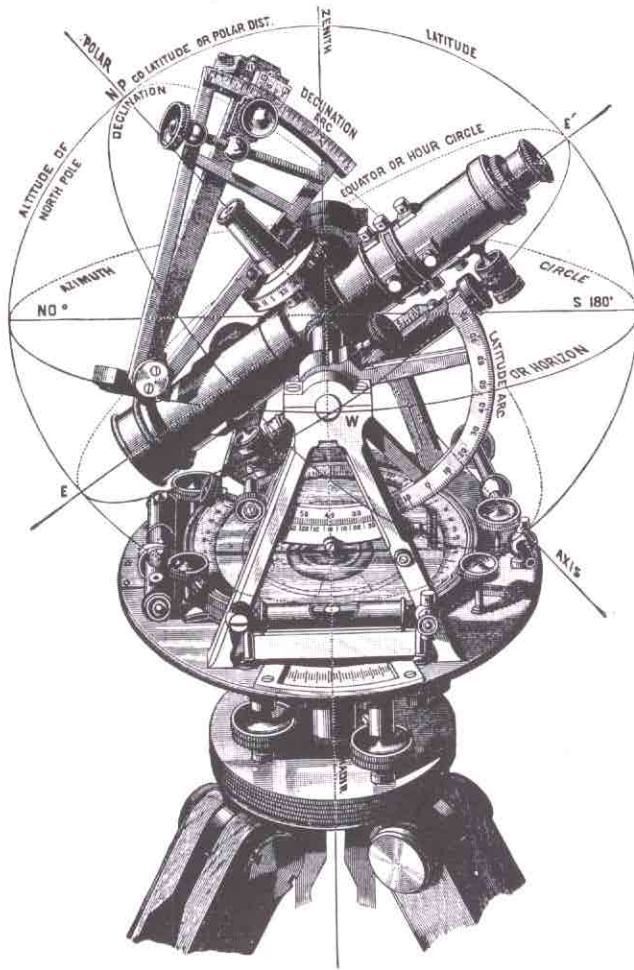


12 SCHMOLTZ PATENT SOLAR TRANSIT, American, c-1890, signed, "W.& L.E. Gurley, Troy, N.Y.". This exceptional solar transit measures 13 1/2" tall and incorporates an 8" telescope (closed), 4 1/2" compass, and silver horizontal and vertical circles and verniers. The instrument has a 4-screw leveling base, internal variation index, and clamp and slow-motion tangent screws for all the recording and non-recording movements. The patent solar attachment, (missing one screw and washer), consists of a telescope-mounted polar circle for setting off the time-of-day, a declination arc, and two reticulated silver image-reflecting plates with swing-away sights. All the scales are made of silver. This is a modification of William Burt's solar attachment that evolved in 1835. William Schmolztz, a San Francisco Instrument maker, adapted the attachment for the surveyors transit in 1867. The transit was a preferential instrument over the compass after about 1870. The Gurley firm bought the patent from Schmolztz in 1874. The instrument is complete with a dovetailed mahogany case, and tooled leather case cover. This very rare, American-designed solar transit is in very good condition.....\$1850

13 WM. J. YOUNG VERNIER COMPASS, American, c-1850, signed, "Wm. J. Young, Maker, 3319 Philadelphia.". William Young, an important and innovative mid-19th century instrument manufacturer, was the self-proclaimed maker of the first American transit in 1841. This early brass compass measures 14 1/2" long, and has two 7" sight vanes. The main plate carries a bullseye level and an outkeeper, (used for keeping record of the chains measured), and an exterior variation index, adjustable by an internal rack-and-pinion. The silvered compass face has a 5" needle and protective cover. The instrument is in good condition with one early replacement screw.....\$525



14 POCKET RAILROAD COMPASS, American, 1922, signed, "W.& L.E. Gurley, Troy, N.Y.". This scarce little instrument stands 10 1/4" tall on a ball-and-socket jacob staff mount. The compass incorporates a 5", silver, external horizontal circle and vernier with both lock and slow-motion tangent screws, internal variation index and a 3 1/2" needle. The instrument case retains the original plumb bob, adjusting pins, and staff mount. Railroad compasses are very rare instruments; pocket railroad compasses even more so. This example is in fine condition retaining 90% of the original gray and bright brass finish.....\$695



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