

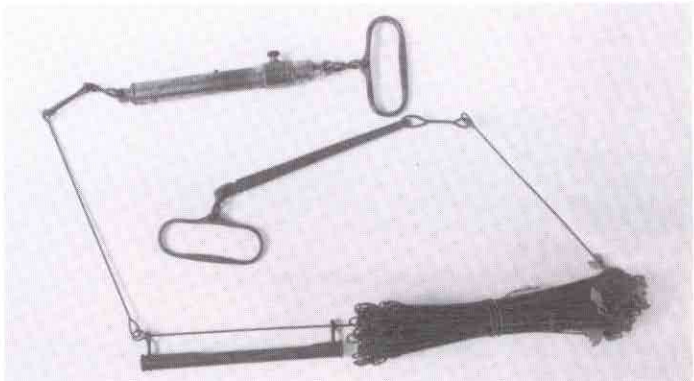
PERCEPTIONS SCIENTIFICA

*Instruments & Curiosities  
of Early Science, Technology & Medicine*

WINTER 88/89

1. MISSISSIPPI RIVER COMMISSION TRIANGULATION THEODOLITE, American, 1913, signed, "F.E. Brandis & Sons M'FG' Co., Brooklyn, NY, 2960". This impressive American precision theodolite stands 16" tall and has a 13" long telescope, a 5" diameter vertical circle, and an 8" horizontal limb. Each of the four verniers is fit with a separate magnifier, and the instrument is leveled on a 3-screw leveling base. The massive mahogany case is 22" tall and retains the original trade label with delivery certificate, as well as the label of the Mississippi River Commission. The instrument is in very fine condition throughout, retaining 99% of the original bright and dark brass finish. We very rarely see American high precision-grade instruments in any condition.....\$1800

2. J.M. GRUMMAN'S PATENT MEASURING CHAIN, American, 3rd quarter 19th century, signed on the brass handles, "J.M. Grumman Patent, April 10, 1859, W. & L.E. Gurley, 50ft Steel No. 18". This miniature chain incorporates 100 6"-links, with tiny brass tally tags, and is fit with both suspended thermometer and a graduated variable-spring-pressure handle. An interior bubble is dry. John Grumman's notable modification of the gunter chain was the most accurate form of chain offered during the mid-to-late 19th century. The #18 chain, with compensation for sag, temperature, wear, kinking, and tension variations, was designed for city engineers where the highest of accuracy was essential. Aside from a single example in the Smithsonian N.M.A.H. collection, this chain is the only other example of Grumman's patent chain that we are aware of. ....\$495



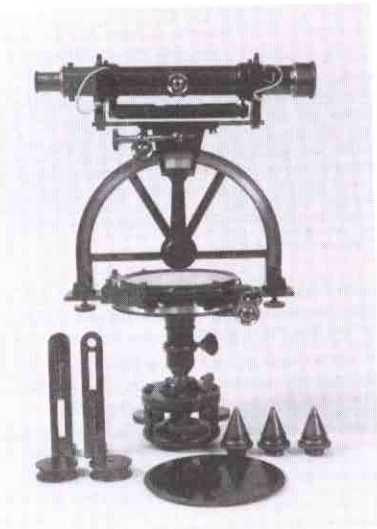
3. 18TH CENTURY POCKET COMPASS, English, mid-late 18th century. This pocket, or traveler's compass, is set into a 3 1/2" square mahogany case with a 3 1/8" compass card and has a lathe-turned brass retainer ring. The printed paper compass-card is in fine condition; the style reflecting a time when a universal compass rose was used for both mariners and land use compasses. The compass is in fine overall condition; note the loss of latches. ....\$295

4. 18TH CENTURY BRASS-CASED POCKET COMPASS, English. The heavy lathe-turned brass case to this little compass is 1 11/16" in diameter, and contains an early style printed paper compass card. It is in fine condition.....\$125



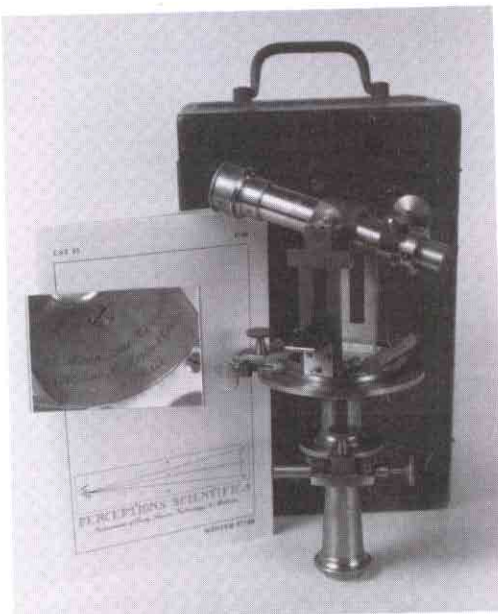
5. SCANDINAVIAN PLANE-TABLE COMPASS, early 18th century (?). This noteworthy and uncommon brass compass measures 4" square. The 3" compass face is engraved, "ME SUD, OC WEST, SE NORD, OR OST"; the sub-cardinal points are engraved in script. The compass has a silvered hand-divided horizontal circle and the needle arrestor bar, activated by a brass post set into the wooden case, is decoratively engraved. The bar-type magnetic needle and pivot design is most unusual. The glass has an internal ground indentation to accept the large ruby or agate-jeweled pivot. The instrument, retains 90% of the deep yellow lacquer, and is complete with an original hand-dovetailed spruce case. It is in fine condition. ....\$550

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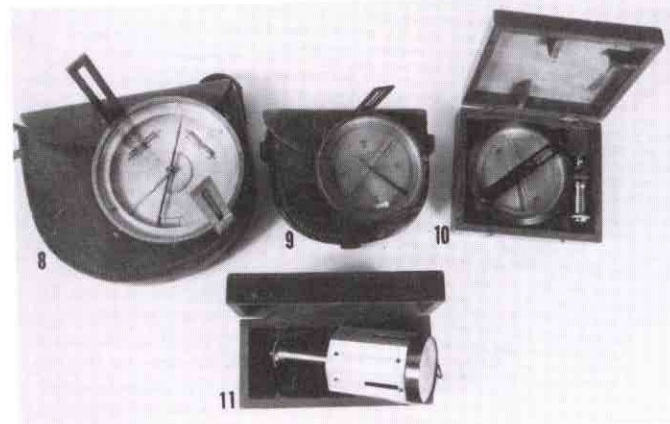


6. LEAN'S-DIAL, AN ENGLISH MINING THEODOLITE, c-1875, signed in script on the 4 1/4" silvered compass face, "A. Jeffery, Late Wilton St. Day, Cambourne, Cornwall". This specialized instrument, first adapted by Cornish mine manager Joel Lean during the late 18th century, stands 15 1/2" tall and includes a convertible telescope with a reversed vertical arc that measures 8" in diameter, two sight vanes, and four-screw leveling base with an independent ball-and-socket leveling joint. The vertical arc, marked with scales unique to mining surveys, will allow the use of the telescope for observations up, and down, steep shafts and stopes, enabling the line-of-sight to clear the horizontal plate. With the telescope removed from the yokes, a set of two peep-sights (one fit with wire cross-hairs) may be installed; their design is probably for use in wet-mine applications. A silvered and beveled horizontal circle with an opposed vernier is exposed on the reverse side of the instrument; an attached magnifier is lacking. Other accessories include a case, compass cover, and a tripod with break-down legs. This tripod when used in the short form (with a set of three detachable points) would have enabled the use of the instrument in exploration tunnels, where it was necessary to work on one's knees. Lean dials such as this example, with multiple convertible accessories and in fine condition, are very rare. ....\$1850

7. MINIATURE FRENCH NICKEL PLATED "GONIOMETRE A LUNETTE", c-1900, signed in fine script, "H. Morin 3 rue Boursault (Aldiers H. Morin & Gensse) a Paris". This tiny french surveying instrument stands only 9 1/2" tall, has a 6" telescope and a graduated 3 3/4" horizontal circle. The instrument is fit with both upper and lower-motion clamps, and slow-motion tangent screws, a single level vial, and an optical 90 degree-finder mounted on a single telescope standard. The instrument, with both attractive finish and distinctive design, retains 95% of the original nickel plating, and is complete with lens cover, sun shade, adjusting tool, and case. ....\$595



8. GURLEY POCKET RAILROAD COMPASS, American, c-1910-20. The compass is 5 5/8" in diameter, and has folding sight vanes, a silvered compass dial with opposing level vials, and interior graduated circle and vernier. The clamp and slow-motion tangent screw are set under the compass housing. The instrument is complete with original leather case and staff mount joint. ....\$295



9. K. & E. STAFF COMPASS, American, c-1910. The compass is 4 1/4" in diameter, and has black folding sight vanes, opposed level vials, ball and socket joint, and leather case. ....\$165

10. FRENCH STAFF COMPASS, c-1900. The instrument is 4 1/2" in diameter, and includes folding sight vanes (fit with hooks for attachment to a guy-wire), staff mount joint, and a wooden case. ....\$150

11. K. & E. CROSS STAFF HEAD, French, late 19th century, retailed by Keuffel & Esser Co. This octagonal cross staff head is 6 1/4" in length,

and includes a magnetic compass and sighting slits on all of the eight sides. It retains 95% of the original lacquer and is housed in the original wooden case. ....\$165

12. AMERICAN POCKET-TELESCOPIC RAILROAD COMPASS, late 19th century, signed, "W. & L.E. Gurley, Troy N.Y.". This all brass instrument stands 13" tall and incorporates a 9" telescope, a 3 3/8" vertical circle, and a 4 1/2" magnetic needle. Both upper and lower motions are fit with clamps and slow-motion tangent screws. This, a rare and uniquely American-designed instrument includes a divided horizontal circle with a vernier that is read through a window in the compass face, and a vertically-centered telescope that attaches to the two offset and partially-inclined sight vanes. The instrument retains 90% of the original grayed and bright lacquer finish, with surface wear only on the outside perimeter of the compass housing. It is complete with a 4-screw leveling base, plumb-bob, and separate staff mount. This instrument represents the Gurley pocket railroad compass in it's most complex form. ....\$1895



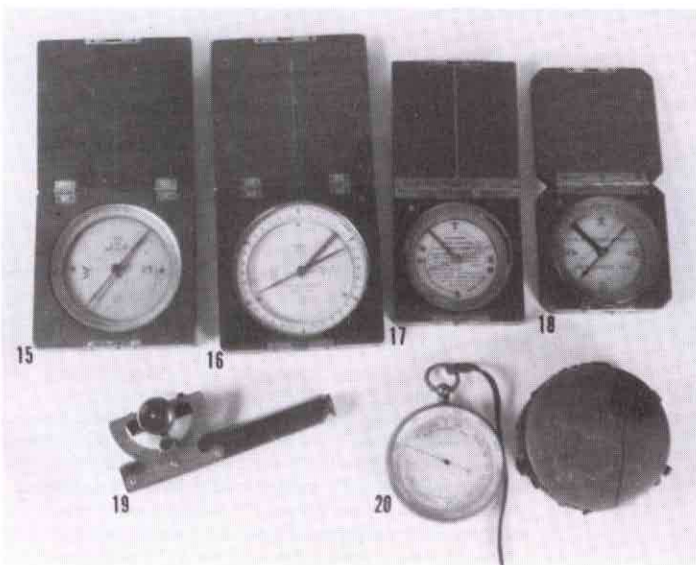
13. KEUFFEL & ESSER PLAIN COMPASS, American, early 20th century. This petite little plain compass measures only 12" in length, has a 4" needle and 4 3/8" tall sight vanes. The instrument, and its ball-and-socket staff mount, retain 99% of its original gray and bright lacquer finish. The original fitted case retains the trade label. ....\$475



14. EARLY AMERICAN PLAIN COMPASS, early-mid-19th century. This brass compass is 15 1/4" in length, and has a 6" diameter silvered and engraved compass face, and opposing level vials. The compass is in good condition: note a field-worn bright-brass surface. ....\$595

15. K&E POCKET COMPASS, American, c-1910. The 3 1/2" square compass is in good condition. ....\$60

16. GURLEY POCKET COMPASS, American, c-1910. The 3 3/4" square pocket compass is in good condition with field-worn exterior corners. ...\$60



17. STANDARD POCKET COMPASS, U.S. FOREST SERVICE, made by K&E, early 20th century. The 3" square pocket compass is in good condition. ....\$60

18. U.S. ENGINEERING DEPT, HERSCHEDE 1918. The 3" square pocket compass is in very good condition. ...\$75

19. ABNEY POCKET CLINOMETER, English, early 20th century, signed, "Short and Mason Ltd, London". The Abney level is 5" long and has a single drawtube that extends the length to 6 1/4". It is in good condition. ...\$85

20. POCKET ALTIMETER/ BAROMETER, marked, "Made in England". The instrument measures 2 3/4" in diameter, and has a ormalu brass case, a beveled crystal, and a revolving altimeter scale. The instrument is in good condition complete with a (tattered) wooden case. ....\$95



21. BURT TELESCOPIC SOLAR COMPASS, American, late 19th century, signed, "W. & L.E. Gurley, Troy N.Y.". This all brass instrument stands 13 1/2" tall on a 4-screw leveling base. The 14 3/4" long mainplate has two 7 3/4" tall sight vanes, one fit with dual swing-away peep sights, and the other accommodating the telescopic attachment. The central mainplate incorporates a trough compass 4" in length, a latitude arc, a declination and polar arc, a scale for setting off magnetic variation, and opposed level bubbles. The double centers are both fit with their respective clamps and tangent screws. The inventor of the solar compass, William Austin Burt, was granted a patent for his "True Meridian Finding Instrument" in 1836; the first examples were produced by Philadelphia instrument manufacturer Wm. J. Young. An important and rare American patent instrument, the solar compass played a significant role in early G.L.O. surveys in the American West. This example, accompanied with the rarely-seen and original telescopic attachment, is in very fine condition

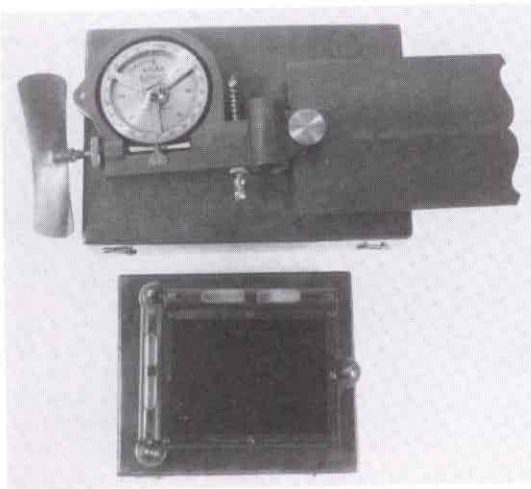
throughout, retaining 95% of the original greyed and bright lacquered brass finish, and the original case is complete with both a plumb bob, and necessary solar-attachment adjustment accessories. We feel that this instrument has seen very little use, and after the proper adjustments are provided, will function to its originally designed accuracy. ....\$5995

22. A SAN FRANCISCO TRANSIT, American, c-1880, signed on the compass face, "John Roach Maker [#] 218". This exceedingly heavily built brass transit stands 12" tall and incorporates a 10" long telescope on A-frame standards, a glass-enclosed magnetic compass (the glass is cracked), a silvered horizontal circle with vernier, two opposed level bubbles, and a 4-screw leveling base. The instrument, made by San Francisco's earliest maker, is in very good condition with a darkened finish, and is complete with the original case and tripod. J.C. Sala, successor to John Roach, recalls in an 1899 catalogue, "...[Roach] instruments in the early days were not handled always by competent men and received harder usage...as a consequence, metal was not spared in their construction...". Also stated was the fact that the Roach instrument was renowned for its sturdy construction. This instrument is one-of-very-few surviving instruments by John Roach who in turn was one-of-very-few West coast instrument manufacturers. ....\$950



23. CURRENT METER, English, late 19th or early 20th century, signed, "Queen & Co. Philadelphia". The meter incorporates a 2 7/8" diameter wheel that is divided into furlongs and miles. A threaded rod adjusts tension, and engages the registering wheel onto the worm drive propeller shaft. The instrument, used by hydrographers and engineers to measure water velocity, retains 99% of the original lacquer finish, and is complete with case. ....\$325

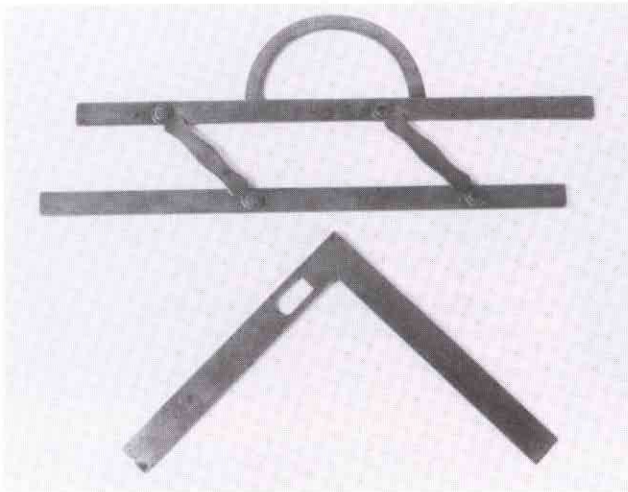
24. GLASS PLATE ARTIFICIAL HORIZON, English, mid-19th century, signed, "Elliot Bros London". This artificial horizon is made of brass with a blacked-glass reflective plate that measures 3 7/8" x 2 7/8", opposed level vials, and three leveling screws. The instrument was used for taking celestial or solar observations while surveying on land with a sextant or octant when a true horizon was obscured or unavailable. It is complete with 95% of the original greyed brass finish and a fitted case.....\$395



25. RECONNOISSANCE SOLAR TRANSIT American, late 19th century, signed, "W. & L.E. Gurley, Troy N.Y.". This early and petite example of a Schmolztz-patent solar transit measures 12" in height and incorporates a 9" telescope, a 3 1/2" compass needle, an internal variation index, a single-vernier silver horizontal circle, a silver vertical half-circle, a solar attachment, a latitude bubble, and 4 sight vanes. It represents one of Gurley's smallest solar transits and was used for exploration purposes. The Schmolztz-patent solar attachment (1867) is an adaptation of Wm. Burt's 1835 compass-mounted solar attachment. The Gurley firm bought the patent from Schmolztz in 1874. This example incorporates unusual features such as a full set of sight-vanes, mounted on both the telescope standards and the telescope. It is in very good condition with a replaced polar cone solar attachment mount, and is complete with the original dovetail-jointed mahogany case. ....\$2250



26. COMBINATION PARALLEL RULE/ PROTRACTOR/DIAGONAL SCALE, probably American 18th century. This all brass instrument is 12" in length and is hand divided and engraved. The engraved number-styles are not dissimilar to examples by early well known American practitioners. From its appearance, the instrument could date from the early 18th century and though primitive in construction, would have served well the colonial surveyor, cartographer or draughtsman. ..\$575



27. 18TH CENTURY FOLDING SQUARE/ PLUMB-LEVEL, French, signed in flowing script, "Menant A Paris", with both German and French scales, named in beautiful script. The all brass instrument is 6 3/4" in length and made from tapered stock. It is in good condition. ....\$275

28. TROUGHTON & SIMMS VERNIER PROTRACTOR, English 2nd half 19th century, engraved in script, "Troughton & Simms London". This precision protractor incorporates a 6" graduated semi-circle, a 2' long index arm, and a vernier reading to 1 minute of arc. The instrument is complete with fitted case and is in fine condition. ....\$350

