

**ILLUSTRATED
PRICE GUIDE
TO
ANTIQUE
SURVEYING INSTRUMENTS
AND BOOKS**

FRANCOIS D. UZES



TITLE AND DESIGN REGISTERED

THE BOOK

This guide includes descriptions and illustrations of numerous early American instruments used in surveying, with values assigned according to various periods of manufacture. Special attachments for mining and solar observations are also treated. In addition, a price guide for over 200 surveying texts, manuals, and manufacturer's catalogs, for the years 1616 to 1925, is included. Supplementing this is a bibliography of all known surveying books published in America up to 1850.



ACKNOWLEDGEMENTS

Family and friends provided notable assistance during the preparation of this work. Encouragement and understanding from my wife, Jo Ann, was most reassuring. My son, Russ, a student at the University of California, provided valuable assistance in manuscript editing and searching out old surveying texts. Enthusiasm and support from friend Roy Minnick helped maintain the overall momentum, a vital factor in bringing a book to completion. Thanks are also extended to the several additional individuals who assisted in varying ways.

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PICTURE ON FRONT COVER

The old cigar-box label depicts George Washington with a surveying instrument. Washington was a county surveyor in 1749, and participated in laying out the town of Alexandria, Virginia, as well as many other projects.

Other prominent figures in American history, including Abraham Lincoln and Daniel Boone, also worked as surveyors.

KEY TO BOOK SIZES

16 mo.	6 - 7" tall
12 mo.	7 - 8" tall
8 vo.	8 - 9½" tall
4 to.	9½ - 12½" tall
Folio	12½" and larger

First Edition

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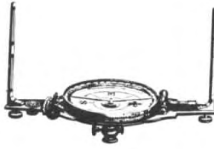


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PART ONE — INSTRUMENTS



INTRODUCTION

Antique surveying instruments were important pioneer tools that figured prominently in the development of our American culture. At first they were utilized during the colonial period in identifying landed estates and farms, but with the onset of the western population migration, their application included subdividing the vast public lands into townships and sections. In addition, they had many other uses. Early railroad builders used them for establishing correct alignment and grades. Mine operators required accurate surveys for protection against cave-ins, and for ascertaining their legal working limits. Government topographers and geologists also found need for the instruments' capabilities, as did city founders, and builders of roads, bridges, harbors, buildings, etc. Because they were commonly used in very remote regions, surveying instruments had to be ruggedly built, and susceptible of minor repair and adjustment by their owner.

The advances made by our early instrument makers in both design and technology are typical of American ingenuity. In the 18th century, most instruments were either imported from Europe or copied from European products. Gradually, American makers became established and soon started producing instruments with such progressive features that they revolutionized the industry and leaped decades ahead of makers in other nations.

The American Surveyors Transit invented in 1831 by William J. Young of Philadelphia, and the Solar Compass in 1835 by William A. Burt of Michigan, were at the forefront of this movement. Edmund Draper was another early maker, who is credited by some as being the inventor of the transit. While this contention appears difficult to sustain, he certainly was a leading maker of that era.

Other early makers experimented with new designs, of which some were commercially successful and others not. This is illustrated by the seemingly endless varieties of transits, which were available with long-centers or short-centers; spindles directed upward or downward; transits so large that two men were required to move them; ones small enough to almost carry in a pocket; transits with solar attachments either on the top of the telescope, on the end of the telescope, on the side of the standards, above the horizontal plates, or below the plates; mining transits with either top auxiliary telescopes, side auxiliary telescopes, leaning standards, or hinged standards; not to mention railroad transits, precise transits, astronomical transits, mountain transits, city transits, expedition transits, preliminary transits, vernier-compass transits, builders transits, and so on.

The number of known American makers of surveying instruments goes into the several hundreds. That many firms were identified by the late Charles E. Smart, formerly Chairman of the Board for W. & L. E. Gurley Co., in his book "The Makers of Surveying Instruments in America Since 1700," Regal Art Press, Troy, N.Y., 1962. Since an additional few have come to light even after the second (1967) updated volume of his work was published, that work cannot be considered totally complete, but close to it.¹ Only a handful of the makers are still in business today.

SALES GENERALLY

Compiling a retail price list for antique surveying instruments is not an easy task. What is attempted in this guide is to indicate an amount that a reasonably informed buyer or serious collector would pay to a patient and knowledgeable seller. The number of serious collectors in the United States seems not to be large, and there are only a few knowledgeable dealers. Surveying instruments themselves were made to meet the demands of a relatively small group of professionals, and are therefore relatively scarce in the antique market. Since large numbers of instruments do not change hands annually, their pricing tends to vary widely.

1. While searching out old materials, the author identified 3 American manufacturers of surveying instruments which are not listed in Mr. Smart's book. They are: F. B. Fink Instrument Co., St. Louis, c. 1870; Starke & Kammerer, San Francisco, c. 1890; and Thos. A. Young, Philadelphia, c. 1840.

Instruments are occasionally observed in prestigious large-city antique stores marked at prices substantially greater than indicated here. Certainly, many of them are sold to individuals who find a strong attraction to an instrument, and are not overly concerned about the price. This is more evident when the item is sold in the city or state where it was manufactured.

By way of contrast, a fair number of items are undoubtedly sold at figures substantially below the indicated value. Impatient sellers without contacts in the field often have difficulty in reaching appropriate buyers, and many valuable slow-moving instruments are picked up by casual collectors whose purchases are financially limited to attractively priced items. When a frustrated seller and low-budget collector get together, a sale can be consummated at a markedly reduced price.

Dealers, likewise, generally will not pay more than one-third to one-half of the indicated value, unless there is a known client in mind and a quick resale assured.

Within the past few years, the number of serious collectors appears to have risen. This, along with a generally increased interest in scientific antiques and a desire to speculate in items having good investment potential, has pushed prices up at a moderate pace.

METALS

Most 19th century instruments were made of hammered brass, which is the non-precious metal most preferred in today's nostalgia market. Beginning in the mid-1870's, a few were made of aluminum, which at that time was about 10% to 20% more costly to produce. Because of the relative scarcity of old aluminum instruments, some collectors especially seek them out. For this reason, they tend to bring about the same prices as do the traditional brass. Similarly, other encountered metals such as cast bronze do not change the price structure.

INVERTED IMAGES

In the optical design of the surveyor's telescope, one additional glass lens is needed to invert the normal upside-down image to right-side up. The drawback to adding the extra lens is that it lessens the amount of light passing through to the eye, thereby reducing the maximum sighting range.

In the 19th century, most European instruments did not include an erecting lens, and thus displayed objects upside down. Most American instruments had the extra lens.

Value should not be affected by an instrument having an "upside-down" telescope, but some dealers have reported lost sales because of it. Perhaps the

unhappy buyers thought something was wrong with the optics, which was not the case.

A WORD ABOUT RESTORATION

Values in this guide are intended for instruments cleaned of grease, dirt, and oxides, but otherwise in an "as-is" condition. Whether or not to polish or restore an old surveying instrument to a bright finish is a debatable subject. The preference may depend upon the item under consideration. For instance, a noticeably worn appearance of a particular instrument may be inappropriate for polishing. The author happens at present to prefer a naturally oxidized finish over a polished or restored bright one.

The original finish on a brass instrument may have been either bright, darkened bronze, or black. Following are statements extracted from early W. & L. E. Gurley Co. catalogs regarding finishes used by that firm:

- 1869: "Customers ordering instruments will do us a favor by mentioning whether they prefer them of bright, or bronze finish, the cost being the same in either case. If no directions are given, we usually send instruments finished bright."
- 1888: "- - - If no directions are given, we usually send Transit and Leveling instruments of bronze finish, and Compasses of bright finish."
- 1895: "- - - We now send Transits and Leveling instruments with bronze or black finish and Compasses with bright finish, unless otherwise ordered."

Restoration to a bright finish is time-consuming, and costly if professionally done. Retail prices of instruments in restored condition will naturally be higher than the values listed here.

If an owner of a non-restored piece wishes to undertake such a project, suggested reading is Ronald Pearsall's book, "Collecting and Restoring Scientific Instruments," 1974. Mr. Pearsall is a strong advocate for restoration, and provides the instructions and recipes for accomplishing the job.

CONDITION

Prices indicated are for complete instruments in good (undamaged) condition, with case, but without a tripod. The instruments need not be any longer

capable of accurate measurement, but for other than expected wear, they should be mechanically operable. In other words, they should turn or rotate freely as intended. Noticeable small or minor repairs are frequently encountered, and are permissible. When new, instruments generally came with a number of small tools or accessories. Very often these are lost, and this is to be expected. If they are still there, feel lucky.

Instruments in excellent condition and capable of the designed accuracy of measurement are worth at least 20% to 200% more, depending upon the rarity and age of the instrument.

Determining an appropriate price reduction for damage is difficult. If the instrument is complete as to parts, yet won't rotate because of internal damage, perhaps near-full value could be realized from someone who purchases the instrument only for decoration or display. If exterior parts are noticeably missing, or there are non-matching replacements, value might drop by 50% or more.

TRIPODS

Nineteenth century tripods appear to have a lesser survival rate than instruments from that period. Depending on the intended use for an instrument, an antique tripod may or may not be an important factor, and therefore its separate value may not be considered material. They sometimes are included with an instrument at little or no added cost. For an individual having an antique instrument and wanting a corresponding original tripod, locating one will generally not be an easy task. As a side note, several interior decorators have discovered they make attractive plant stands.

QUALIFICATION ON PRICES

It should be made clear that the prices contained in this publication do not set absolute values for the items indicated. They serve only as an indication of current trends, as analyzed and projected by someone with considerable market experience in this particular field. Admittedly, the author has paid greater amounts than listed for objects which to him carried a personal attraction. Conversely, many items have been purchased at lesser prices.

Besides the widespread price variations, there is an occasionally encountered factor which can significantly affect value, and yet be incapable of treatment in a general coverage publication. This factor is the increased worth of an individual instrument attributable to its being identified with a notable former owner or project. The amount of the increase is directly linked with the prominence afforded by this association, and value can be multiplied several-fold.

Taking into account all the difficulties encountered in pricing historical objects of limited supply, the final determination of an instrument's value boils down to each individual making his own appraisal of its worth. What might seem over-priced to one could be a bargain to another. Cognizance of this can lead to a better acceptance of the widespread market variations that will undoubtedly continue in the future.



TRANSIT INSTRUMENTS

Age, as a function of corresponding technological evolution, is an important factor in pricing transit instruments. For certain periods, serial numbers of some makers can be used to provide a key to the date of manufacture. This technique is so limited in 19th century application, though, that it is not practical for the general usage needed in a pricing guide. Many manufacturers did not apply serial numbers, and for the several that did, adequate records do not exist to relate the number to date of production.

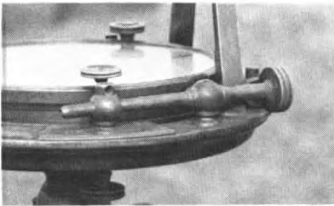
Transits, more so than other types of 19th century surveying instruments, have undergone a limited but recognizable technological evolution which can be used for value grouping, and also serve as a general dating guide. However, exactness of dating is beyond hope, as many variations exist, and each manufacturer had his own preferred pattern.

The pricing of all transit designs is virtually impossible. It was not uncommon for one manufacturer to advertise the availability of up to 50 or 60 varieties of transit instruments. Therefore certain categorizing must be done, and the age-technology grouping is the breakdown utilized here. If significant variation from these guidelines is established, value should correspondingly be revised as appropriate for these individual exceptions. Following are the period definitions used herein:

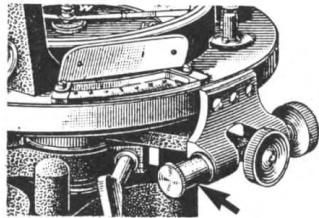
TRANSIT DATING GUIDE

PERIOD	APPROXIMATE DATES	GENERAL IDENTIFYING FEATURES
Early	1831-1860	Beginning design features; upper clamp and tangent screw are without spring-loaded mechanism, and are frequently located underneath the upper plate; occasionally no clamp or tangent screw for vertical motion; leveling indicator often of fish-eye type.
Mid	1860-1885	Improved features, although still not having spring-loaded tangent screws; standards often straight-leg with no bends.
Late	1885-1915	Advanced overall features, including spring loaded tangent screws.

TANGENT SCREW ILLUSTRATIONS

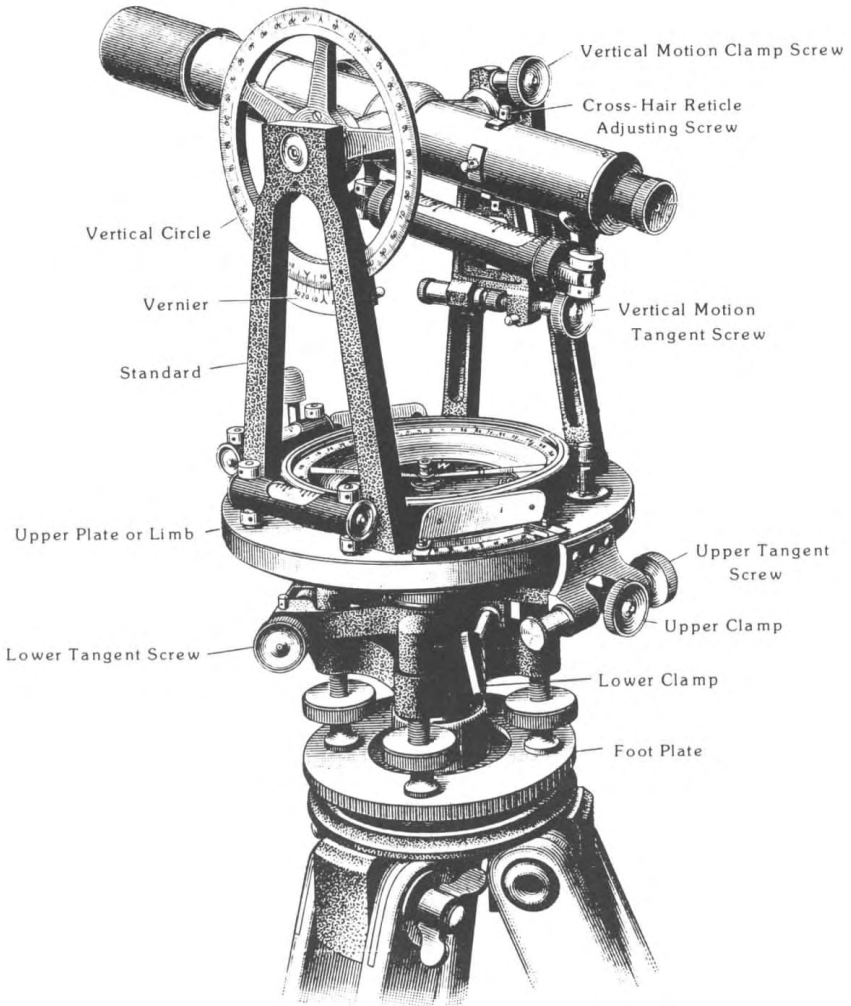


Without spring-loaded
tangent screw



Spring-loaded tangent screw

PARTS NOMENCLATURE FOR TRANSIT INSTRUMENT



APPROXIMATE DATING OF A FEW MANUFACTURER'S SERIAL NUMBERS

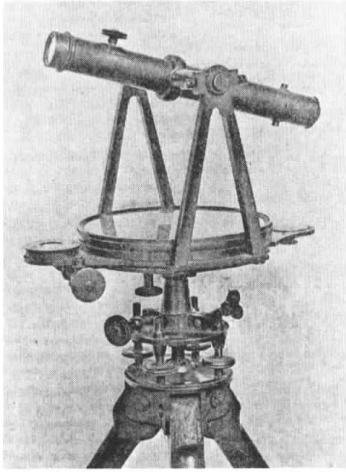
GURLEY

No serial numbers were used before approximately 1903. Once they appeared, the first one or two digits indicate the year built, to wit:

#8214 would be dated 1908
#14176 would be dated 1914

LIETZ		K & E	
SERIAL	YEAR	SERIAL	YEAR
(PRE-EARTHQUAKE)		4,500	1900
202	1890	10,000	1905
310	1894	21,000	1910
464	1897	30,500	1915
2,074	1906		
(POST-EARTHQUAKE)		DIETZEN	
5,000	1906	SERIAL	YEAR
5,412	1909	377	1902
		900	1905
		2,480	1910
		6,800	1915
WM. J. YOUNG, OR YOUNG & SONS (ESTIMATED)		HELLER & BRIGHTLY	
SERIAL	YEAR	SERIAL	YEAR
3,000	1850	4,100	1870
3,800	1860	4,600	1873
4,000	1870		
5,000	1879	BRANDIS	
6,000	1888	SERIAL	YEAR
7,000	1897	222	1877
8,000	1906	1,615	1891
9,000	1915	6,290	1906

CONVENTIONAL TRANSITS - EARLY PERIOD

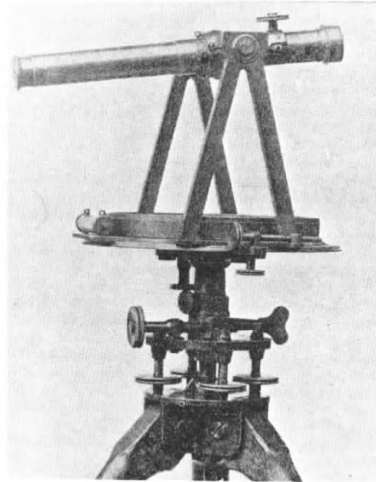


Reportedly the first transit made in America - by William F. Young in 1831. (This is shown to illustrate one manufacturer's early construction details. Naturally, this specimen is individually worth much more.)

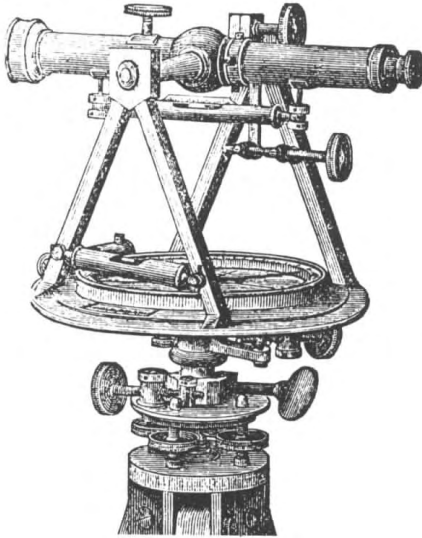
For instruments of this general pattern-
CURRENT RETAIL
VALUE \$1,200.

c. 1831 Edmund Draper Transit. An argument has been made that the first transit instrument constructed by Edmund Draper actually preceeded the first one by Young. Note on this early model the tangent screw is located above the horizontal plate, an exception to the Author's generalized dating guide. Other features are obviously early, however.

Instruments of this general pattern -
CURRENT RETAIL
VALUE \$1,200.



CONVENTIONAL TRANSITS - EARLY PERIOD



A drawing of early design transit made by W. & L. E. Gurley.

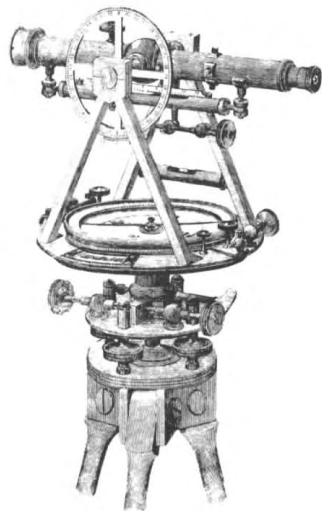
Instruments of this general pattern -
CURRENT RETAIL
VALUE \$900.

TRANSITS - MID PERIOD

CONVENTIONAL TRANSITS -
MID PERIOD

c. 1869 W. & L. E. Gurley Co.
Surveyors Transit. Upper portion
of instrument can be readily detached
and removed from leveling base.

CURRENT RETAIL
VALUE \$600.



CONVENTIONAL TRANSITS - MID PERIOD

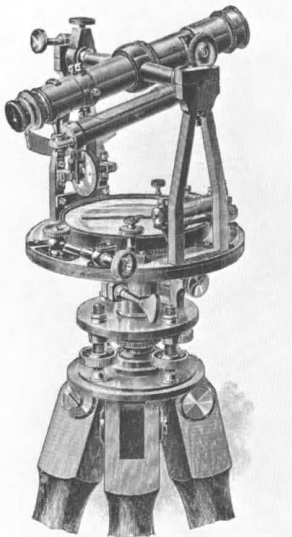
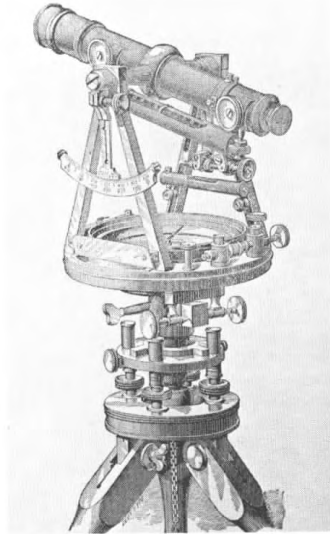
c. 1875 Heller & Brightly transit.

Among other new features, this maker developed a spring-loaded tangent screw in 1871. While a decided improvement over the previous mechanism, it lacked the ease of operation afforded by the universally adopted version developed some years later.

Heller & Brightly received many top honors at the 1876 Centennial Exhibition held in Philadelphia.

CURRENT RETAIL
VALUE

\$600.



c. 1870 Young & Sons transit by the inventor of the American Surveyors Transit. Note Gradienter wheel on left standard, used for fixing grades, determining distances, etc.

CURRENT RETAIL
VALUE

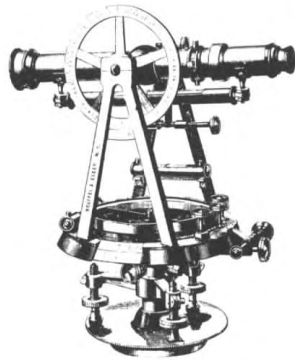
\$600.

CONVENTIONAL TRANSITS - LATE PERIOD

c. 1887 K & E Co.

This particular transit had exterior graduations marked on the beveled edge of the horizontal plate - a feature not often seen on American instruments.

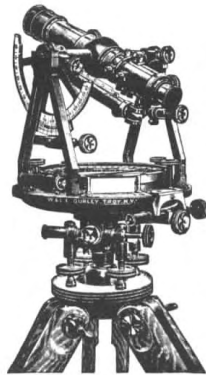
CURRENT RETAIL
VALUE \$550.



c. 1910 W. & L. E. Gurley Co.
Mountain Transit

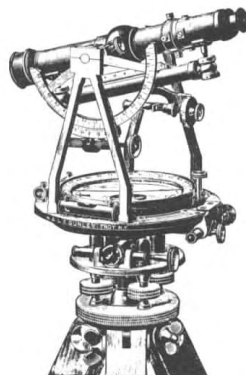
Smaller and lighter than that generally used, but favored in rugged areas because of ease of portability.

CURRENT RETAIL
VALUE \$450.



c. 1904 W. & L. E. Gurley Co.
Engineers transit.

CURRENT RETAIL
VALUE \$450.

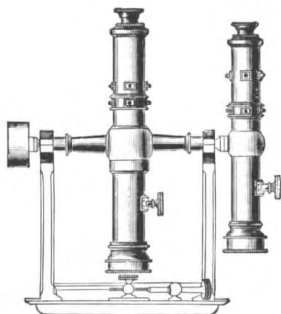
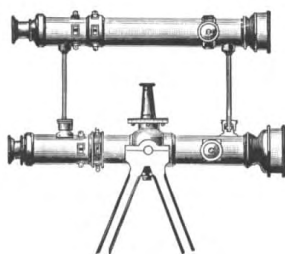
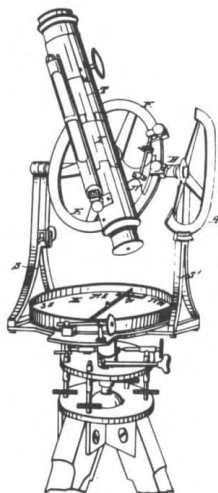


SPECIAL VARIETIES OF TRANSITS

c. 1858 Schmolz Improved Astronomical Transit, on R. C. Mathewson design. Telescope can be transited in both vertical and inclined planes. Advertised as time-saving feature uniquely applicable to laying out parallels of latitude.

CURRENT RETAIL
VALUE

\$1,500.



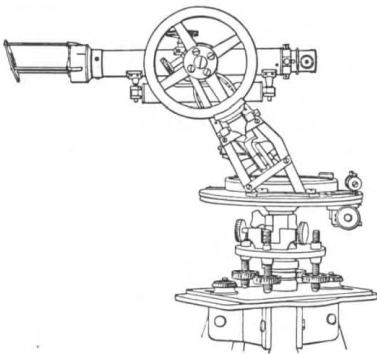
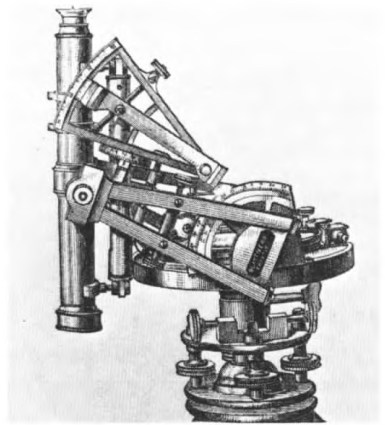
Examples of auxiliary telescope attachments used to permit transit operation in mine surveying. Without some type of modification, regular telescopes cannot be used for sighting down a vertical shaft.

Either style, add \$150. to basic transit value on mid and late period instruments, and \$250. on early period models.

MINING TRANSITS

c. 1890 Mining Transit - Blattners
"Hinged Standards" model with
Burt's solar attachment

CURRENT RETAIL
VALUE \$1,000.



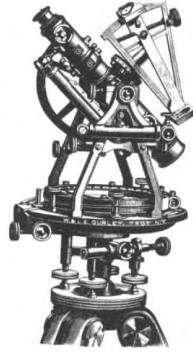
c. 1880 Young & Sons
Mining Transit - McNair pattern with
inclined standards.

CURRENT RETAIL
VALUE \$850.

SOLAR TRANSITS

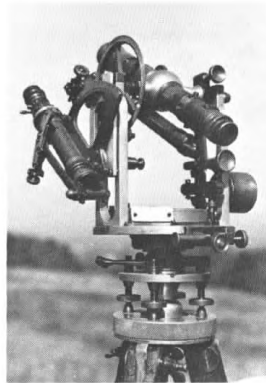
c. 1895 W. & L. E. Gurley Co.
Mountain & Mining Transit with
Burt's solar attachment. Widely used
in public land surveys between 1880
and 1915.

CURRENT RETAIL
VALUE \$600.



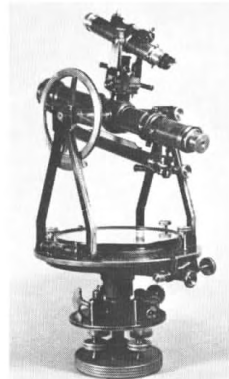
c. 1908 Young & Sons.
Transit with Smith-type telescopic
solar attachment. A much-improved
technology for solar observations, this
subsequently became the govern-
ment standard.

CURRENT RETAIL
VALUE \$600.



c. 1890 W. & L. E. Gurley Co.
Surveyors Transit with Saegmuller
telescopic solar attachment.

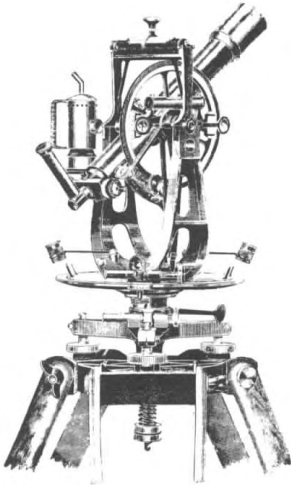
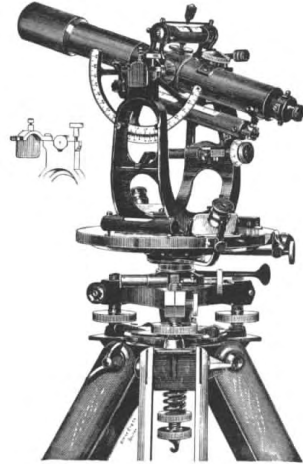
CURRENT RETAIL
VALUE \$600.



EXTRA-PRECISE TRANSIT INSTRUMENTS USED
IN GEODETIC SURVEYS

c. 1895 Buff & Berger "Transit-Theodolite" Special precise design for use in cities, tunnels, and triangulation.

CURRENT RETAIL
VALUE \$800.



c. 1895 Buff & Berger "Alt.-Azimuth" Instrument. Note lantern on left side used to illuminate cross-hairs during night observations.

CURRENT RETAIL
VALUE \$1,400.

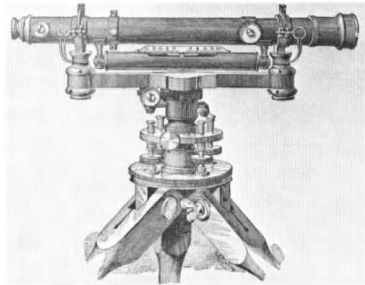
WYE LEVELS

Unlike transits, technology in these instruments remained relatively stable. Accordingly, there is not quite as much price variation between older and more recent models. Of course, collectors seeking certain models by selected makers may gladly pay extra to obtain them.

c. 1888 Heller & Brightly

CURRENT RETAIL
VALUE

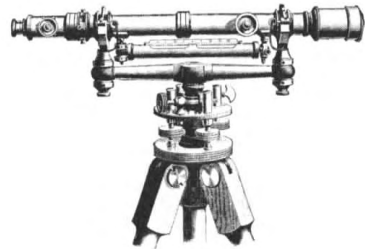
\$400.



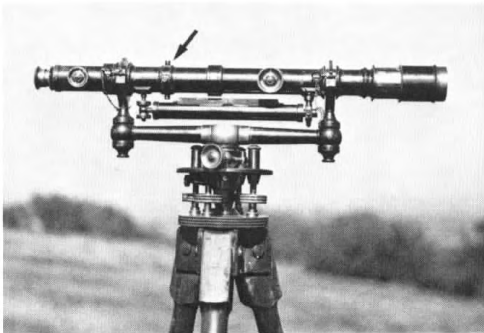
c. 1880 W. & L. E. Gurley Co. 20" Wye Level.

CURRENT RETAIL
VALUE

\$400.



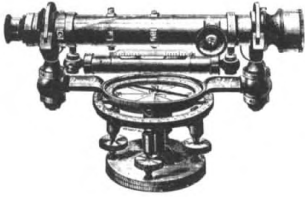
Models 10 or more years older by this maker are identified by the cross-hair reticle being located forward of the rear wye (see arrow). They are worth 25% more.



WYE LEVELS

c. 1887 K & E Co. 18" Wye Level

CURRENT RETAIL
VALUE \$400.

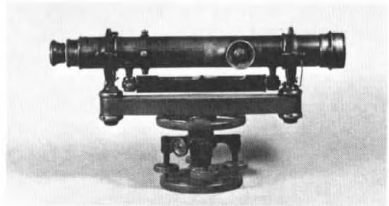


c. 1885 Architects, or Builders Wye Level -with or without compass; 11" or 12" telescope.

CURRENT RETAIL
VALUE \$275.

c. 1870 F. B. Fink Instrument Co. Architects, or Builders Wye Level. The only known product of this maker, who is not listed in Smart's book. Rarity factor adds slightly to its value; 12" telescope.

CURRENT RETAIL
VALUE \$350.



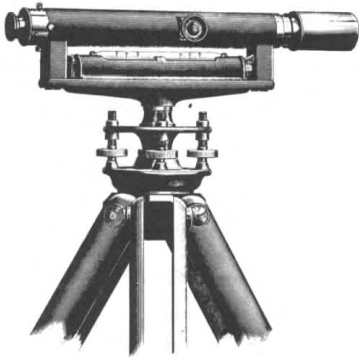
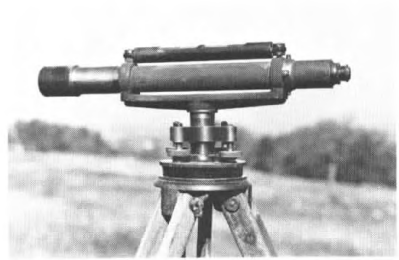
DUMPY LEVELS

The Dumpy level is a more recent design than the wye level. It was not immediately popular with American surveyors because it was not considered as handy to adjust. On a positive note, though, it tended to hold its adjustment better than the wye.

c. 1908 Lietz 15" Dumpy Level, with erecting telescope.

**CURRENT RETAIL
VALUE**

\$275.



c. 1895 Buff & Berger 15" Dumpy Level (inverted image). Length is 17½" with erecting telescope.

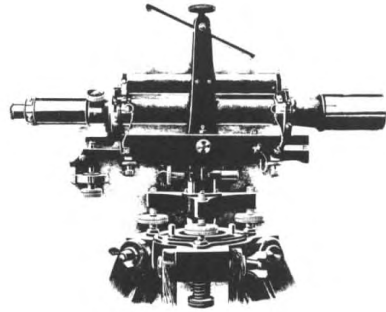
**CURRENT RETAIL
VALUE**

\$275.

OTHER VARIETIES OF LEVELS

c. 1902 Brandis Precise Level
Used for high-accuracy geodetic survey work.

CURRENT RETAIL
VALUE \$600.

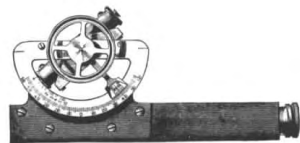


c. 1900 Locke Hand Level
Optical device for reconnaissance leveling, or for keeping tape horizontal in linear measuring.

CURRENT RETAIL
VALUE \$20.

c. 1900 Abney Hand Level
Similar to the Locke variety, except has adjustable vertical arc to indicate grades, etc.

CURRENT RETAIL
VALUE \$30.



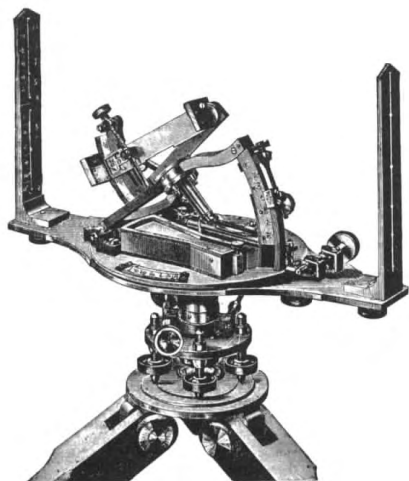
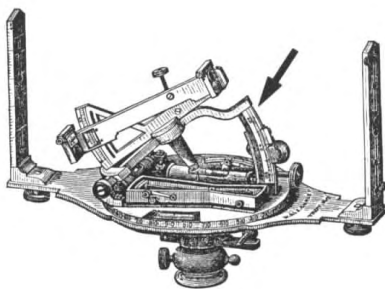
BURT'S SOLAR COMPASSES

A truly classic surveying instrument of American invention, it was the workhorse for original land surveys between 1845 and 1915. Widely sought-after today, but rarely encountered. Until recently, a few were still being used in U.S. government service within the State of Oregon.

Generally pre-1855 models more closely resemble the basic Burt patent design, not having a slow-motion adjusting screw apparatus for the setting of latitude (see location of arrow). In wood case.

CURRENT RETAIL
VALUE

\$2,000.



c. 1880 Young & Sons

Post 1855 models are of the "Improved" design, with slow-motion adjusting screw apparatus for the latitude setting. Tangent screws in leveling base are without spring-loaded mechanism. In wood case.

CURRENT RETAIL
VALUE

\$1,700.

BURT'S SOLAR COMPASSES

c. 1900 W. & L. E. Gurley Co.
Units manufactured generally after 1885 utilized spring-opposed tangent screws in the lower leveling assembly. In wood case.

CURRENT RETAIL
VALUE \$1,500.



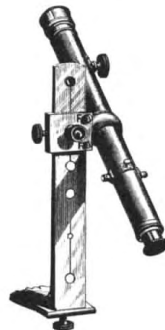
Auxiliary telescopic sights on solar compasses make a rare and unique American instrument even more of a classic. The increase in value to a solar compass by virtue of its having a factory telescopic sight is significantly greater than a corresponding addition to a magnetic surveyors compass.

FOR TELESCOPIC SIGHT
ATTACHMENT ON BURT'S
SOLAR COMPASS -
ADD \$400.

Variety of telescope which clamps onto rear sighting vane.



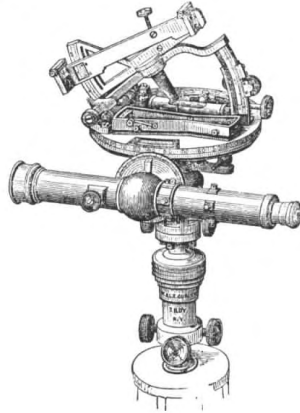
Variety of telescope attached by wyes mounted on top of sighting vanes.



BURT'S SOLAR COMPASSES

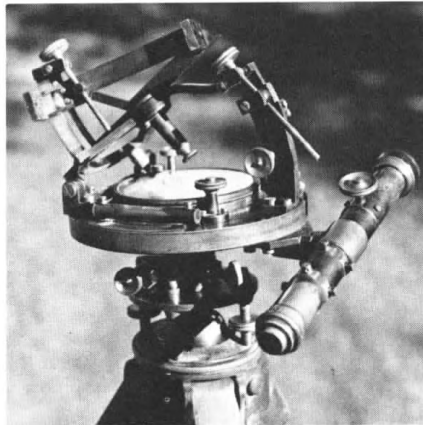
c. 1860 W. & L. E. Gurley Co.
Telescopic Solar Compass (very rare)

CURRENT RETAIL
VALUE \$1,300.



c. 1860 John Roach Co.
Telescopic Solar Compass

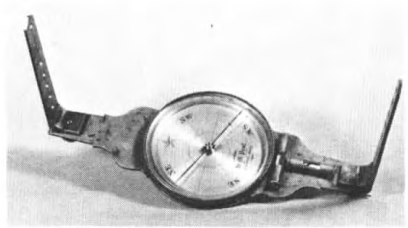
CURRENT RETAIL
VALUE \$1,600.



LARGE SURVEYORS COMPASSES

Large brass Surveyors Compasses were generally made in two forms. One form, called vernier compass, has a means for setting off the amount of magnetic variation so that bearings based upon true north can be read directly. The other, called the plain compass, has no such provision. Early Colonial varieties were often made of wood, and were usually of the plain compass form.

c. 1850 H. M. Pool, maker.
Plain Compass, 15" long, sights 9½" tall, magnetic needle 5" long; with wood case.



CURRENT RETAIL
VALUE

\$500.



c. 1870 W. & L.E. Gurley Co., maker.
Vernier Compass; with wood case.

CURRENT RETAIL
VALUE

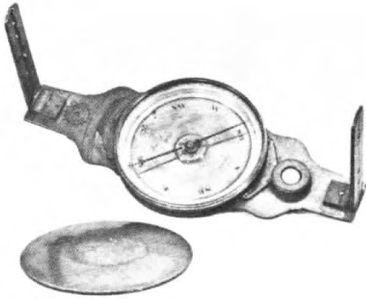
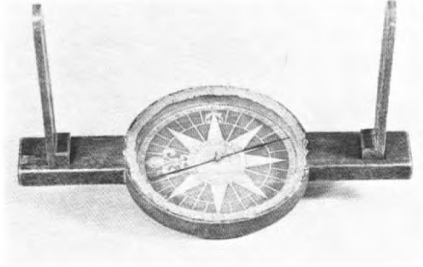
\$450.

Either variety when including original
makers telescope attachment,
Add \$125

LARGE SURVEYORS COMPASSES

18th century Wooden Surveyor's
Compass.

CURRENT RETAIL
VALUE \$850.



C. 1852 Wm. J. Young, Maker
Vernier compass; with wood case.

CURRENT RETAIL
VALUE \$600.

c. 1904 W. & L. E. Gurley Co.
Railroad Compass. In addition to the
magnetic needle, this variety has a
graduated horizontal circle for the
taking of angular measurements.

CURRENT RETAIL
VALUE \$500.



VARIETIES OF COMPASSES

c. 1905 A. Lietz Co.

Foresters model compass, aluminum construction w/hinged brass sights. 5" diameter, black dial, includes ball & socket attachment for mounting on Jacob's staff, with leather field case.

CURRENT RETAIL
VALUE

\$150.

Note: Many examples of this item are made of brass, and have wooden cases. Value is about 20% higher.



c. 1905 W. & L. E. Gurley Co.
Pocket surveyors compass with tele-
scope attachment; with wood case.

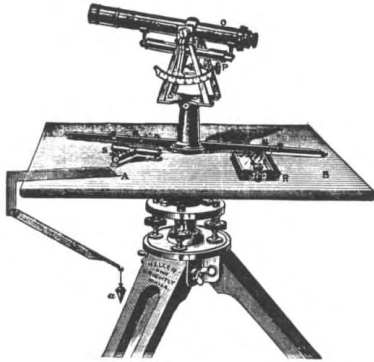
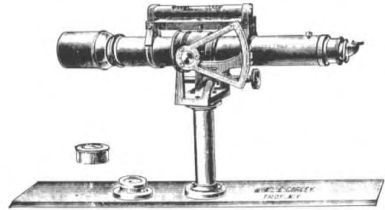
CURRENT RETAIL
VALUE

\$300.

PLANE TABLE

c. 1904 W. & L. E. Gurley Co.
Telescopic alidade only.

CURRENT RETAIL
VALUE \$275.



c. 1880 Heller & Brightly Co.
Alidade with board & tripod.

CURRENT RETAIL
VALUE \$400.

Open sight alidade (no telescope; w/
folding sights; brass)

CURRENT RETAIL
VALUE c. 1915 \$50.

CURRENT RETAIL
VALUE c. 1880 \$125.

With board & tripod, add \$100.



TARGETS

Heliotrope - Used at target station to reflect sunlight towards observing instrument. Part of equipment inventory in long-distance control surveys.

CURRENT RETAIL
VALUE c. 1890

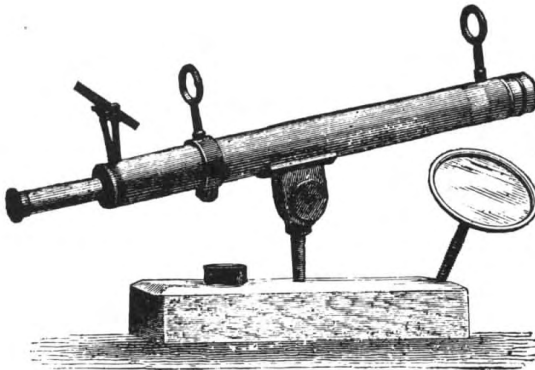
\$100.



c. 1880 Heliotrope - telescopic variety

CURRENT RETAIL
VALUE

\$225.



TOOLS FOR CHAINING AND TAPING

LINK CHAIN



Link chains were phased out of service around the end of the 19th century by the handier and more accurate steel tape. Generally, chains with brazed links are of later manufacture than ones without. Brazed links were required for government work after 1881.

Steel, links brazed closed, brass or steel handles, lengths of 100 ft., 66 ft., 50 ft., 33 ft.,

CURRENT RETAIL VALUE	\$100.
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Same type, graduated in varas (one vara is approximately 33 inches in length)

CURRENT RETAIL VALUE	\$140.
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Both of the above, when made of iron, links pressed closed, not brazed:

Add 25%

TOOLS FOR CHAINING AND TAPING

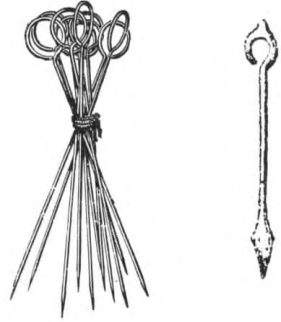
CHAINING PINS

12 to 16 inches long, regular, hand forged.

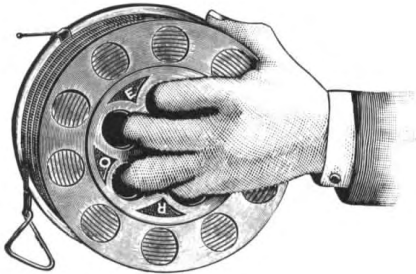
CURRENT RETAIL VALUE \$4. each.

Bottom-weighted models.

CURRENT RETAIL VALUE \$10. each.



METAL TAPES ON REELS

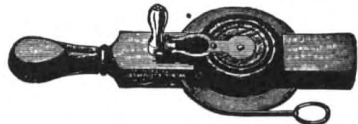


c. 1890 J. Roe & Son
100 ft. steel tape on unique brass reel.

CURRENT RETAIL VALUE \$60.

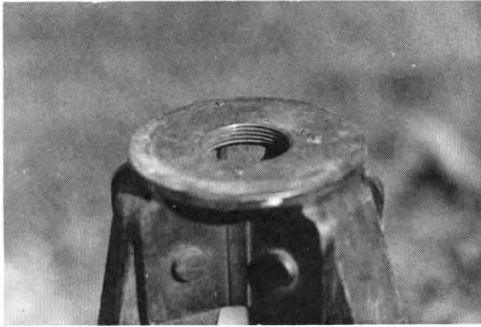
c. 1905 W. & L. E. Gurley Co.
100 ft. steel tape on wooden reel with brass fittings.

CURRENT RETAIL VALUE \$30.



TRIPODS

Nineteenth century tripods did not have standardized thread pitch and head diameter. Note the attaching arrangement in the closeup view of this c. 1870 Gurley wye level tripod. The common $3\frac{1}{2} \times 8$ pattern did not gain widespread acceptance until the 1930's.

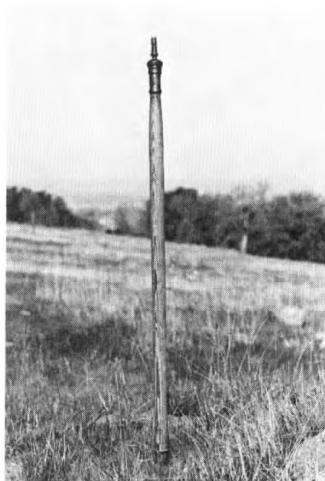


c. 1874 Heller & Brightly
 Extension leg - upper portion
 split to provide for secure
 clamping to one brass plate-
 lightweight model for small
 mining transit.

CURRENT RETAIL
 VALUE \$90.



TRIPODS



c. 1870 W. & L. E. Gurley Co.
"Jacobs Staff" - Large compass uni-
pod with ball and socket arrangement
for leveling instrument; metal shoe.

CURRENT RETAIL

VALUE \$100.

c. 1887 K & E Co., maker
Jacobs Staff - no ball and socket ar-
rangement.

CURRENT RETAIL

VALUE \$60.

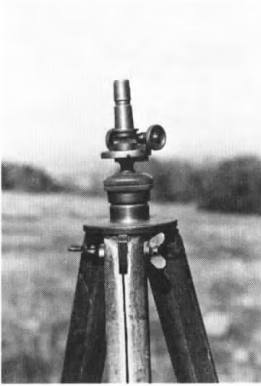
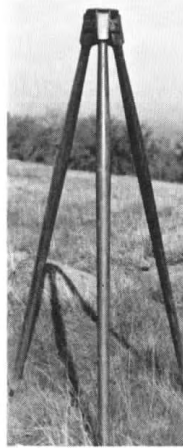


TRIPODS

c. 1860-70 W. & L.E. Gurley Co.

Large sized tripod - wooden legs at top are sandwiched between external brass plates. Shims are eventually needed to compensate for wear.

CURRENT RETAIL
VALUE \$110.

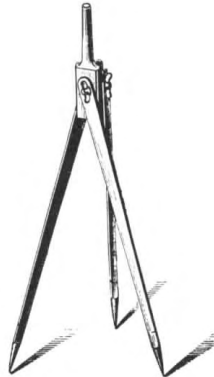


c. 1880 W. & L.E. Gurley Co.
Large compass tripod with rack and pinion type mechanism for gradually rotating instrument.

CURRENT RETAIL
VALUE \$150.

c. 1887 K & E Co.
Tripod for surveyors compass.

CURRENT RETAIL
VALUE \$90.



LEVELING RODS

c. 1870 New York Rod w/target.

Graduations and numbers stamped onto both the front and side of the wood: numerals only are painted, i.e. no white background. The form of rod generally used in the United States during the mid-19th century.

CURRENT RETAIL
VALUE

\$90.

c. 1880 Boston, or Yankee Rod, w/target.

Graduations and numerals stamped onto both sides of the wooden rod, not on the front; scale on one side is inverted; numbers only are painted, i.e. no white background. Foresight and backsight pointings are taken to the target, which is attached in a fixed position on the rod; the height of the target is read by the rodman; rod is held upside down for lower readings.

CURRENT RETAIL
VALUE

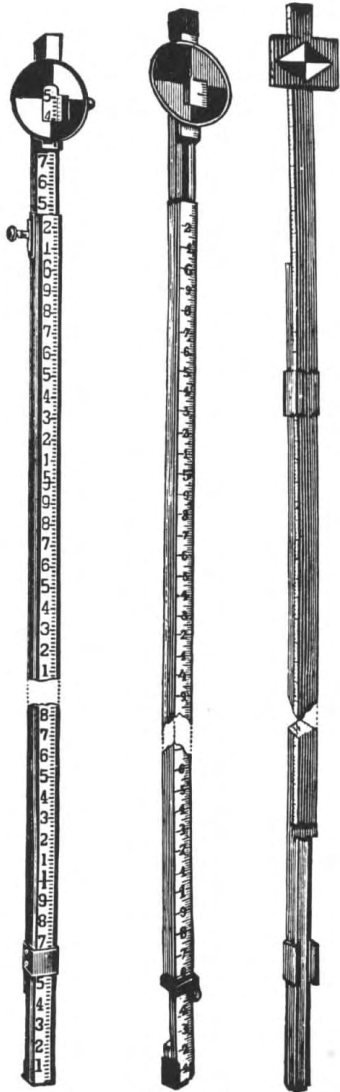
\$75.

c. 1890 Philadelphia Rod w/target.

Originally introduced as Young's Self-Reading Leveling Rod by Wm. F. Young in the early 1850's, this variety has painted graduations over a white strip background, all directly applied onto the front of the wooden rod. Modern versions utilize a replaceable painted metal strip for the graduations.

CURRENT RETAIL
VALUE

\$75.



Philadelphia.

New York.

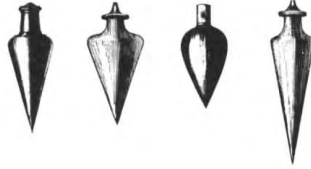
Boston.

PLUMB BOBS

Old standard patterns made of brass.

CURRENT RETAIL
VALUE

\$12. each



Windup variety

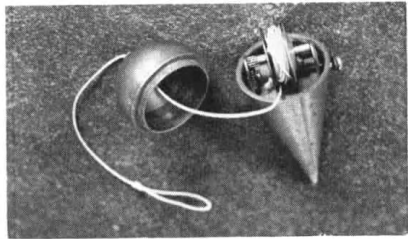
CURRENT RETAIL
VALUE

\$35. each

c. 1908 Thompson Balance Co.
Internal wind-up spool with spring-
driven mechanism. Very rare.

CURRENT RETAIL
VALUE

\$50.



Plummet lamp for mining use - in or-
iginal wood case.

CURRENT RETAIL
VALUE

\$50.

PART TWO — BOOKS

INTRODUCTION

The first grouping contains books and catalogs that are priced, with the value ascertained by analysis of the content, rarity, age, and special factors, and these results weighed against a combination of current dealer prices and private appraisal for like or similar items. Prices indicated are for complete books in good original condition. Those with missing pages or plates, cracked hinges, extensive worm holes, disfigurements, etc., will have a correspondingly lesser value. While there is a strong likelihood that one and two-hundred year old books will have such defects, the prices listed are for those which don't. In most instances, personal inspection and evaluation was made of each item listed. In a few cases on very old or rare items, description and asking price were instead taken directly from a recent dealer's advertisement of the item. When this occurs, the price of the non-reviewed item is followed by the year of the ad.

No attempt has been made to be 100% complete as to all editions, or even all authors, although an entry has been included for all located titles. Prices are shown for over 200 representative selections between the years 1616 and 1925. From these, values of non-listed items can be closely estimated by comparison with similar listed works. The selected items are predominately American, because they are the ones most generally encountered. English works are occasionally seen, and the ones located or advertised are listed without discrimination.

Following the priced books listed in this guide, the second grouping is a compilation of non-priced, pre-1850 American treatises either specifically about surveying, or containing entries of surveying material. This list was compiled from material contained in the out-of-print book by L. C. Karpinski entitled: "Bibliography of Mathematical Works Printed in America Through 1850," Ann Arbor, the University of Michigan Press, 1940.

As readers locate titles of surveying works not listed in this guide, the author would appreciate receiving notification of such material. It would be particularly helpful if descriptive information such as is included here could be furnished, together with the purchase price or the estimated value. Please address responses to the publisher as noted inside the front cover.

MANUFACTURER'S CATALOGS

- Beckman, L., ILLUSTRATED CATALOGUE AND PRICE LIST OF CIVIL ENGINEERS' AND SURVEYORS' INSTRUMENTS Toledo, Ohio, 1887, 32 p., 8 vo. \$35.
1978 Ad
- Berger, C. L. & Sons, HANDBOOK AND CATALOG, ENGINEERING, SURVEYING & MINING INSTRUMENTS in two parts, Boston, 1916, 213 p., 8 vo. \$25.
- Berger, C. L. & Sons, HANDBOOK AND CATALOG, ENGINEERING, SURVEYING & MINING INSTRUMENTS in two parts, 37th ed., Boston, 1922, 253 p., 8 vo. \$25.
- Brandis, F. E., Sons & Co., ILLUSTRATED AND DESCRIPTIVE CATALOGUE AND HAND-BOOK OF INSTRUMENTS OF PRECISION Catalog No. 16, Brooklyn, 1902, 236 p., 8 vo. \$40.
- Brandis & Sons Mfg. Co., INSTRUMENTS OF PRECISION Catalog No. 20, Brooklyn, n.d. - estimated 1922, 346 p., 8 vo. \$25.
- Buff & Berger, HANDBOOK AND ILLUSTRATED CATALOGUE OF THE ENGINEERS' AND SURVEYORS INSTRUMENTS Boston, n.d. (c. 1880), 84 p., 8 vo. \$40.
1979 Ad
- Buff & Berger, HAND-BOOK AND ILLUSTRATED CATALOGUE OF THE ENGINEERS' AND SURVEYORS' INSTRUMENTS MADE BY BUFF & BERGER in two parts, Boston, 1895, 150 p., 8 vo. \$45.
- H. S. Crocker Co., CATALOGUE AND PRICE LIST OF DRAWING MATERIALS AND SURVEYORS' INSTRUMENTS San Francisco, 1904, 347 p., 8 vo. \$25.
- Devoe, F. W. & Co., ENGINEERS SUPPLIES AND MATHEMATICAL INSTRUMENTS New York, n.d. (c. 1885), 264 p., 8 vo. \$45.
1979 AD
- Eugene Dietzgen Co., CATALOGUE & PRICE LIST OF EUGENE DIETZGEN CO. 9th ed., Chicago, 1912, 555 p., 16 mo. \$25.
- Eugene Dietzgen Co., CATALOGUE OF EUGENE DIETZGEN CO. 10th ed., Chicago, 1919, 406 p., 8 vo. \$20.

- W. & L. E. Gurley, A MANUAL OF THE PRINCIPAL INSTRUMENTS USED IN AMERICAN ENGINEERING AND SURVEYING 4th ed., Troy, N. Y., 1858, 125 p., 16 mo. \$60.
- W. & L. E. Gurley, A MANUAL OF THE PRINCIPAL INSTRUMENTS USED IN AMERICAN ENGINEERING AND SURVEYING 20th ed., Troy, N.Y., 1873, 172 p., 16 mo. \$45.
- W. & L. E. Gurley, A MANUAL OF THE PRINCIPAL INSTRUMENTS USED IN AMERICAN ENGINEERING AND SURVEYING 27th ed., Troy, N.Y., 1888, 362 p., 16 mo. \$40.
- W. & L. E. Gurley, A MANUAL OF THE PRINCIPAL INSTRUMENTS USED IN AMERICAN ENGINEERING AND SURVEYING 31st ed., Troy, N.Y., 1895, 438 p., 12 mo. \$40.
- W. & L. E. Gurley, A MANUAL OF THE PRINCIPAL INSTRUMENTS USED IN AMERICAN ENGINEERING AND SURVEYING 37th ed., Troy, N.Y., 1904, 446 p., 12 mo. \$35.
- W. & L. E. Gurley, A MANUAL OF THE PRINCIPAL INSTRUMENTS USED IN AMERICAN ENGINEERING AND SURVEYING 46th ed., Troy, N.Y., 1912, 540 p., 12 mo. (Includes several color plates). \$40.
- W. & L. E. Gurley, CATALOGUE OF GURLEY INSTRUMENTS FOR CIVIL, MINING, AND HYDRAULIC ENGINEERS AND LAND SURVEYORS Troy, N.Y., 1915, 223 p., 8 vo. \$25.
- W. & L. E. Gurley, CATALOGUE OF GURLEY ENGINEERING INSTRUMENTS 31st ed., Troy N.Y., 1920, 267 p., 8 vo. \$25.
- Heller & Brightly, REMARKS ON ENGINEER'S SURVEYING INSTRUMENTS 14th ed., Philadelphia; 1888, 42 p., 8 vo. \$40.
- Keuffel & Esser, CATALOGUE OF KEUFFEL & ESSER New York, 1887, 300 p., 8 vo. \$50.
- Keuffel & Esser, CATALOGUE OF KEUFFEL & ESSER 28th ed., New York, 1897, 424 p., 8 vo. \$45.
- Keuffel & Esser, CATALOGUE OF KEUFFEL & ESSER (w/o large optical surveying instruments), 28th ed., New York, 1897, 424 p., 16 mo. \$15.
- Keuffel & Esser, CATALOGUE OF KEUFFEL & ESSER 33rd ed. New York, 1909, 543 p., 16 mo. \$40.
- Keuffel & Esser, CATALOGUE OF KEUFFEL & ESSER 34th ed., New York, 1913, 566 p., 8 vo. \$30.

- Keuffel & Esser, CATALOGUE OF KEUFFEL & ESSER 36th ed.,
New York, 1921, 482 p., 8 vo. \$20.
- A. Lietz Co., MANUAL OF MODERN SURVEYING INSTRUMENTS
AND THEIR USES 3rd ed., San Francisco, 1899, 200 p., 8 vo. \$40.
- A. Lietz Co., MANUAL OF MODERN SURVEYING INSTRUMENTS
5th ed., San Francisco, 1902, 200 p., 8 vo. \$40.
- A. Lietz Co., MANUAL OF MODERN SURVEYING INSTRUMENTS
10th ed., San Francisco, 1908, 204 p., 8 vo. \$30.
- A. Lietz Co., MANUAL OF MODERN SURVEYING INSTRUMENTS
San Francisco, 1919, 612 p., 8 vo. \$20.
- Mahn & Co., ILLUSTRATED CATALOGUE OF ENGINEERING,
SURVEYING AND SCIENTIFIC INSTRUMENTS St. Louis,
1893, 48 p., 12 mo. \$25.
- Benj. Pike's Son & Co., ILLUSTRATED CATALOGUE OF INSTRU-
MENTS AND MATERIALS FOR DRAWING, SURVEYING,
AND CIVIL ENGINEERING New York, n.d. (c. 1880), 112
p., 8 vo. \$45.
1978 Ad
- Frederick Post Co., CATALOG OF DEPENDABLE DRAWING
MATERIALS, EQUIPMENT, SUPPLIES AND ENGINEER-
ING INSTRUMENTS 12th ed., Chicago, 1922, 319 p., 8 vo. \$15
- James W. Queen & Co., PRICED AND ILLUSTRATED CATA-
LOGUE AND DESCRIPTIVE MANUAL OF MATHEMATI-
CAL INSTRUMENTS AND MATERIALS Philadelphia,
1873, 158 p., 8 vo. \$45.
1978 Ad
- James W. Queen & Co., PRICED AND ILLUSTRATED CATA-
LOGUE AND DESCRIPTIVE MANUAL OF MATHEMATI-
CAL INSTRUMENTS AND MATERIALS Philadelphia,
1886, 205 p., 8 vo. \$40.
1977 Ad
- Queen & Co., MATHEMATICAL AND ENGINEERING INSTRU-
MENTS AND MATERIALS Philadelphia, 1893, 241 p., 8 vo. \$45.
1979 Ad
- Randolph T.F., MATHEMATICAL INSTRUMENTS Cincinnati, n.d.
(c. 1875), 24 p., 8 vo. \$40.
1978 Ad

- Justus Roe & Sons, PRICE LIST OF ENGINEERING & MATHEMATICAL INSTRUMENTS New York, n.d. (c. 1895), 16 p., 8 vo. \$10.
- Sala, J. C., ILLUSTRATED CATALOGUE AND MANUAL OF CIVIL ENGINEERS' AND SURVEYORS' INSTRUMENTS San Francisco, 1898, 167 p., 8 vo. \$40.
- Schmolz, William, THE SURVEYOR'S AND ENGINEER'S COMPANION: BEING A CONCISE TREATISE ON MATHEMATICAL INSTRUMENTS San Francisco, Commercial Steam Presses, 1859, 21 p., 16 mo. \$40.
- Young & Sons, CATALOGUE 14th ed., Philadelphia, 1892, 85 p., 8 vo. \$40.
- Young & Sons, CATALOGUE 20th ed., Philadelphia, 1904, 138 p., 8 vo. \$40.



BOOKS

- Adams George, GEOMETRICAL AND GRAPHICAL ESSAYS, CONTAINING A GENERAL DESCRIPTION OF THE MATHEMATICAL INSTRUMENTS USED IN GEOMETRY, CIVIL AND MILITARY SURVEYING, LEVELLING AND PERSPECTIVE 3rd. ed., in 2 vols., London, W. & S. Jones, 1803, 518 p., 8 vo. \$135.
1977 Ad
- Ainslie, John, A TREATISE ON LAND SURVEYING New & enlarged ed., Edinburgh & London, William Blackwood and Sons, 1849, 554, p., 4 to. \$30.
Good presentation of English techniques.
- Alsop, Samuel, A COMPLETE KEY TO GUMMERE'S SURVEYING Philadelphia, Thomas, Cowperthwait & Co., 1848, 48 p., 8 vo. \$15.
Alsop was a teacher of mathematics, and prepared this book of solutions for the problems contained in Gummere's text. It was first published in 1837.
- Alsop, Samuel, A TREATISE ON SURVEYING 1st ed., Philadelphia, E.C. & J. Biddle, 1857, 432 p., 8 vo. \$30.
Alsop felt other texts had defects, and therefore prepared his own work on the subject.
- Baker, Ira O., LEVELING; BAROMETRIC, TRIGONOMETRIC AND SPIRIT New York, D. Van Nostrand, 1887, 145 p., 16 mo. \$14.
Condensed work prepared as part of course on Geodesy by University of Illinois professor.
- Baker, T., A RUDIMENTARY TREATISE ON LAND AND ENGINEERING SURVEYING London, John Weale, 1850, 218 p., 12 mo. \$17.
Condensed treatment of English techniques.
- Beans, E. W., A MANUAL FOR PRACTICAL SURVEYORS 1st ed., Philadelphia, J. W. Moore, 1854, 23 p., 16 mo. \$10.
- Bond, P.S., et al, MAP READING AND MILITARY SKETCHING 1st ed., New York, The American Army and Navy Journal, 1922, 104 p., 8 vo. \$8.

- Bowie, William, *PRECISE LEVELING FROM BRIGHAM, UTAH, TO SAN FRANCISCO, CALIFORNIA* Special Publication No. 22, U. S. Coast & Geodetic Survey, Washington, Government Printing Office. 1914, 67 p., 4 to. \$8.
- Bowie, William, *PRIMARY TRIANGULATION ON THE ONE HUNDRED AND FOURTH MERIDIAN, AND ON THE THIRTY-NINTH PARALLEL IN COLORADO, UTAH, AND NEVADA* Special Publication No. 19, U.S. Coast & Geodetic Survey, Washington, Government Printing Office, 1914, 163 p., 4 to. \$14.
- Breaks, Thomas, *A COMPLETE SYSTEM OF LAND-SURVEYING BOTH IN THEORY AND PRACTICE - - - TO WHICH IS ADDED THE NEW ART OF SURVEYING BY THE PLAIN TABLE* London, Printed by T. Saint for W. Chamley & J. Murray, 1771, 462 p., 8 vo. \$195.
Comprisd of 11 sub-books, this is a very comprehensive text for the period.
- Breed, Charles B. and Hosmer, George L., *THE PRINCIPLES AND PRACTICE OF SURVEYING* 1st ed., New York, John Wiley & Sons, 1906, 526 p., 8 vo. \$8.
An elementary treatise prepared as a joint effort by two instructors from the Massachusetts Institute of Technology.
- Breed, Charles B. and Hosmer, George L., *THE PRINCIPLES AND PRACTICE OF SURVEYING, VOL. 2 HIGHER SURVEYING*, 2nd ed., New York, John Wiley & Sons, 1915, 443 p., 12 mo. \$7.
This supplemental work, first published in 1908, is chiefly devoted to topographic and hydrographic surveys.
- Brough, Bennett H., *A TREATISE ON MINE-SURVEYING* 8th ed., revised, London, Charles Griffin & Co., 1901, 367 p., 12 mo. \$20.
First published in 1888 as a text for students at the Royal School of Mines, this work was expanded to include some new American technology.
- Burt, William, *A KEY TO THE SOLAR COMPASS AND SURVEYOR'S COMPANION* 5th ed., New York, D. Van Nostrand, 1881, 202 p., 16 mo. \$25.
By the government surveyor who invented both the solar compass (1835) and the typewriter (1829).

- Carhart, Daniel, *A TREATISE ON PLANE SURVEYING* Boston, Ginn & Co., 1887, 498 p., 8 vo. \$20.
 Written by a professor at the Western University of Pennsylvania, this was a good general text for classroom use.
- Cary, Edward R., *GEODETIC SURVEYING* New York, John Wiley & Sons, 1916, 379 p., 8 vo. \$15.
 By a professor at the Rensselaer Polytechnic Institute in New York, this book outlines geodetic surveying as practiced by the U.S. Coast & Geodetic Survey.
- Clark, Frank Emerson, *A TREATISE ON THE LAW OF SURVEYING AND BOUNDARIES* 1st ed., Indianapolis, The Bobbs-Merrill Co., 1922, 630 p., 8 vo. \$20.
 A comprehensive treatment on the legal principles affecting property boundaries, by a member of the Minnesota Bar.
- Clevenger, Shobal V., *A TREATISE ON THE METHOD OF GOVERNMENT SURVEYING* 2nd ed. revised, New York, D. Van Nostrand, 1877, 200 p., 16 mo. \$20.
 Prepared by a U.S. Deputy Surveyor for those engaged in the survey of public lands.
- Close, Col. Sir Charles, and Winterbotham, Col. H. St. J. L., *TEXT BOOK OF TOPOGRAPHICAL AND GEOGRAPHICAL SURVEYING* 3rd ed., London, His Majesty's Stationery Office, 1925, 366 p., 4 to. \$18.
- Comstock, Lt. Col. C.B., *REPORT UPON THE PRIMARY TRIANGULATION OF THE UNITED STATES LAKE SURVEY* Professional Paper No. 24, Corps of Engineers, Washington, Government Printing Office, 1882, 922 p., 4 to. \$60
- Crandall, C.L., *TABLES FOR THE COMPUTATION OF RAILWAY AND OTHER EARTHWORK* 4th ed., New York, John Wiley & Sons, 1907, 54 p., 8 vo. \$8.
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 Nice treatment of the subject by a distinguished professor at Cornell University.
- Crandall, C.L., *THE TRANSITION CURVE* 2nd ed. revised & enlarged, New York, John Wiley & Sons, 1907, 99 p., 16 mo. \$8.
- Crandall, Charles Lee and Barnes, Fred Asa, *RAILROAD SURVEYING* New York, John Wiley & Sons, 1910, 194 p., 16 mo. \$12.

- Crocker, A., THE ELEMENTS OF LAND SURVEYING, DESIGNED PRINCIPALLY FOR USE OF SCHOOLS AND STUDENTS
London, Longman, Hurst, Rees, Orne & Brown, 1817, 303 p., 12 mo. \$60.
- Davies, Charles, ELEMENTS OF SURVEYING WITH THE NECESSARY TABLES 1st ed., New York, J. & J. Harper, 1830, 300 p., 8 vo. \$65.
Originally prepared for classroom use at West Point, this text ultimately received wide acceptance as a reference for the professional surveyor. 1979 Ad
- Davies, Charles, ELEMENTS OF SURVEYING 4th ed., Hartford, A.S. Barnes & Co., 1839, 334 p., 8 vo. \$40.
- Davies, Charles, ELEMENTS OF SURVEYING AND NAVIGATION Revised ed., New York, A.S. Barnes & Co., 1856, 393 p., 8 vo. \$25.
- Davies, Charles, ELEMENTS OF SURVEYING AND LEVELING New York, A.S. Barnes & Co., 1873, 431 p., 8 vo. \$22.
- Davies, Charles, ELEMENTS OF SURVEYING AND LEVELING Revised by J. Howard Van Amringe, Professor, Columbia College, New York, American Book Co., 1898, 564 p., 8 vo. \$22.
This version has expanded sections, including mining surveying, and public land surveying.
- Davis, Raymond E., MANUAL OF SURVEYING FOR FIELD AND OFFICE 1st ed., New York, McGraw-Hill Book Co., 1915, 397 p., 16 mo. \$12.
Prepared for civil engineering students by a professor at the University of Illinois.
- Davis, William, A TREATISE ON LAND SURVEYING 5th ed., London, Anne Davis, 1813, 393 p., 8 vo. \$65.
One of the better known English texts of the period, with several nice plates.
- Dorr, B.F., THE SURVEYOR'S GUIDE AND POCKET TABLE-BOOK 7th ed. revised, New York, D. Van Nostrand Co., 1909, 148 p., 12 mo. \$10.
First published in 1886, this is a handy little guide by a practising surveyor.
- Duncan, Andrew, THE PRACTICAL SURVEYOR'S GUIDE Philadelphia, Henry Carey Baird, 1872, 121 p., 12 mo. \$15.

- Durham, Edward B., *MINE SURVEYING* 1st ed., New York, McGraw-Hill Book Co., 1913, 391 p., 12 mo. \$15.
 Good subject coverage by a Mining Engineer and former University of California professor.
- Durell, Fletcher, *PLANE TRIGONOMETRY* with chapters on Surveying by Henry A. Converse, New York, Charles E. Merrill Co., 1912, 407 p., 8 vo. \$6.
 Very elementary treatise.
- Fenwick, Thomas, *A THEORETICAL AND PRACTICAL TREATISE ON SUBTERRANEAN SURVEYING, AND THE MAGNETIC VARIATION OF THE NEEDLE* 1st ed., Newcastle upon Tyne, S. Hodgson, 1804, 207 p., 8 vo. \$185.
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- Fenwick, Thomas, *A THEORETICAL AND PRACTICAL TREATISE ON SUBTERRANEAN SURVEYING, AND THE MAGNETIC VARIATION OF THE NEEDLE* 2nd ed., London, Baldwin, Cradock & Joy, 1822, 227 p., 8 vo. \$65.
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- Finch, James Kip, *A PRACTICAL TREATISE ON THE ART OF PLANE SURVEYING, INCLUDING CHAINING, LEVELING, COMPASS AND TRANSIT MEASUREMENTS, LAND AND CONSTRUCTION SURVEYING, TOPOGRAPHICAL SURVEYING, AND MAPPING* Chicago, American Technical Society, 1919, 253 p., 12 mo. \$12.
- Flint, Abel, *A SYSTEM OF GEOMETRY AND TRIGONOMETRY, TOGETHER WITH A TREATISE ON SURVEYING* 1st ed., Hartford, Oliver D. Cooke, 1804, 166 p., 8 vo. \$100.
 The first of a popular series, with content compiled from published works of other authors. One included endorsement contains the following statement: "The Surveyor who shall own this will not be under the necessity of purchasing Gibson, which is a more expensive work."
 Abraham Lincoln was known to have studied from a Flint text while serving his apprenticeship. The specific edition he had is unknown.
- Flint, Abel, *A SYSTEM OF GEOMETRY AND TRIGONOMETRY TOGETHER WITH A TREATISE ON SURVEYING* 2nd ed. Hartford, Oliver D. Cooke, 1808, 168 p., 8 vo. \$75.

- Flint, Abel, A SYSTEM OF GEOMETRY AND TRIGONOMETRY TOGETHER WITH A TREATISE ON SURVEYING 3rd ed., Hartford, Oliver D. Cooke, 1813, 168 p., 8 vo. \$65.
- Flint, Abel, A SYSTEM OF GEOMETRY AND TRIGONOMETRY TOGETHER WITH A TREATISE ON SURVEYING 8th ed., enlarged with additional tables by George Gillett, Surveyor General of Connecticut, Hartford, Belknap & Hamersley, 1835, 334 p., 8 vo. \$30.
- Folwell, A. Prescott, MUNICIPAL ENGINEERING PRACTICE 1st ed., New York, John Wiley & Sons, Inc. 1916, 422 p., 8 vo. \$12.
- Galbraith, William, TRIGONOMETRICAL SURVEYING, LEVELLING, AND RAILWAY ENGINEERING London, William Blackwood & Sons, 1842, 181 p., 8 vo. \$25.
- The General Service Schools, ENGINEER COURSE IN TOPOGRAPHY 1st ed., Fort Leavenworth, The General Service Schools Press, 1922, 153 p., 8 vo. \$6.
- Gibson, Robert, A TREATISE ON PRACTICAL SURVEYING 1st American, from the 4th London ed., Philadelphia, Joseph Crukshank, 1785, 362 p., 12 mo. \$145.
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A classic work first published in Dublin in 1739, it was the first English surveying text to be published in the North American colonies.
- Gibson, Robert, A TREATISE ON PRACTICAL SURVEYING 8th ed. (1st New York and 5th American), New York, William A. Davis & Co., 1798, 452 p., 8 vo. \$165.
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- Gibson, Robert, A TREATISE ON PRACTICAL SURVEYING 3rd ed., Revised, Corrected and Adapted to the use of Schools, American Surveyors, & c., by John D. Craig, Baltimore, F. Lucas, Jun. and Cushing & Jewett, 1822, 478 p., 12 vo. \$75.
This is reportedly the edition of Gibson used by Abraham Lincoln in his work as a journeyman surveyor.
- Gibson, Robert, THE THEORY AND PRACTICE OF SURVEYING: Containing All the Instructions Requisite For The Skilful Practice of This Art - New York, J. & J. Harper, 1828, 435 p., 8 vo. \$65.
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- Gibson, Robert, THE THEORY AND PRACTICE OF SURVEYING - Newly Arranged, Improved, and Enlarged, with Useful Selections - by James Ryan, New York, Harper & Brothers, 1834, 410 p., 8 vo. \$60.
- Gillespie, W.M., A TREATISE ON LAND-SURVEYING 3rd ed., New York, D. Appleton & Co., 1856, 464 p., 8 vo. \$35.
Early edition of one of the leading texts in the second half of the 19th century. The result of swelling lecture notes by a Union College professor.
- Gillespie, W.M., A TREATISE ON LAND-SURVEYING 8th ed., New York, D. Appleton & Co., 1862, 528 p., 8 vo. \$25.
- Gillespie, W.M., A TREATISE ON SURVEYING Revised and Enlarged by Cady Staley, New York, D. Appleton & Co., 1887, 692 p., 8 vo. \$22.
Significant enlargement of original text - a very comprehensive treatise.
- Gillespie, William M., A TREATISE ON SURVEYING Revised and Enlarged by Cady Staley, Part I, Land Surveying and Direct Leveling, New York, D. Appleton & Co., 1897, 571 p., 8 vo. \$20.
- Gillespie, William M., A TREATISE ON SURVEYING Part II, Higher Surveying, 1897, 467 p., 8 vo. \$20.
Parts I and II in the 1897 enlargement combine to provide a very thorough treatment of the subject. Many contributions were made by recognized authorities in specialized fields.
- Godwin, H. C., RAILROAD ENGINEERS' FIELD-BOOK AND EXPLORERS' GUIDE 2nd revised ed., New York, John Wiley & Sons, 1908, 358 p., 16 mo. \$15.
- Graves, Henry S., INSTRUCTIONS FOR MAKING FOREST SURVEYS AND MAPS revised, Washington, Government Printing Office, 1912, 85 p., 16 mo. \$12.
Nice little U.S. Forest Service booklet.
- Gummere, John, A TREATISE ON SURVEYING 2nd. ed. improved, Philadelphia, John Richardson, 1817, 356 p., 8 vo. \$65.
This became a widely used text in the first half of the 19th century.
- Gummere, John, A TREATISE ON SURVEYING 8th ed., improved, Philadelphia, Kimber & Sharpless, 1833, 368 p., 8 vo. \$45.

- Gummere, John, A TREATISE ON SURVEYING 17th ed. revised & enlarged, Philadelphia, Uriah Hunt & Son, 1853, 446 p., 8 vo. \$30.
- Gurden, R. L., TRAVERSE TABLES 7th ed., New York, D. Van Nostrand Co., 1906, 270 p. Folio \$10.
- Haswell, Chas. S., ENGINEERS AND MECHANICS POCKET-BOOK 25th ed., revised & enlarged, Philadelphia, Harper & Brothers, 1870, 663 p., 16 mo. \$15.
 Not actually a surveying text, but something probably carried as a handy reference for mensuration, formulas, etc.
- Hawes, J.H., MANUAL OF UNITED STATES SURVEYING, SYSTEM OF RECTANGULAR SURVEYING Philadelphia, J.B. Lippincott & Co., 1879, 234 p., 8 vo. \$30.
 A textbook of public lands surveying by a former Principal Clerk of Surveys in the General Land Office.
- Hayford, John F., THE FIGURE OF THE EARTH AND ISOSTASY FROM MEASUREMENTS IN THE UNITED STATES, U. S. Coast & Geodetic Survey, Washington, Government Printing Office, 1909, 178 p., 4 to. \$13.
- Hearing, W.H., PRACTICAL NOTES ON HYDROGRAPHIC & MINING SURVEYS Milwaukee, Sentinel Printing Co., 1872, 54 p., 8 vo. \$15.
- Heather, J. F., A TREATISE ON MATHEMATICAL INSTRUMENTS 3rd ed., with corrections, London, John Weale, 1856, 170 p., 12 mo. \$17.
- Henck, John B., FIELD -BOOK FOR RAILROAD ENGINEERS New York, D. Appleton and Co., 1881, 243 p., 16 mo. \$20.
 First published in 1854, this was a handy pocket companion.
- Hinks, Arthur R., MAPS AND SURVEYS 2nd ed., London, Cambridge University Press, 1923, 258 p., 8 vo. \$10.
 An introductory work by the Secretary of the Royal Geographical Society.
- Hodgman, F., A MANUAL OF LAND SURVEYING Michigan, F. Hodgman, 1900, 492 p., 16 mo. \$20.
 A popular work which included legal aspects as well as technical. First published in 1891.
- Hodgman, F., SURVEYOR'S TABLES, BEING THE TABLES FROM THE MANUAL OF LAND SURVEYING Michigan, F. Hodgman, 1903, 124 p., 16 mo. \$10.

- Hopton, William, CONVERSATION ON MINES 7th ed., London, Simpkin, Marshall & Co., 1883, 286 p., 12 mo. \$13.
Some elementary coverage of mine surveying techniques.
- International Correspondence Schools, A TEXTBOOK ON METAL MINING Scranton, International Textbook Co., 1899, 580 p., 8 vo. \$5.
- I.C.S. Reference Library, GEOMETRY, PLANE TRIGONOMETRY, CHAIN SURVEYING, COMPASS SURVEYING, TRANSIT SURVEYING Scranton, International Textbook Co., 1906, 381 p., 8 vo. \$6.
- I.C.S. Reference Library, LEVELING, CIRCULAR CURVES, STADIA AND PLANE TABLE SURVEYING, TOPOGRAPHIC SURVEYING, HYDROGRAPHIC SURVEYING, UNITED STATES LAND SURVEYS, MAPPING, ASTRONOMY Scranton, International Textbook Co., 1906, 688 p., 8 vo. \$6.
- I.C.S. Reference Library, MINE SURVEYING, METAL-MINE SURVEYING, MINERAL-LAND SURVEYING, . . . Scranton, International Textbook Co., 1907, 718 p., 8 vo. \$6.
- Ingrahm, Edward L., GEODETIC SURVEYING New York, McGraw-Hill Book Co., 1911, 389 p., 8 vo. \$15.
- Jeffers, William N., NAUTICAL SURVEYING New York, D. Van Nostrand, 1871, 292 p., 8 vo. \$25.
- Jess, Zachariah, A COMPENDIOUS SYSTEM OF PRACTICAL SURVEYING AND DIVIDING OF LAND 1st ed., Wilmington, Zachariah Jess, 1799, 272 p., 12 mo. \$125.
Jess, a schoolmaster, felt existing works on surveying were deficient, so published his own.
- Jess, Zachariah, A COMPENDIOUS SYSTEM OF PRACTICAL SURVEYING AND DIVIDING OF LAND 2nd ed. improved, Philadelphia, Johnson and Warner, 1814, 379 p., 8 vo. \$75.
- Johnson, J. B., THE THEORY AND PRACTICE OF SURVEYING 8th ed., New York, John Wiley & Sons, 1891, 730 p., 8 vo. \$20.
First published in 1886, this comprehensive work by a Washington University professor became a favorite for the professional surveyor.
- Johnson, J. B., THE THEORY AND PRACTICE OF SURVEYING 17th ed., rewritten by Leonard S. Smith, New York, John Wiley & Sons, 1914, 921 p., 8 vo. \$17.

- Lavis, F., RAILROAD LOCATION SURVEYS AND ESTIMATES
New York, The Myron C. Clark Publishing Co., 1906, 270 p.,
8 vo. \$15.
- Lea, Samuel Hill, HYDROGRAPHIC SURVEYING New York, The
Engineering News Publishing Co., 1905, 178 p., 8 vo. \$15.
- Leland, Ora Miner, PRACTICAL LEAST SQUARES 1st ed., New
York, McGraw-Hill Book Co., 1921, 237 p., 8 vo. \$10.
- Leybourn, William, THE COMPLEAT SURVEYOR: CONTAINING
THE WHOLE ART OF SURVEYING OF LAND, BY THE
PLAIN TABLE, THEODOLITE, CIRCUMFERENTOR,
PERACTOR, AND OTHER INSTRUMENTS 3rd ed., cor-
rected and enlarged, with the addition of three entire books
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- Leybourn, William, THE COMPLEAT SURVEYOR: OR, THE
WHOLE ART OF SURVEYING OF LAND, BY A NEW
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PLAIN TABLE, CIRCUMFERENTOR, THE THEODOLITE
AS NOW IMPROV'D, OR BY THE CHAIN ONLY. AND AN
APPENDIX ADDED TO THE WHOLE, CONSISTING OF
PRACTICAL OBSERVATIONS IN LAND SURVEYING, BY
SAMUEL CUNN 5th ed., London, Ballard, Ward, and
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- Loomis, Elias, ELEMENTS OF PLANE AND SPHERICAL TRIGO-
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York, Harper & Brothers, 1856, 178 p., 8 vo. \$20.
- Loomis, Elias, ELEMENTS OF PLANE AND SPHERICAL TRIGO-
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360 p., 8 vo. \$15.
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SINES AND TANGENTS WITH A TRAVERSE TABLE 76th
ed., New York, American Book Co., 1883, 204 p., 8 vo. \$15.
- Louis, Henry and Caunt, George William, TACHEOMETER TABLES
London, Edward Arnold, 1919, 160 p. (approx.), 8 vo. \$6.

- Love, John, *GEODAESIA: OR, THE ART OF SURVEYING AND MEASURING LAND MADE EASY . . . AS ALSO TO LAY OUT NEW LANDS IN AMERICA, OR ELSEWHERE* 13th ed., Adapted to American Surveyors, New York, Samuel Campbell, 1796, 242 p., 8 vo. \$125.
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- McCullough, Ernest, *PRACTICAL SURVEYING* New York, D. Van Nostrand, 1919, 401 p., 12 mo. \$12.
- McDermott, Michael, *THE CIVIL-ENGINEER AND SURVEYOR'S MANUAL* 1st ed., Chicago, Fergus Printing Co., 1879, 524 p., 8 vo. \$30.
A comprehensive text including law of boundaries. The Chicago author spent 45 years calculating the one-minute traverse tables to four decimals, the first ever published.
- Merritt, H.S., *A PRACTICAL TREATISE ON THE SCIENCE OF LAND AND ENGINEERING SURVEYING* London, E. & F.N. Spon, 1863, 317 p., 4 to. \$30.
Typically English with numerous plates - technology is many years behind the United States.
- Middleton, G.A.T., *SURVEYING AND SURVEYING INSTRUMENTS* 3rd ed., revised and enlarged, London, Whittaker & Co., 1912, 176 p., 12 mo. \$10.
- Mitchell, Hugh C., *USE OF GEODETIC CONTROL FOR CITY SURVEYS* Special Publication No. 91, U.S. Coast & Geodetic Survey, Washington, Government Printing Office, 1923, 77 p., 8 vo. \$8.
- Moore, Samuel, *AN ACCURATE SYSTEM OF SURVEYING* 1st ed., Litchfield, Samuel Moore, 1796, 132 p., 8 vo. \$160.
One of the earlier surveying texts written and published in the United States.
- Mulford, A.C., *BOUNDARIES AND LANDMARKS, A PRACTICAL MANUAL* New York, D. Van Nostrand Co., 1912, 89 p., 8 vo. \$15.
- Murray, David, *MANUAL OF LAND SURVEYING* New York, Sheldon & Co., 1878, 259 p., 8 vo. \$25.
Prepared for use as both textbook and working manual.
- Nugent, Paul C., *PLANE SURVEYING* 1st ed., New York, John Wiley & Sons., 1902, 577 p., 8 vo. \$18.
Good coverage of survey technology and procedures.

- O'Donahue, T.A., COLLIERY SURVEYING New York, The Macmillan Co., 1901, 163 p., 12 mo. \$15.
 First printed in 1896, this is a nice simplified text for mining surveying.
- Pence, William D. & Ketchum, Milo S., A MANUAL OF FIELD AND OFFICE METHODS FOR THE USE OF STUDENTS IN SURVEYING 3rd ed., New York, Engineering News Publishing Co., 1902, 252 p., 16 mo. \$8.
 A well-organized and comprehensive basic text for students. First published in 1900.
- Phelps, Harry, PRACTICAL MARINE SURVEYING 1st ed., New York, John Wiley & Sons, 1907, 217 p., 8 vo. \$15.
- Phillips, Alfred E., SURVEYING Chicago, Technical World Magazine, 1908, 207 p., 8 vo. \$10.
- Pinchot, Gifford, INSTRUCTIONS FOR MAKING FOREST SURVEYS AND MAPS 1st ed., Washington, Government Printing Office, 1907, 45 p. w/insert, 16 mo. \$10.
 A publication intended to secure uniformity in surveys by Forest Service personnel.
- Pogue, E.M., THE ERRORS OF LAND MEASUREMENT 1st ed., Cincinnati, Moore, Wilstach, Keys & Co., 1860, 24 p., 8 vo. \$12.
 Condensed treatise elaborating on examples in Davies' and Robinson's texts.
- Prouty, Edward, ADJUSTMENTS OF ENGINEERING INSTRUMENTS AND FIELD PROBLEMS IN SURVEYING 2nd ed., revised & corrected, Berkeley, Edward N. Prouty, 1905, 44 p., 16 mo. \$6.
- Puter, S.A.D., LOOTERS OF THE PUBLIC DOMAIN Portland, Oregon, The Portland Printing House, 1908, 495 p., 4 to morocco presentation copy. \$75.
 An exposure of public land surveying and acquisition fraud by a convicted leader in the fraud ring.
- Rankine, William John Macquorn, A MANUAL OF CIVIL ENGINEERING 4th ed., revised, London, Charles Griffin & Co., 1865, 783 p., 12 mo. \$30.
 General civil-engineering handbook with good coverage of surveying technology.

- Rathborne, Aaron, THE SURVEYOR IN FOURE BOOKS - - -
 London, Printed by W. Stansby for, W: Burre, 1616, 228 p.,
 small folio, some missing plates. \$675.
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- Raymond, William G., A TEXT-BOOK OF PLANE SURVEYING 1st
 ed., New York, American Book Co., 1896, 495 p., 8 vo. \$20.
 A beginning survey text by a professor at Rensselaer
 Polytechnic Institute.
- Raymond, William G., PLANE SURVEYING 2nd ed., New York,
 American Book Co., 1914, 589 p., 12 mo. \$15.
 Now a Dean at the State University of Iowa, the author
 has extensively revised and up-dated the earlier edition.
- Rees, Thomas H., TOPOGRAPHICAL SURVEYING AND SKETCH-
 ING 1st ed., Leavenworth, Thomas H. Rees, 1908, 408 p.,
 8 vo. \$15.
 Prepared for students at the U.S. Army service Schools
 at Fort Leavenworth by a Corps of Engineers officer.
- Robinson, Horatio N., A TREATISE ON SURVEYING AND NAVI-
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 Ivison, Phinney & Co., 1862, 347 p., 8 vo. \$25.
- Root, Oren, A NEW TREATISE ON SURVEYING AND NAVI-
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 1864, 494 p., 8 vo. \$25.
 Supersedes the prior treatise by Horatio N. Robinson.
- Root, Oren, A NEW TREATISE ON SURVEYING AND NAVIGA-
 TION New York, American Book Co., 1891, 516 p., 8 vo. \$20.
- Salmon, Victor G., PRACTICAL SURVEYING AND FIELD
 WORK London, Charles Griffin & Co., Ltd., 1918, 204 p.,
 12 mo. \$8.
- Schmolz, William, THE SURVEYOR'S COMPANION San Francisco,
 1882, 44 p., 16 mo. \$20.
- Schott, Chas. A., THE EASTERN OBLIQUE ARC OF THE UNITED
 STATES AND OSCULATING SPHEROID Special Publica-
 tion No. 7, U.S. Coast & Geodetic Survey, Washington,
 Government Printing Office, 1902, 394 p., 4 to. \$25.
 Results and description of the government's 1833-1898
 control survey from Maine to Louisiana.

- Schott, Chas. A., THE TRANSCONTINENTAL TRIANGULATION AND THE AMERICAN ARC OF THE PARALLEL Special Publication No. 4, U.S. Coast & Geodetic Survey, Washington, Government Printing Office, 1900, 871 p., 4 to. \$60.
- Schuyler, A., SURVEYING AND NAVIGATION 1st ed., Cincinnati, Van Antwerp, Bragg & Co., 1873, 490 p., 8 vo. \$25.
- Searles, William H., FIELD ENGINEERING 10th ed. revised, New York, John Wiley & Sons, 1888, 503 p., 16 mo. \$20.
A handbook for railroad engineers.
- Sherrill, Captain C.O., MILITARY TOPOGRAPHY FOR THE MOBILE FORCES 2nd ed., Fort Leavenworth, Captain C.O. Sherrill, 1911, 353 p., 8 vo. \$10.
- Simms, Frederick W., A TREATISE ON THE PRINCIPAL MATHEMATICAL INSTRUMENTS EMPLOYED IN SURVEYING, LEVELLING AND ASTRONOMY 3rd ed., London, J. Barker, 1837, 135 p., 8 vo. \$35.
A 7 page price list of instruments manufactured by Troughton & Simms is contained in the appendix.
- Simms, Frederick W., A TREATISE ON THE PRINCIPLES AND PRACTICE OF LEVELLING 5th ed., revised & corrected, New York, D. Van Nostrand, 1870, 157 p., 8 vo. \$35.
Directed toward railway engineering and road construction.
- Sinclair, C.H., OBLIQUE BOUNDARY LINE BETWEEN CALIFORNIA AND NEVADA U. S. C. & G. S., Appendix No. 3 - Report for 1900, Washington, Government Printing Office, 1901, 229 p., 4 to. \$75.
- Smith, Lieut. R.S., A MANUAL OF TOPOGRAPHICAL DRAWING Revised and enlarged by Charles McMillan, 3rd ed., New York, John Wiley & Sons, 1891, 112 p., 8 vo. \$10.
- Smyth, William, ELEMENTS OF PLANE TRIGONOMETRY, SURVEYING AND NAVIGATION 1st ed., Boston, Sanborn, Carter and Bazin, 1855, 216 p., 8 vo. \$20.
A very elementary text by a professor at Bodoin College.
- Stanley, William Ford, SURVEYING AND LEVELLING INSTRUMENTS London, E. & F.N. Spon, 1895, 555 p., 12 mo. \$35.

- Stuart, Edwin R., MAP READING AND TOPOGRAPHICAL SKETCHING 1st ed., New York, McGraw-Hill Book Co., 1918, 139 p., 12 mo. \$8.
 The West Point author provides a simplified military treatise.
- Taylor, T.U., SURVEYOR'S HAND BOOK Chicago & New York, Myron C. Clark Pub. Co., 1908, 310 p., 16 mo. \$12.
- Thomas, W. Norman, SURVEYING London, Edward Arnold, 1920, 536 p., 8 vo. \$15.
- Threlfall, H., A TEXT-BOOK ON SURVEYING AND LEVELLING London, Charles Griffin & Co., Ltd., 1920, 663 p., 12 mo. \$12.
- Thurlow, S., THE LAND SURVEYOR'S READY RECKONER New ed., carefully corrected, London, Simpkin and Marshall, n.d. - estimated 1820, 138 p., 16 mo. \$15.
 Cute tiny book for calculating acreages.
- Tracy, John Clayton, PLANE SURVEYING 1st ed., New York, John Wiley & Sons, 1907, 794 p., 12 mo. \$8.
 An important "modernized" text by a professor at Sheffield Scientific School, Yale University.
- Tracy, John Clayton, EXERCISES IN SURVEYING 1st ed., New York, John Wiley & Sons, 1909, 168 p., 12 mo. \$6.
 Intended to accompany the author's book on plane surveying.
- Tracy, John Clayton, PLANE SURVEYING AND EXERCISES IN SURVEYING New York, John Wiley & Sons, 1920, 962 p., 12 mo. \$10.
 Combined printing of the author's two works.
- Trautwine, John C., A NEW METHOD OF CALCULATING THE CUBIC CONTENTS OF EXCAVATIONS AND EMBANKMENTS 4th ed., revised & enlarged, Philadelphia, Turner Hamilton, 1871, 60 p., 8 vo. \$15.
 First published in 1851.
- Trautwine, John C., FIELD PRACTICE OF LAYING OUT CIRCULAR CURVES FOR RAILROADS 3rd ed., Philadelphia, William Hamilton, 1853, 83 p., 16 mo. \$20.
- Trumbull, Loyal Wingate, A MANUAL OF UNDERGROUND SURVEYING 1st ed., corrected, New York, McGraw-Hill Book Co., 1910, 251 p., 8 vo. \$25.

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- Underhill, James, MINERAL LAND SURVEYING 1st ed., Denver, The Mining Reporter Publishing Co., 1906, 224 p., 12 mo. \$20.
 Good subject coverage.
- U. S. Coast and Geodetic Survey, CENTENNIAL CELEBRATION OF THE UNITED STATES COAST AND GEODETIC SURVEY Washington, Government Printing Office, 1916, 196 p., 4 to. \$7.
- U.S.G.L.O., INSTRUCTIONS TO THE SURVEYORS GENERAL OF PUBLIC LANDS OF THE UNITED STATES —CONTAINING, ALSO, A MANUAL OF INSTRUCTIONS TO REGULATE THE FIELD INSTRUCTIONS OF DEPUTY SURVEYORS Washington, A.O.P. Nicholson, 1855, 56 p., 12 mo. \$85.
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THE AUTHOR

This comprehensive guide was prepared by Francois D. Uzes, a practicing land surveyor with 26 years experience. Mr. Uzes, an avid survey historian, is Chairman of the Surveyors Historical Society, and has assembled a substantial personal collection of early surveying instruments and books, much of it purchased within the past few years. It was he, who on a busman's holiday, uncovered the border problems between California and Nevada that are of much concern to Lake Tahoe casino owners. After verifying the conflicting measurements with his antique transits and chains, Mr. Uzes' findings led to a two-state legal tug-of-war involving over 1,000 square miles of property. Subsequently, the United States Supreme Court took original jurisdiction of the dispute, and ultimately decided in favor of the presently used line.

Mr. Uzes has previously authored "Chaining the Land," a book on surveying history which first publicly disclosed the border problems, and co-authored a portion of Curtis Brown's "Boundary Control and Legal Principles," a leading text on the legal elements of land surveying.