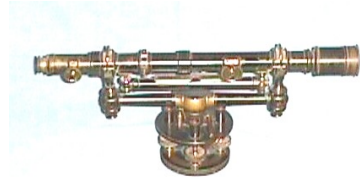


LEVELS
Final as of March 19, 2006

LV 2, 20" Engineer's Wye Level, W. & L.E. Gurley Co., maker, Troy, NY, c. 1870.

The finish of this instrument is blackened brass. It is inscribed "W. & L.E. Gurley, C.G. Ewing, Agent, San Francisco, Cal, Troy, NY." It was owned and used in the late 19th century by Amos Rugg, Mining Engineer in the La Porte and Hollins Flat area of Plumas County, CA. Amos Rugg surveyed mining claims, and drowned at the age of 39 in the North Fork of the Feather River. Complete with case, plumb bob, and tripod. The reticle hairs in the telescope are missing. The level is pictured in the 1980 illustrated price guide at the bottom of page 18.



LV 3, Water Level, maker not identified, English, c. 1898.

This instrument is comprised of two glass chambers attached to graduated wood staves and connected by a flexible hose.



LV 4, Architects Convertible Wye Level, Keuffel & Esser Co., S/N 10345, c. 1905.

This instrument has a 12" telescope that can be removed from the wyes and turned 90 degrees for mounding sideways in the wyes. In this position the telescope can be operated as a transit. It has a blackened brass finish and inside the case is the name C. Gunn. Complete with case & tripod.

LV 5, Engineer's 15" Dumpy Level, A. Lietz Co., maker, San Francisco, CA, Serial No. 5412, c. 1909.

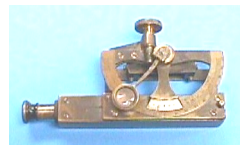


This instrument has a reddish suede-type finish to the telescope, and a 7½" level located atop the scope. It is Lietz catalog no. 20. It is complete with case and tripod; the tripod is marked 5412 and has a glue repair.

This level is pictured at the top of page 20 in the 1980 illustrated price guide.

LV 6, Abney Hand Level, Troughton & Simms, maker, London, marked IV 2259, 1917.

This square brass level has a swinging magnifying lens for reading the vertical arc. The arc is rotated by a threaded thumb screw. The Abney level was likely invented in c.



1870-75 by Capt. William de Wiveleslie Abney of the School of Military Engineering in Chatham. Sir Wm. Abney was highly noted for work in chemistry and photography, and was knighted in 1900. He was made a Fellow of the Royal Society in 1876.

LV 7, **Mainlayer's Spirit Level**, Abbott, Birks & Co., London, c. 1930.



This instrument is made of steel and measures inches of fall per 11 feet. Wood case.

LV 8, **Locke Hand Level**, Kuker-Ranken Inc., Seattle, WA, c. 1935.



This is a 7/8" diameter circular brass sighting tube with a small spirit level on the top side. It is 6 3/4" long extending to 9 3/4" and is painted black. Much of the paint is rubbed off. Complete with leather case.



LV 9, **Locke Hand Level**, A. Lietz Co., San Francisco, CA, c. 1938.

This is a 9/16" square brass sighting tube with a small spirit level on the top side. It is 5 1/8" long. The angled mirror is readily removed from the objective end by loosening a thumb screw. The exterior is painted black and it comes with a leather case marked Dietzgen.



LV 10, **Military Abney Hand Level**, Keuffel & Esser Co., N.Y., c. 1940.

This hand-held level has a D/H scale with divisions 1:1 to 10:1. On the same arc is also a scale reading from 0 to 2100 mils. It is 5" long and comes in a leather case.



LV 12, **Topographic Abney Hand Level**, A. Lietz Co., San Francisco, c. 1925.

This square hand-held level is 6 1/4" long with a 4" arc. The vertical scale one side is marked in degrees, and on the other in percent. There is no topographic limb for the ratio of 1 unit vertically for 66 units horizontally. It has a leather case. The topographic Abney is used in conjunction with a steel trailer tape.

LV 15, **Topographic Abney Level**, Keuffel & Esser Co., Morristown, NJ, c. 1980.



This K&E 80 0200 level has two interchangeable arcs for different values of vertical angle, with both sides of each arc graduated differently. It is used in conjunction with a topographic trailer tape to enable horizontal distances measured directly on the slope. The level is in mint condition.

LV 16, **Topographic Abney Level**, A. Lietz Co., San Francisco, c. 1940.

This instrument was initially made for the U.S. Forest Service and is 6 1/4 inches long and has a 4-inch vertical arc. It is catalog No. 198PT and is graduated with one side in degrees and one side in percent. No case.

LV 17, **Topographic Abney Hand Level**, unsigned, c. 1955.



This square hand-held level is 6 1/4" long with a 4" arc. The vertical scale on one side is marked topographic, and on the other in percent. It has a leather case. The topographic Abney is used in conjunction with a steel trailer tape.



LV 18, **Stadia Hand Level**, Eugene Dietzgen Co., Chicago, Serial No. 11139, c. 1925.

This item is 10" long and focuses with a sliding objective tube; there is also a sliding eyepiece focus for viewing the reticle. The magnification of the telescope is unknown although other makers of comparable items used 7X and 10X. Catalog No. 6518 in 1912, No. 6652 in 1931.

LV 19, **Magnifying Hand Level-5x**, A. Lietz Co., Overland Park, KS, Cat. 8042-60, c. 1988.

This level is basically on the Locke hand level design only with 5 power magnification. It is 7 1/2" long with sliding objective and eyepiece lenses. It also has 1:100 stadia lines and comes in a leather case. Marked Japan.

LV 20, **Topographic Abney Level**, A. Lietz Co., San Francisco, c. 1940.



This instrument was initially made for the U.S. Forest Service and is 6 1/4 inches long and has a 4-inch vertical arc. The tool is stamped Lietz. It is

catalog No. 198PT and is graduated with one side in degrees and one side in percent. Comes with leather case stamped Warren-Knight Co.

LV 21, Topographic Abney Level, A. Lietz Co., San Francisco, c. 1970.



This instrument was initially made for the U.S. Forest Service and is 6 1/4 inches long and has a 4-inch vertical arc. The tool has a crinkle black paint finish and is imprinted Lietz 8047-45 Japan. The vertical arc is graduated with one side in topographic and one side in percent. Comes with a nice leather case stamped Lietz.

LV24, Stadia Hand Level, A.A. Grossman, St. Paul, MN, c. 1925



This magnifying hand level has a stadia reticle with 3 horizontal lines. It is 3 1/2" long and 2 1/2" wide, weighs 6 oz., and comes with a worn but intact leather case. The magnification is low, perhaps 2X. It was made under patent No. 1,563,483 issued in 1925 to A.A. Grossman of St. Paul, MN. This unit is marked patent pending so it is an early example. The number 600 is stamped onto a metal plate inside the tool and is visible by looking through the objective lens.

LV 25, 16" Dumpy Level, Andrews & Son, Buffalo, NY, c. 1880



This is the only known surveying instrument marked as being by this maker. Smart lists the firm of Andrews & Sons (noting the plural on Sons) from 1848-1893 although the father and one son both died in 1868. This level is imprinted Andrews and Son, Buffalo, NY. The instrument is complete with wood case and tripod. It also has a 4-page typed set of instructions with hand-written annotations. This particular form of level is more on the English style than American, and first appeared there in about 1830. The tripod is also built on the English design. The Andrews family members were all born in England. The pattern has been variously known as a Gravatt Level, Dumpy Level, Improved Dumpy Level, and Simple Dumpy Level.

LV26, Stadia Hand Level, A.A. Grossman, St. Paul, MN, c. 1940



This magnifying hand level has a stadia reticle with 3 horizontal lines. It is 3 1/2" long and 2 1/2" wide, weighs 6 oz., and comes with a leather case. The magnification is low, perhaps 2X. It was made under patent No. 1,563,483 issued in 1925 to A.A. Grossman of St. Paul, MN. The tool is embossed *Grossman True-Line Scope Patented St. Paul Minn. USA*.

LV27, Engineers' Wye Level, William J. Young, Philadelphia, c. 1825.



This is a very early form of the American pattern wye level by the highly regarded maker who is credited with the design. It was the design of

telescopic level preferred by American engineers for about 120 years and was still being produced into the second half of the 20th century. The telescope is 17 inches long in the closed position and the spirit level is 8 inches long. The support base is engraved in script W.J. Young, Maker, Philad^a. The cross hair reticle has two horizontal hairs and one vertical. It comes with the original wood case but there is no leveling base nor tripod. This oral history accompanying this instrument is that it is the first wye level produced by Young although written documentation is lacking. The American pattern wye level was developed in the late 1820's by William Young according to the article by Silvio Bedini "The Telescopic Level in Early America," published in Rittenhouse Journal, Vol. 11, Issue 44, August 1997, p. 109-123.



LV 29, **18-inch Engineer's Wye Level, Stackpole & Brother, New York, S/N 684, c. 1867.**

This level is engraved Stackpole & Brother, New York, 684, and has an 18" long telescope and a 9-inch long spirit level. The spirit level has a broken glass and no fluid. The telescope unit can be easily detached from the leveling base by loosening a thumbscrew and lifting. The reticle is a simple fine crosshair with no stadia wires. The metal surface is rustic with variable tones but has an attractive patina nonetheless. \

(The following is copied from the NMAH website) William Stackpole (1819–1895) and Robert Stackpole (1823–1873) were Irish immigrants who arrived in the United States in 1833. Trading as Stackpole & Brother, they began making mathematical instruments in 1851. During the Civil War, they made spyglasses and sextants for the Navy. Each Stackpole instrument is marked with a serial number, and the sale of instrument #655 in 1866 suggests that the firm averaged some 44 instruments per year. According to the 1870 Census of Industry, the Stackpoles had \$12,000 invested in the firm, hired eleven men and two children, and were then producing 250 surveying and nautical instruments worth \$26,900. In the early 1870s they made astronomical transit instruments for the American expeditions sent to observe the transit of Venus. The firm remained in business until 1910.