

**COMPASSES**  
**Final as of March 19, 2006**

**CM 3, Pocket Compass, unsigned, c. 1880.**



This 1 3/4" diameter brass compass w/lift-off lid has a finely hand-inlaid dry-floating compass card. It is believed to be English, perhaps by Short & Mason, although no maker's name is showing.

**CM 4, Surveyor's Land & Mining Compass, unsigned, English or Irish?, c. 1780.**

This instrument is 12.5" long, has 4.8" sights, and a 5" needle. The circle divisions are hand cut, and several imperfections can be seen. There is no cover to the compass box, and the brass on the compass box is noticeably thinner than most compasses. One of the screws for attaching a sight vane is missing. At the usual location of the W directional marking is instead a pin from which a swinging slope inclinometer arm was once attached, but is now missing. At what would be the bottom end of the arm is a divided arc ranging 40° on both sides of center. A similar divided arc ranging 60° on both sides of center is located at the south end of the compass box. There the pin would expect to be located is instead what appears to be a replacement brass screw for anchoring the compass box to the sighting arm. This feature would be for a shaft inclinometer. The decoration to the bottom of the compass box is surprising considering the relatively poor construction to the remainder of the instrument.



**CM 5, Surveyor's Vernier Compass, Thomas Whitney, maker, Philadelphia, PA, c. 1800.**

This is one of the earliest known compasses by Whitney. It has no serial number as do the later ones, and according to Robert Miller is of noticeably different construction than the several others he has seen. Miller further reports it is identical in some of the parts to compasses by Thomas Biggs. Biggs was an instrument maker of the 1780's and 1790's with a shop in 1792 on the same street as Whitney. The instrument is 14" long, has 6" high sights, and a 5.2" needle. There is but one spirit level located on the south arm, and it has a sliding brass cover for protection. The instrument is inscribed "Thos. Whitney, Maker, Philadelphia." The vernier is located on the north sighting arm, and is divided from -25° to +25°, but due to limitations in its internal mechanism can only be used from -10° to +10°. There is a wooden case with the penciled name "John J. Harris, Redding, California." The letters "J.J. Harris" are also lightly but crudely scratched into the top of the south arm of the compass. Harris was a lumber mill owner during the 1940's and died in 1975. Contact was made in 2002 with Harris' step-daughter. The ball & socket unit for adapting to a tripod or staff are missing.

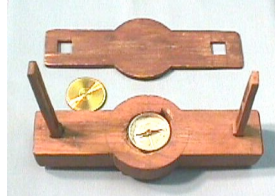


CM 7, **Surveyor's Vernier Compass**, T.F. Randolph, maker, Cincinnati, Ohio, c. 1867.



This compass is 15.8" long, has sights 7.9" high, and a 6" magnetic needle. The compass dial is black. The vernier is located on the south arm outside the compass box. There are two spirit levels, one on each arm, both with clear glass and black lines. An open tapered hole in the south arm indicates the original position of a tally counter, now missing. An illustration of this exact instrument appears on pp. 26 of the 1889 edition of Thomas Bagot's *A Manual of Plane Surveying*. That print shows the same open tapered hole as the present instrument, together with an underside knob for changing the count.

CM 8, **Hand Carved Wood and Brass Surveying Compass**, maker unknown, c. 1900.



This item has the appearance of roughly finished amateur hand carving with an inset circular brass compass dial. The compass is 8 3/4" long by 3 1/8" wide. The lift-out wooden sights are 5" tall. The brass compass is 1 3/4" in diameter.

CM 9, **Pocket Sighting Compass**, maker unknown, c. 1890.

This 2 3/4-inch diameter brass pocket compass has a 2-inch magnetic needle and two 2 1/2-inch folding sighting vanes. There are no level vials. The finish is medium toned brass. The underside of the compass is threaded for a staff mount.

CM 10, **Pocket Sighting Compass**, maker unknown, made in France, c. 1900.



This brass pocket compass has a black finish and has a nice wood case. It has two folding sight vanes. The compass dial is 2 1/2" diameter with a 2" needle. The folding sight vanes are 2" tall. It is marked FRANCE. The mahogany case is 2" x 4" x 3 1/2". There is a split in the wooden case lid.

CM 11, **Prismatic Compass (Schmalcalder type)**, Negretti & Zambra, London, c. 1900.



This 4-inch diameter compass has a charcoal finish on brass. The dial is a 3 1/2" diameter bright white (probably aluminum or platinum)

metal ring graduated in half degrees. The sighting eyepiece has a prism with dark red and blue filters. The opposite sight has a mirror to the upper half and a sighting thread to the lower half, together with a sliding sight bar. There is a brass cover of the same finish as the instrument and inside the cover is what appears to be Arabic numerals. The underside of the compass is threaded for a staff or tripod mount.

CM 12, **Surveyor's Vernier Compass**, W. & L.E. Gurley Co., maker, Troy, NY, c. 1920.

This instrument has a 6" needle, and is Gurley catalog no. 207. It has a bright brass finish and wood case. It is rather unique in that the declination arc is located inside the compass box



rather than on the sighting arm. One of the sighting arms has a very slight deformation, barely noticeable, resulting from an old fall. One of the original sights is missing and has been replaced by one that is damaged. The knob for attaching the replacement sight is missing. Part of the tally counter is also missing.

The compass is marked on the underside Long Bell No. 4. It was originally used in the Westwood, CA area for the Red River

Lumber Co.

CM 13, **Forester's Compass**, A. Lietz Co., maker, San Francisco, CA, Serial No. 1658, c. 1903.

This exact instrument does not show in Lietz catalogs of the period. The nearest example is the No. 43 Surveyor's Compass. It is of aluminum construction with a 4 1/2" needle and 4" folding sights. It is provided to set off the declination. There is a very worn leather case with stitching undone.



CM 14, **Wooden cased Pocket Compass**, W. & L.E. Gurley Co., Troy, NY, c. 1910.



This is a U.S. Government pattern compass in a square mahogany case. The compass dial is 3" in diameter with a 2 1/4" needle. The outer case is 3 3/4" x 3 3/4". There are tiny paint spots on the lid. It is marked W. & L.E. GURLEY, TROY, N.Y. There is some deterioration to the wood finish and the inside of the glass is dirty.

CM 15, **Wooden cased Pocket Compass**, W. & L.E. Gurley Co., Troy, NY, c. 1927.



This is a U.S. Government pattern compass in a square mahogany case. It has a cord for carrying around one's neck. The compass dial is 2 1/2" in diameter with a 2" needle. The outer case is 3 1/4" x 3 1/4".

CM 18, **Simple Theodolite w/Circumferentor**, T. Blunt, Cornhill, London, c. 1790's.

The instrument has a 5/16" thick outer graduated circular ring of 10 inches diameter. Mounting onto this ring are two 5.3-inch sight vanes that slide into dovetail slots located on the underneath side. Moving independently of the fixed ring is a concentric circumferentor with sighting arms. The overall length of the rotating circumferentor is 9.4", and the end of the north arm is divided with a 3-minute vernier that is used for reading horizontal angles in conjunction with the divided outer ring. All divisions on the instrument are cut by hand. The circumferentor has separate 4.4-inch sight vanes that are attached by sliding into dovetail slots located on top of the arm near the outer ends. The purpose of having two sets of sight vanes is to enable the surveyor to measure angles independent of the magnetic needle, hence its being called a theodolite. Inside the elaborately engraved 5-inch diameter compass box are two 2-inch spirit levels at right angles to one another. There is no needle arrestor. A conical staff mount is below the compass.



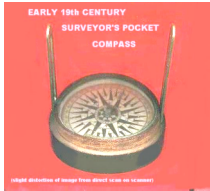
Thomas Blunt (fl. 1760-1822) was at first apprenticed to Edward Nairne, and then he became his partner. The two were together at least as far back as 1775. The partnership broke up in 1793, though early 19th century instruments signed with both their names are reportedly known. "(Blunt)...was an instrument maker of distinction: he was associated with the Portuguese scientist J.H. de Magellan and devised some of the features of Magellan's 'New Barometer'..." (Goodison), as quoted from Ray Giordano's *The Antiquarian Scientist*, Catalog 10.

This was an important type of surveying instrument for 200 years beginning in the 17th century, dating to possibly 1606. Most were made in England. A good description and history of the instrument appears in the publication *The Compleat Surveyor*, published in 1982 by the Whipple Museum of the History of Science, Cambridge. There it is called a simple theodolite. The publication also contains an illustration of a similar instrument reprinted from G. Adams *Geometrical and graphical essays*, London, 1803. Adams treatise calls it a "common theodolite." The Whipple Museum has another publication, *Catalog 1, Surveying*, which shows and describes a number of these instruments from their own collection. Other writers call them by different names. It is simply called a theodolite in Leybourn's *The Compleat Surveyor*, first published in 1653 and in Gibson's *Surveying* which was first published in 1739. *Flint's Surveying*, first published in 1804, encourages using a compass constructed with two indexes, one moveable and one fixed, with which one can ascertain the angle between two lines without reference to the bearing of the sides. Flint's description fits this instrument. Most American surveyors probably considered it too large and cumbersome, opting instead for the French graphometer which had a similar operation except it was based upon a half-circle.



CM 19, **Wood Cased Hand Compass, unsigned, American, c. 1780.**

This is a wood compass with a fancy compass card of ink on card stock. The outside diameter is 4 1/2 inches and the compass card diameter is 3 3/4 inches. The brass sights are 4 inches high. There is a stain near the center of the compass card. The style of card is very typical of 18th century work and a somewhat similar one is shown on page 76 of Silvio Bedini's *Early American Scientific Instruments and Their Makers*, 1964. It is there identified as a mariner's card with 32 points to the circle. This compass card shows the points but does not identify the directions with the typical mariner's directions and is therefore perhaps more of a combination land/marine hand compass. The brass retainer ring for the glass dial is only partially complete. When not employed the brass sights are held inside the lid with a special wood retainer.



CM 22, **Brunton Pocket Transit, Wm. Ainsworth, Denver, CO, 1907, Serial No. 3062.**



This compass is made of aluminum and has a hinged lid. The lid is inscribed *Forest Service, D.W. Brunton's Patent Sept. 18, 1894, Wm. Ainsworth & Sons, Sole Manufacturers, Denver, Colo., U.S.A.* Both the cover hinge and the folding sights are made of brass. It is an early design with one spirit level, and there is some frosting to the outer edges of the mirror.

CM 23, **Staff Compass, Keuffel & Esser Co., New York, c.1925.**



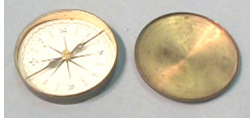
The brass compass K&E model 5321A has a 4" needle and declination settings are made without a vernier. It is engraved on the underside *Field Service General Land Office*. There are 2 level vials and a ball-joint staff adapter. It comes with a mahogany case. It is complete with a telescoping metal tripod in leather case - K&E model 5360. The tripod is 16 1/2" closed and 60" extended, and is black painted brass.

CM 24, **Sipe/Sumner Surveyors Vernier Compass, Model 130, Warren Knight Co., Philadelphia, 1971, Serial No. 17482.**



This instrument came from the estate of its co-designer, Bruce Sumner. Two prototype instruments were produced by Buff & Buff in 1969 before the manufacturing was taken over by Warren-Knight. This is the second S/S compass produced by W-K, the first going to Henry Sipe the other co-designer. This instrument is described according to its serial number in the second edition of the book *Compass Land Surveying*, 1974, page 46, by Henry Sipe. The compass is 7 1/2" long by 2" high with 6 1/2" folding sights. The magnetic needle is 5" long. It is complete with a special metal tripod, oak case, and heavy leather field case.

CM 25, **Brass Pocket Compass w/Lid, maker unknown, c. 1880**



This compass has a paper dial that is partially unglued from the case and the warping of the paper causes it to not lay flat. The lightweight brass case is 2 1/2" diameter and the outside has a darkened patina.

CM 26, **Marching Compass, U.S. Army, c. 1920's.**



This brass fluid filled compass has folding metal sights and a leather case. A portion of the fluid has leaked out and it is not in the best of condition. The interior of the unit is very dark and appears to be unusable in its present state.

CM 27, **Surveyor's Plain Compass, [Samuel] Browning, maker, Boston, c. 1816.**



This plain surveyor's compass has brass sighting vanes and compass ring on a mahogany base. The overall length is 15", the compass box is 6 3/4" diameter, the needle 5" long, and the sights are 4 3/4" high. The paper compass card at the north end is imprinted *Browning, Boston* and at the center is marked *Browning Maker from London*. The south arm shows breakage damage across the bottom and sides and there is a crack extending most of the way across the bottom of the compass box. An identical instrument is in the Henry Ford Museum in Dearborn, Michigan and described in Charles Smart's book. Samuel Browning is listed in Boston directories from 1803 to 1841 and from 1816-1825 as a mathematical instrument maker.

CM 28, **Trough Compass, Ste des Lunetiers, Paris, c. 1920.**



This is a rectangular wood compass with glass cover intended for use on a plane table. It is 1 1/2" wide and 6 3/4" long. The needle is 4 3/4" long with some rust showing. There is a needle lifter operated by a thumbscrew.

CM 29, **Trough Compass, no maker indicated, c. 1920.**



This is a rectangular wood compass with glass cover intended for use on a plane table. It is 1 3/8" wide and 4 1/8" long. There is a little rust showing on the 3" magnetic needle. There is no needle lifter.

**CM 30, Compass, M2, Brunton, Riverton, WY, S/N 188369 c. 1950.**



This is a military version of the Brunton Pocket Transit. It is labeled "Nonmaintainable." The horizontal dial is graduated in mils and has 6400 divisions to the circle. The clinometer divisions are also in mils. The case is aluminum painted military drab. There is a plastic belt case.

**CM 31, Compass & Dip Needle, Aqua Survey and Instrument Co., Cincinnati, Ohio, S/N 566444, c. 1960.**



This is a rectangular box instrument carried in a leather case with shoulder strap. It is 2" x 3" x 3". There are two glass windows - one for using as a compass and one for dip readings.

**CM 32, Surveyor's Pocket Vernier Compass, John Roach, San Francisco, c. 1880.**



This is made of brass and comes with a 3 1/2" needle, 2 spirit levels filled with green fluid, a jointed staff adapter, and a wood case missing a segment of the outside octagonal slats. The compass does not show the maker's name but matches the fitted case bearing the Roach label. The placement of the vernier divisions also matches the description of similar compasses appearing in a Sala catalog. Sala was the successor to Roach and worked for Roach.

**CM 33, Semi-circumferentor (Graphometer), Stanley, London, c. 1875.**



This type of instrument is of French origin and was often used in the 18th and first half of the 19th century by Colonial surveyors. The French refer to it as a graphometer. It was also used generally in Europe for mining and other work. The ball-joint staff adapter can be turned 90° allowing vertical angles to be sighted. Dating of this instrument is difficult because of its fine condition, noting that Stanley started in business in 1853 and continued until the second half of the 20th century. The movable sights carry verniers to read on the limb to 2 minutes of arc. The circle is about 6 inches and the total width 7 1/2 inches. It is complete with wood case.

**CM 34, Foresters' and Geologists' Compass, Keuffel & Esser Co., c. 1955.**



This form of aluminum compass was used largely in topographical work and is made primarily for the U.S. Forest Service. The base is 4 1/2" x 4 1/2" and there is a 3" magnetic needle. It is complete with staff adapter although the thumbscrews are both missing or broken. There is no case. It also has an octagonal shaped Jacob's staff.

CM 35, **"Recon" Pocket Compass, Keuffel & Esser Co., c. 1966.**



This is an aluminum compass w/hinged lid. It has both an upper and lower circles for reading bearings according to how the compass is being used, i.e. for sighting or reconnaissance.

CM 36, **Standard Pocket Compass, U.S. Forest Service, A. Lietz Co., San Francisco, c. 1950.**



This is an aluminum compass w/hinged lid. It is marked in ink on the dial "O. B. Brown, Quincy Calif. 1950". It has a folding sight hinged to the underside of the lid. The underside of the compass has "O. Brown Quincy Calif" scratched into the black paint. The paint is entirely worn off the top of the lid.

CM 38, **Brunton Pocket Transit, Wm. Ainsworth & Sons, Denver, CO, 1962, Serial No. 87966.**



This compass is made of aluminum painted crinkle gray and has a hinged lid. The outer top lid is inscribed *D.W. Brunton's Pocket Transit, Wm. Ainsworth & Sons, Denver, Colo.*, accompanied by a table of natural sines. The cover hinge and the folding sights are both made of brass. It has a plastic case with a leather-like appearance. Motion of the needle is controlled by a dampening device.

CM 40, **Mountain & Mining Vernier Compass, W. & L.E. Gurley Co., Troy, NY, c. 1900.**



This is a one-of-a-kind size Gurley Mountain & Mining Vernier Compass especially built for both portability and sighting steep vertical angles. It was probably either a special order from the Gurley factory or a prototype of a new design considered by them but not put into production. The horizontal sighting arm is 9" long and the magnetic needle is 4 3/4" long. It has folding sight vanes that are an extraordinary 9 inches long. This length allows inclined sights of 38° where the conventional large vernier compass is capable of only 22°. No case, tripod or Jacob's staff.

CM 42, **Simple Theodolite w/Circumferentor**, Spencer & Compy., London, c. 1817.



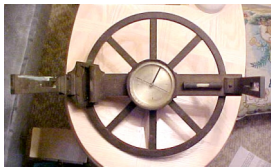
The instrument has an outer graduated circular ring of 10 inches diameter. There is a vernier reading to 3 minutes of arc on one of the sighting arms. The compass box is 5 inches diameter and the magnetic needle is 4 inches long. The sights extend approximately 5 1/2 inches above the divided circle. It is complete with tripod and adapter although lacks a case.

CM 43, **Single Vernier Railroad Compass**, W. & L.E. Gurley Co., c. 1900



The single vernier railroad compass was produced by Gurley from the 1860's to about 1915. They differ from the conventional vernier compass in that it has a divided horizontal circle that allows horizontal angles to be measured as in the transit instrument. Gurley made these with either one or two verniers, this being the smaller of the two. The needle is 5 1/2" long. Complete with wood case. The sight vanes to this compass are replacement Gurley sights although the alignment pins don't line up with the holes, so the pins were removed by unscrewing them. The tally counter is also a replacement item.

CM 44, **Improved Miner's Compass**, John Hale, Scranton, PA, S/N 68, c. 1885



This instrument was invented and apparently produced by John Hale, and patented by him on March 10, 1885 as patent number 313,494. It was specifically adapted for use in mines in lieu of the miner's compasses then employed. It is very much like a circumferentor except that it has only a single set of sights. Horizontal angles can be read independently of the needle on the outer divide circle of 10 3/4 inches diameter. The sights are 7 3/4" tall and the magnetic needle is 2.8" long. There are two spirit levels both full of fluid. It comes with the original tripod although one of the legs is partially broken off. There is no case.

CM 45, **Graphometer**, Unsigned, c. 1760



This instrument was found in Washington, DC and purchased by an eastern collector who sold it to Mike Beale in Alaska. It is believed to be of American manufacture. The sighting bar is 13 3/4" long and the sights are 6 1/6" high. There is a trough compass with needle of 5 1/2" length. The needle has the letter N inscribed in the north end. The bottom of the trough compass is lined with a gold-colored foil or thin sheet metal. The diameter of the hand-divided arc is 7". The construction is unique in that the hammered-brass



sighting bar is formed of brass plate with layers bonded together by brass pins (or dowels). The trough compass is similarly formed with the use of pins. The divisions on the arc are not numbered with engraved figures, but appear to have been originally distinguished with painted numbers. They range from 0° to 90° to 0° and are hand divided. A few of the painted numbers remain.

**CM 46, Geological & Forestry Staff Compass, Leupold-Volpel & Co., Portland, OR, c. 1935.**



This is a nice example of a geological and forestry surveying compass by Leupold-Volpel & Co., Portland, OR. It is a patented variation of the basic design adopted by the U.S. Forest Service for making forest surveys and maps. The Leupold patent was issued in 1933 as #1,936,846. Among the claims were that it was a waterproof pocket compass adjustable for magnetic declination and capable of reading both horizontal and vertical angles. The instrument is constructed of aluminum and brass and the contrast of the two metals give it an attractive appearance. This was a popular type of field instrument during the first half of the 20<sup>th</sup> century. Inside the glass dial is a circular brass ring divided into one-degree increments, plus a small brass plate showing the subdivision layout of a government section of land. The northerly sighting vane has graduations of percent ranging from +60 to -60. There are two tiny sights for determining the E-W directions. Size is 4 1/2" x 5" with 4" sights, and the magnetic needle is 2 1/4" long. It is complete with leather case and brass socket adapter for mounting on a Jacob's staff.

**CM 47, Surveyor's Pocket Compass, W. & L.E. Gurley Co., Troy, N.Y., c. 1870.**



This compass is made of brass with a darkened bronze finish and comes with two 3/4" folding sights and a 3/2" needle. The narrow-slit sight is engraved in script on the outer side with the words: Chas. J. Ewing, Agent, San Francisco, Cal. Charles Ewing was the S.F. agent for Gurley during about 1869-1882. The maker's name W. & L.E. Gurley, Troy N.Y. is stamped in small letters at the center of the dial. It is missing the staff adapter but has the original wood case though lacking one of the short side walls.

**CM 48, Pocket Transit – Brunton Style, Keuffel & Esser Co., S/N 107634, c. 1949.**



This compass is 2 3/4" x 3" and has a black painted cover. The mirror has some loss of silver. This unit does not have the slots for attaching to the conventional staff adapter but is attached by a K&E type adapter that utilizes two screws in the case bottom.

CM 49, **Surveyors Plain Compass**, Alexander Megarey, New York, c. 1833.



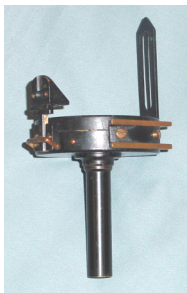
This compass is 13.8" long, has sights 6.3" high, and a 5" magnetic needle. It is complete with wood case including an original label and the original tripod with a ball-joint adapter. The top of the wood case has a lengthwise split that passes through the label. The compass dial is signed in script Alex<sup>r</sup> Megarey, and in block letters N. York. Megarey is listed in Smart as being in business from 1827 to 1850, the last address being at 190 Water Street. The label in the wood case shows 238 Water Street where the Webster database lists him during the years 1831 – 1835. There are two level vials both with fluid although the cross vial has an overly large air bubble.

CM 50, **Brunton Pocket Transit**, Automatics Limited, Denver, CO, c. 1970.



This compass is made of aluminum painted crinkle black and has a hinged lid. The outer top lid is inscribed *Ainsworth Geodetic Transit/Compass, Mfg. by Automatics Ltd., Denver, Colo.*, accompanied by a table of natural sines. The cover hinge and the folding sights appear to be made of white brass. It has a stiff leather case. Motion of the needle is controlled by a dampening device. Complete with original instructions, carton, and leather case. This model of the Brunton compass differs from others in that it has a second hole in the lid that has cross hatching fibers. This is an aiming device for sending reflected sun signals with the mirror.

CM 51, **Prismatic Compass, Clinometer and Altimeter**, Keuffel & Esser Co., New York, S/N 1641, c. 1890.



This instrument permits observing the magnetic bearing of objects not in the plane of the observer. The compass portion incorporates a covered-top prism sighting device on the principle of the Hutchinson compass. It was designed by Capt. Barker and received English patent No. 1926 according to the Usill surveying text. The instrument also has a gravity clinometer and altimeter for elevation and slope measurements. There is a screw-in post for holding by hand, plus a wood case that is not original. It was owned by Dr. Harold Gair, professional geologist. He was a principle geologist at Cripple Creek, Colorado gold mines, California Mother Lode region, Victoria, Australia goldfields and gold exploration in Chile, Peru and Bolivia. It has also been used in the South American Andes, Chile's Atacama Desert, Mexico's Guanajuato silver mining districts, Montana's Copper King country, and Alaska's forested gold rush mining districts.

CM 52, **Hedley Mining Dial**, J. Casartelli & Son, Manchester, England, S/N 847, c. 1900



On the upper face it reads "Patent Mining Dial" then the number "847", and at the bottom it reads "J.Casartelli & Son, Manchester". There are 4½" high folding sights on both ends and level vials in both directions (one is broken). The sighting arm is 12¾" long with a 5" magnetic needle. Outside of the fully divided circle is a vernier that enables readings to one minute on the inner degree scale. The glass over the dial is broken. The compass still works and includes the base mount. It is possibly missing a graduated semicircular arc scale that would extend across the top of the dial, and used for measuring the vertical angle. There is no case or tripod.

The Hedley mining dial was patented to John Hedley in 1850 and initially produced by John Davis & Son, Derby. The particular feature was the ability of the sighting arm to be elevated or lowered so as to take directional readings to targets at different elevations. Some dials also have a side-mounted graduated arc for measuring the vertical angle but most of those seen made by Casartelli do not. The dating is uncertain with little information available about when the Casartelli father/son name was in use. One source reports it became Casartelli & Son in 1895. The father started in 1851 and the compass face mentions a *patent* mining dial without being specific. On an older version of the compass the dial is engraved: J. CASARTELLI'S PATENT MANCHESTER 273. Thus it appears that Casarelli had a separate patent for some improvement to the mining dial. The same source on the name change contents that Joseph Casartelli worked in Manchester from 1949-1895. An alternative name for him was Guiseppe Luigi and from 1895 it became Casartelli & Son.



CM 53, **Surveyors Plain Compass, B. Pike & Son, New York, c. 1845.**

This compass is 15" long, has sights 6½" high, and a 5¾" magnetic needle. It is complete with original wood case and a ball-joint staff adapter. The outside top of the wood case is imprinted with two names, older being Capt. Ord USA and the other B.F. Garloff. The inside of the case cover has the names B.F. Garloff, J.G. Colyar, and Alona & Senter Ord. The Ord name is famous in American history and early California surveying as in 1849 he made the first survey of the City of Los Angeles. The compass dial is signed in script B. Pike & Son, 166 Broadway, New York. The B. Pike & Son firm is listed in Smart as being in business from 1831 to 1841, and then again from 1843 to 1850. Two addresses were used, the later being 166 Broadway. There are two level vials both with fluid.