No. 1811. Pocket Mountain Aneroid, compensated for temperature, 1¾ inch diameter, with altitude scale to 3,000 feet.....$20 00
" 1812. Same as No. 1811, 5,000 feet..... 20 00
" 1813. " " " 10,000 " 21 00
" 1814. " " " 15 000 " 24 00
" 1815. " " " 20,000 " 27 00
" 1816. Pocket Mountain Aneroid, compensated for temperature, same as 1811, 2½ inches diameter, with altitude scale to 3,000 feet 20 00
" 1817. Same as No. 1816, 5,000 feet..... 20 00
" 1818. " " " 10,000 " 21 00
" 1819. " " " 15,000 " 24 00
" 1820. " " " 20,000 " 27 00
" 1821. Geological Aneroid, compensated for temperature, silvered metal dial, with needle compass at back, 2½ inches diameter, in leather sling case, with altitude scale to 5,000 feet..... 30 00
" 1822. Same as No 1821, 10,000 feet..... 31 00
" 1823. Same as No 1821, 15,000 feet..... 33 00
" 1823½. Same as Nos. 1815 to 1823, with Thermometer as as shown in cut, $2.00 additional.

1827.

No. 1824. Geological Aneroid, compensated for temperature, with silvered metal dial, 5 inches diameter, in mahogany open face case, with leather strap, with altitude scale to 3,000 feet $32 00
" 1825. Same as No. 1824, 5,000 feet..... 32 00
" 1826. " " " 10,000 " 34 00
" 1827. " " " 15,000 " 36 00
" 1828. " " " with thermometer, altitude scale to 3,000 feet..... 34 00
" 1829. Same as No. 1828, 5,000 feet..... 34 00
" 1830. " " " 10,000 " 36 00
" 1831. " " " 15,000 " 38 00

No. 1832. Surveying Aneroid, 5 inch diameter, compensated for temperature, silvered Metal Dial, graduated to hundredths, and reading by vernier to single feet with magnifier, in leather sling case, with altitude scale to 5,000 feet..... 50 00
" 1833 Same as No 1832, 10,000 " 55 00
" 1834. Same as No. 1832, 15,000 " 60 00
" 1835. Mining Aneroid, same as No. 1832, but arranged to register 2,000 feet below sea level to 4,000 above 50 00

The Surveying and Mining Aneroid has been designed and constructed specially for the use of Surveyors and Engineers, for the purpose of readily ascertaining slight variations in gradients, levels, &c., and from its extreme sensitiveness will be found of considerable utility in Mining and Surveying work generally.

Besides extreme sensitiveness, the specialty claimed for this Instrument is an arrangement of the Scale of Altitudes which admits of subdivision by a Vernier, hitherto impracticable, owing to the Altitude Scale in ordinary use being a gradually diminishing one, to which a Vernier cannot be applied. In the present Instrument the action has been so adjusted as to give accurate readings upon a regular Scale of Altitudes, the Barometrical Scale of Inches having been made progressive so as to afford the correct relative readings with the Scale of Altitudes.

For Mining purposes the entire circle of the dial is graduated to represent 6 inches of the mercurial column, *i e*, from 27 inches to 33 This scale will register about 2,000 feet below sea level to 4,000 feet above; the finest divisions, hundredths of the Altitude Scale, represent 10 feet measurements which can be again subdivided by the Vernier Scale to single feet. The Vernier Scale is moved by a rack-work adjustment, and a magnifying lens which rotates on the outer circumference of the Instrument facilitates the reading of minute quantities.

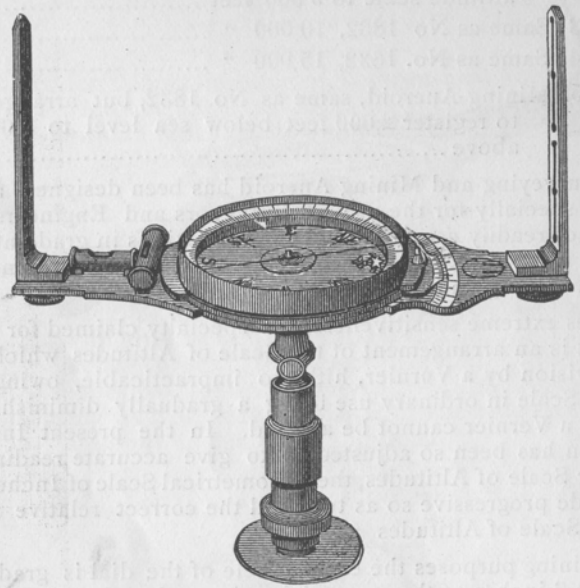
For Surface Surveying purposes, where it is not required to be used below sea level, the Instrument is made with the scale divided from 25 to 31 inches thus giving an Altitude Scale of 5,000 feet above sea level only, and with this open scale and the assistance of the Vernier, the same minute readings can be easily taken.

These Barometers are carefully tested under the receiver of an air-pump before shipment.

Surveyors' Plain Compasses.

No. 1850. Surveyors' Plain Compass, with 4 inch Needle, 12 inch Plate, 2 Straight Levels, and Jacob Staff Mountings.....$30 00
" 1851. Same as No. 1850, with 5 inch Needle, and 14½ inch Plate..... 35 00
" 1852. Same as No. 1850, with 6 inch Needle and 15½ inch Plate..... 40 00

Surveyors' Vernier Compasses.



1853.

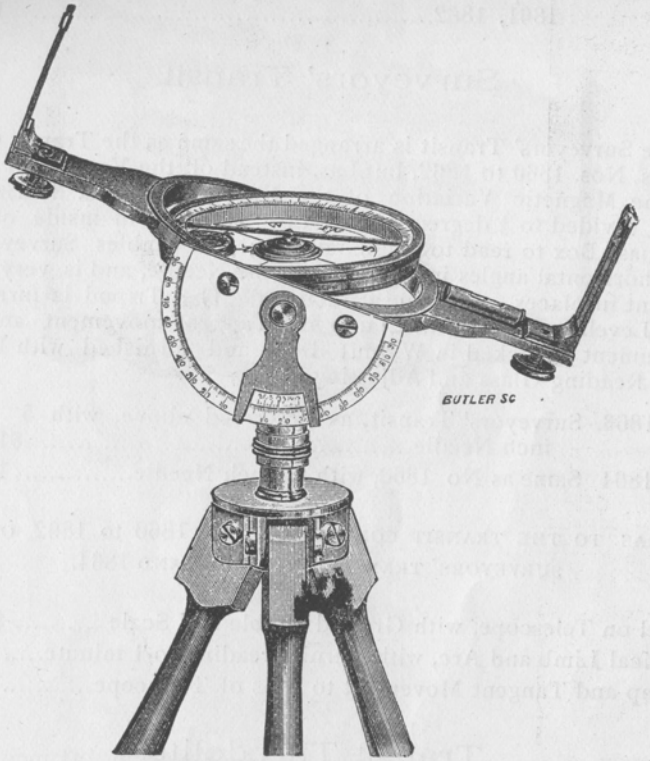
No. 1853. Surveyors' Compass, with 5 inch Needle, 14½ inch Plate, 2 Straight Levels, Vernier for reading the magnetic variation of the Needle, and Jacob Staff Mountings..... $42 00

" 1854. Same as No. 1853, with 6 inch Needle and 15½ inch Plate..... 47 00

The above Compasses are furnished with either a Walnut Box or a Brass Cover for the Compass Dial.

Tripods, to suit either Nos. 1850 to 1854..... $ 8 00

Surveyors' Grading Compasses.



1855.

No. 1855. Grading Compass, with 4½ inch Needle, 15 inch Plate, Circular Level in inside of the Compass Box, Vernier for reading the magnetic variation of the Needle. Semicircle, with Vernier for reading angles of elevation and depression..$80 00

" 1856 Same as No 1855, with 5 inch Needle and 16 inch Plate..... 90 00

This Compass is very convenient in hilly countries, and is a very suitable instrument for mines.

Transit Compasses.

The Transit Compass is arranged the same as the Vernier Compass, No. 1853, but is furnished with a Tripod, and has a Telescope in place of the ordinary Sights, making it better for long ranges and hilly grounds.

No. 1860. Transit Compass, 4½ inch Needle, 10 inch Telescope and Light Tripod. .....$ 90 00

" 1861. Same as No. 1860, with 5 inch Needle..... 95 00

" 1862. Same as No. 1860, with 5½ inch Needle..... 100 00

Leveling Screws and Clamp and Tangent movement to Tripod of Transit Compasses, Nos 1860, 1861, 1862..... 12 00

Surveyors' Transit.

The Surveyors' Transit is arranged the same as the Transit Compasses, Nos. 1860 to 1862, but has, instead of the Vernier for reading the Magnetic Variation of the Needle, an extra Horizontal Plate, divided to ½ degrees, with two Verniers in inside of the Compass Box to read to single minutes; this enables Surveyors to read horizontal angles independent of the Needle, and is very convenient in places of local attractions The Tripod is furnished with Leveling Screws and Clamp and Tangent movement and the Instrument is packed in Walnut Box and furnished with Plumb Bob, Reading Glass and Adjusting Pin.

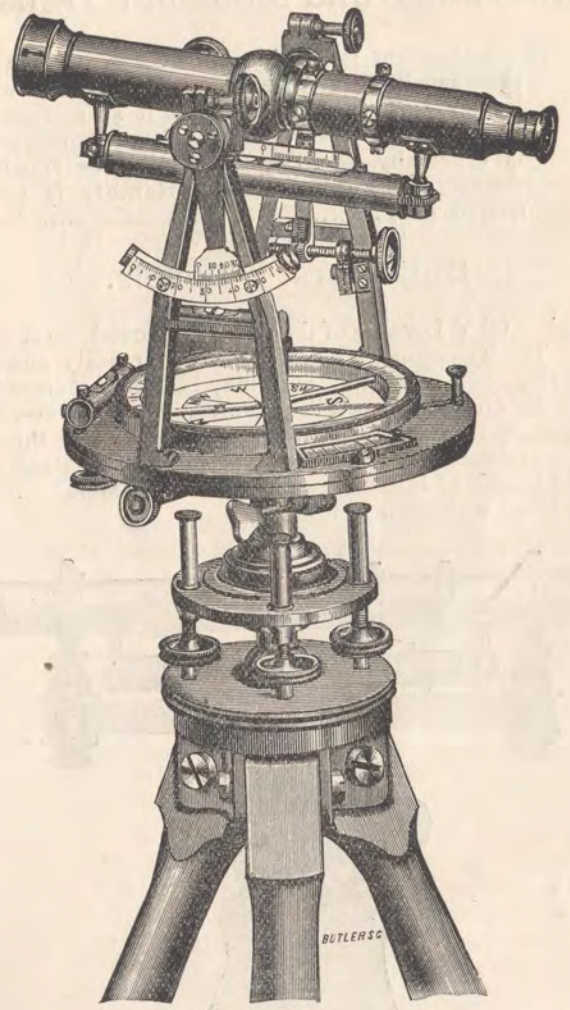
No. 1863. Surveyors' Transit, as described above, with 5 inch Needle.....$130 00
" 1864 Same as No. 1863, with 5½ inch Needle..... 140 00

EXTRAS TO THE TRANSIT COMPASSES, NOS. 1860 to 1862, OR THE SURVEYORS' TRANSITS, NOS 1863 AND 1864.

Level on Telescope, with Ground Bubble and Scale $12 00
Vertical Limb and Arc, with Vernier reading to 1 minute..... 8 00
Clamp and Tangent Movement to Axis of Telescope..... 8 00

Transit Theodolite.

The Transit Theodolite is made in the most approved style. The Horizontal Plates are of well-hammered Brass; the Parallel Plates, Screws Spindles and Axis of Telescope of Gun Metal The Needle is 4¾ inches long; the Graduation of the Horizontal Plate 6 inches in diameter, and graduated to ½ degrees with two Verniers to read to minutes Both Verniers are covered with Glass, to keep the graduation free from dust. The Tripod is furnished with Adjusting Head. Ground Bubbles are inserted in the Levels As seen in the cut, a Level with Scale is attached to the Telescope, and Clamp and Tangent movement to the Axis. The Vertical Arc for taking angles of elevation and depression is divided to half degrees with Vernier to read to 1 minute. The Telescope is about 11 inches long, and very powerful. The Instrument is packed in a Walnut Box, with Strap, and furnished with Plumb Bob, Reading Glass Adjusting Pin, etc.



1865.

No. 1865. Transit Theodolite as above described.....$190 00

Engineers' Transit.

The Engineers' Transit is of the same construction as the Transit Theodolite but has no Level under Telescope, neither a Vertical Limb and Arc, or Clamp and Tangent movement to Axis of Telescope.

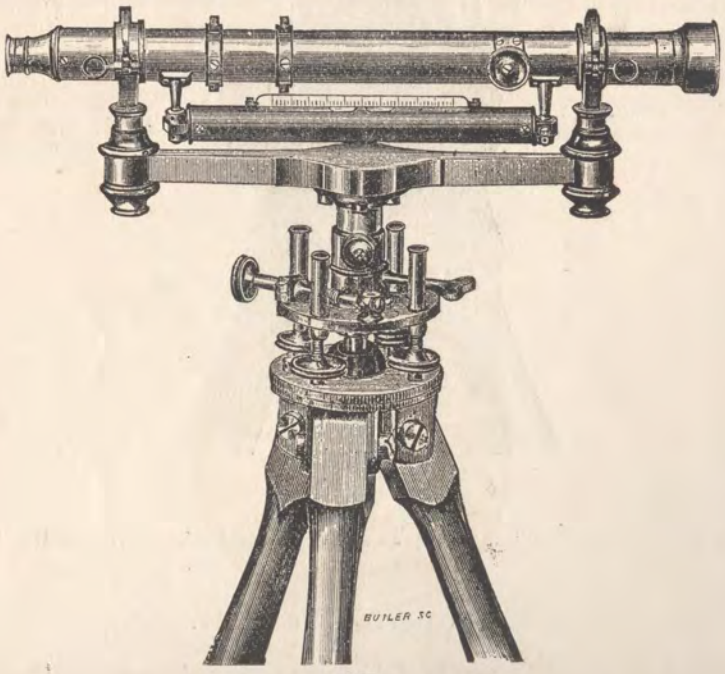
No. 1866. Engineers' Transit as above described.....$165 00

Light Mining and Mountain Transit.

No. 1867. This instrument is of the same construction as the Transit Theodolite, but much smaller and lighter, and we can recommend it as a Transit of the first class, capable of any work and is especially adapted for mining or rough country use, where great portability is required, price.....$180 00

Engineers' Y Levels.

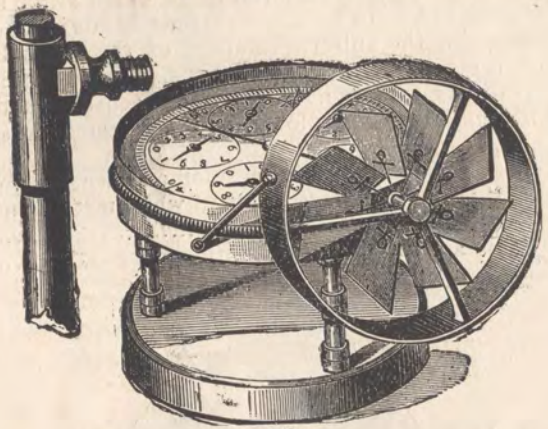
The Engineers' Y Level is of the most improved form and construction. The Telescope is made to revolve readily and truly in the Y's by rings of Gun Metal, and may be firmly clamped in any position by the clips. It has a rack and pinion movement to the Object Glass, and an adjustment for centering the Eye Piece The Bar and Y's are made strong and of well-hammered Brass and the Spindle and Parallel Plate Screws of best Gun Metal. A Walnut Box is furnished with each Level.



1868.

No. 1868. Engineers' Level, with 16 inch Telescope.....$125 00
" 1869. " " " 18 " " 125 00

Anemometers or Air Gauges.



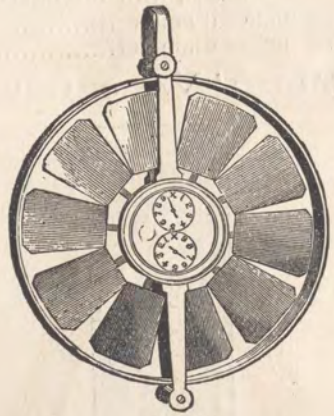
1890.

No 1890. Improved Portable Air Gauge, in Wooden Case...$27 50
" 1891. " " " with timer..... 30 00

An instrument for measuring the velocity of air in public and private buildings flues, ventilators, coal and other mines. It records from one foot to ten million feet traversed by the current of the air. At the side of the dial is a projecting pin, by moving which backwards or forwards the working parts are thrown in or out of gear; this enables the observer to take and end his observations to a second. Directions for using the Gauges are furnished.

Biram's Improved Anemometers.

FOR REGISTERING THE CURRENTS OF AIR IN MINES.



1892.

No. 1892. 4 inch diameter, reading up to 100 and 1,000 feet, in Wooden Case.....$23 00
" 1893. Same as 1892. 5 inch diameter..... 25 00
" 1894 Same as 1892, 6 inch diameter..... 27 00