

R. M. STALEY.
CLINOMETER.

APPLICATION FILED MAR. 28, 1908.

899,269.

Patented Sept. 22, 1908.
2 SHEETS—SHEET 1.

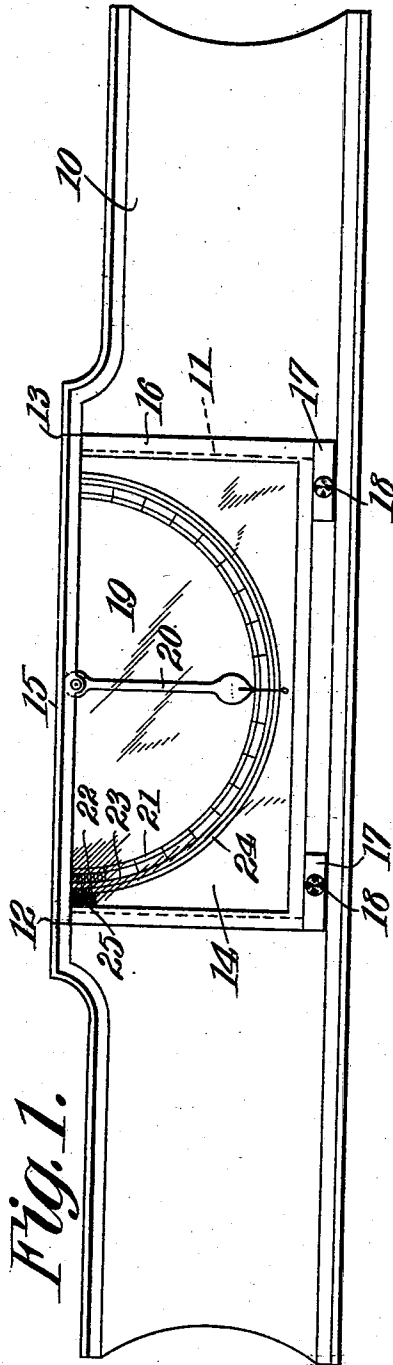


Fig. 1.

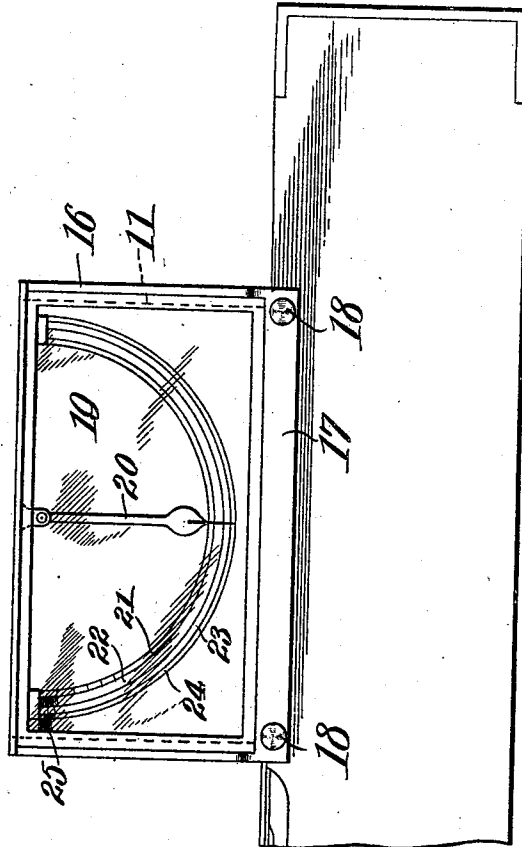


Fig. 2.

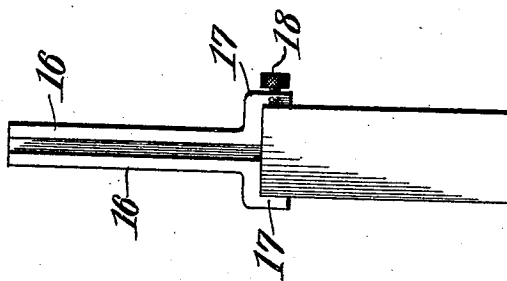


Fig. 3.

Rollin M. Staley,

Inventor.

Witnesses

E. H. Staley
W. H. Staley

By

C. A. Snow & Co.,
Attorneys.

899,269.

Patented Sept. 22, 1908.

2 SHEETS—SHEET 2.

Fig. 5.

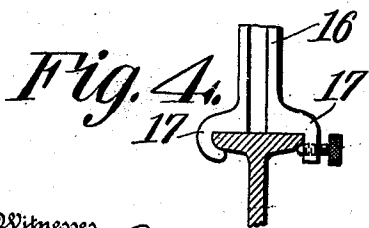
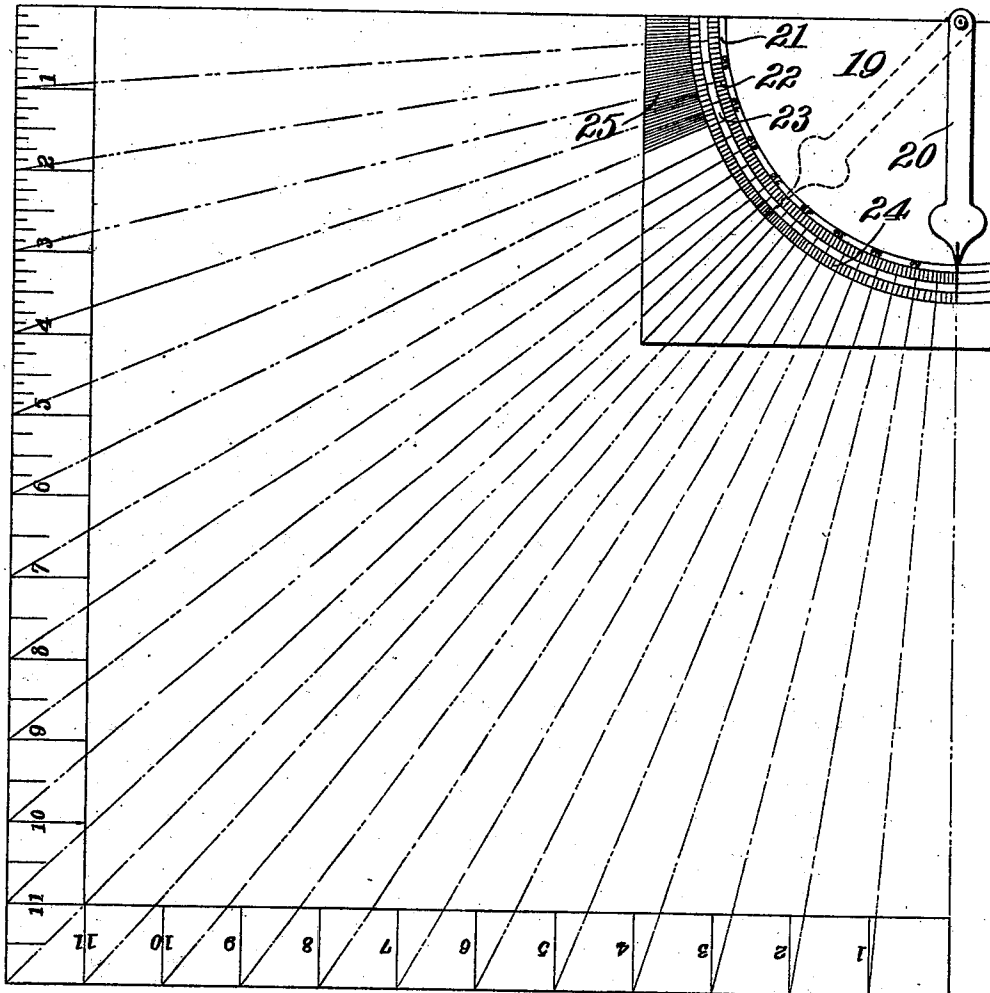


Fig. 4. *Rollin M. Staley,*

Inventor.

Witnesses
E. J. [Signature]
M. [Signature]

By *C. A. Snow & Co.,*
Attorneys.

UNITED STATES PATENT OFFICE.

ROLLIN M. STALEY, OF CENTERVILLE, IOWA, ASSIGNOR OF ONE-HALF TO WILL S. BRYANT,
OF CENTERVILLE, IOWA.

CLINOMETER.

No. 899,269.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed March 28, 1908. Serial No. 423,922.

To all whom it may concern:

Be it known that I, ROLLIN M. STALEY, a citizen of the United States, residing at Centerville, in the county of Appanoose and State of Iowa, have invented a new and useful Clinometer, of which the following is a specification.

This invention relates to clinometers, and its object is to provide an improved form of such devices, wherein the clinometer proper may be used with various levels or straight edges.

The invention consists essentially of a detachable clinometer arranged primarily to fit the level wherewith it is intended to be sold, and secondarily to fit any other straight edge or level.

In the accompanying drawings:—Figure 1 is a view of the complete clinometer as applied to its own level. Fig. 2 is a side view of the same applied to an ordinary straight edge. Fig. 3 is an end view thereof. Fig. 4 is a view of the clinometer as applied to a straight edge of I-section. Fig. 5 is a view showing the method of laying out the scales for the clinometer.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In the complete device as shown in Fig. 1, the numeral 10 indicates a level beam preferably of cast iron or the like, wherein is formed a suitable pocket, as indicated by the dotted line at 11. The beam 10 has its upper flange cut away between the points 12 and 13 for purposes hereafter to be described.

The clinometer proper comprises a casing 14 preferably provided with glazed sides and having a flanged portion 15 of the same general cross section as the upper flange of the beam 10 and arranged to fit between the points 12 and 13 of that flange.

The casing 14 is provided with lips 16 at each side, arranged to embrace the web of the beam 10 and closely fit within the recess 11. At the lower edge of this casing are provided lugs 17 oppositely disposed, and at each end thereof. The lugs 17 are preferably of the form indicated in Fig. 4, although, if desired, they may be made as shown in Fig. 3. Thumb screws 18 are carried in two of these lugs, and are arranged to bear against the web beam 10 and hold the clinometer firmly therein. In the central portion

of the casing is formed a semi-circular recess 19 in which is held a plumb bob 20 pivoted at the center of the semi-circle. Around the periphery of the semi-circular recess is formed a series of scales, of which the inner one, indicated at 21, is preferably divided into spaces of ten degrees each; the next one, indicated at 22, is divided into spaces of one degree each; the third scale, as at 23, is divided into inches; the fourth, as at 24, into quarter inches, and the remainder of the rectangular portion of the clinometer proper is divided as at 25 into eighth inches. The manner of these divisions is clearly shown in Fig. 5, and will be explained later.

In Fig. 2 the device is shown as applied to an ordinary wooden straight edge, such as is used by carpenters, and the lugs 17 extend from end to end instead of being spaced as in Fig. 1, this merely being a modification of these lugs.

It is to be noted that by simply loosening the set screws 18 of the device, as shown in Fig. 1, the clinometer may be removed from the beam and applied as shown in Fig. 2. It is further to be observed that, if desired, a number of beams of various lengths may be furnished with one clinometer.

In Fig. 5 is shown a method of laying out the inch scales before referred to, and it will be seen that the spaces on these scales are arranged to show the number of inches of rise for each foot in length, as, for instance, when the plumb bob is in the position indicated in dotted lines, the bottom of the straight edge will be at an angle of forty-five degrees, and there will thus be twelve inches rise to each foot of horizontal distance. It is obvious that these scales may be altered to suit different circumstances without altering the principles of the invention and it is not, therefore, desired to be confined to the exact form in which these scales are shown or arranged.

What is claimed is:—

1. In a device of the kind described, a level beam of substantially I-shape in cross section provided with a rectangular pocket formed therein, and a clinometer arranged to fit in said pocket and provided with lips to extend over the web of said beam.

2. In a device of the kind described, a level beam of substantially I-shape in cross section provided with a rectangular pocket formed therein, a clinometer arranged to fit in said

pocket and provided with lips to extend over the web of said beam, lugs formed upon said clinometer, and set screws held in said lugs to secure said clinometer to said beam.

5 3. In a device of the kind described, a level beam provided with a rectangular pocket therein, a clinometer comprising a casing having a semi-circular recess therein, a plumb bob supported in said recess, and scales
10 around the arc of said semi-circle held in said

pocket, and means to secure the same to said beam.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

R. M. STALEY.

Witnesses:

J. W. WHITNEY,
H. B. CURTIS.