

D. E. REILLY.

LEVEL.

APPLICATION FILED MAR. 13, 1909.

971,792.

Patented Oct. 4, 1910.

2 SHEETS—SHEET 2.

Fig. 3

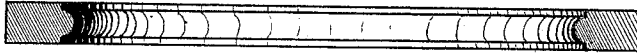


Fig. 4

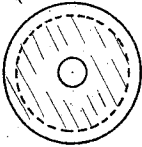


Fig. 5

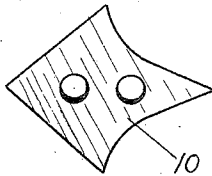


Fig. 6

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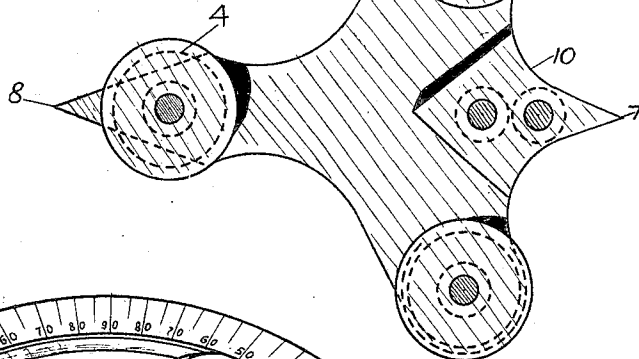
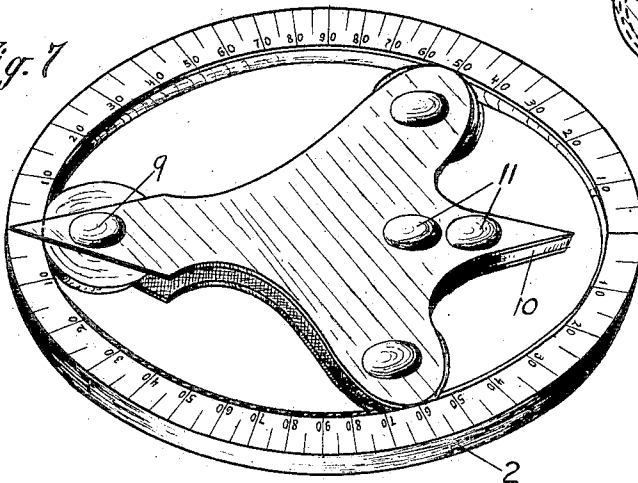


Fig. 7



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UNITED STATES PATENT OFFICE.

DENNIS E. REILLY, OF DERBY, CONNECTICUT.

LEVEL.

971,792.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed March 13, 1909. Serial No. 433,335.

To all whom it may concern:

Be it known that I, DENNIS E. REILLY, a citizen of the United States, residing at Derby, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Levels, of which the following is a specification.

This invention relates to improvements in measuring devices and embraces the construction of a device whereby angles and grades may be accurately and quickly measured in terms of inches.

One of the objects of the invention is the production of a simple device capable of being used as a level or a plumb, whereby grades and angles may be correctly estimated.

Another object of the invention is the production of a device having a gravity controlled indicator which may be employed in the manner that ordinary plumbs are employed, and which is provided with scale markings whereby the extent of grades or angles may be quickly estimated in terms of inches.

With the above and other objects in view this invention embraces certain constructions, combinations and arrangements of parts clearly described in the following specification and illustrated in the accompanying drawings, in which,

Figure 1 is a plan view of my improved measuring device, Fig. 2 is a transverse sectional view thereof, Fig. 3 is a detail sectional view of a frame, Fig. 4 is a detail view of a wheel, Fig. 5 is a detail view of a weight, Fig. 6 is a plan view of an indicator, and Fig. 7 is a perspective view of the device.

Referring to the accompanying drawings which are prepared for illustrative purposes and are accordingly not drawn to scale numeral 1 denotes a holding frame or body which is formed of wood or other suitable material and is formed with a circular opening adapted to receive a graded guide frame 2, which frame is formed on its inner periphery with a rounded rib 3 forming a track for a series of wheels 4, having peripheral grooves therein. The guide frame 2 is formed with a considerably smaller transverse thickness than the thickness of the holding board or frame 1 so that said holding board or frame may be placed flush against the material to be measured, or the

material adjacent to the material to be measured. The outer faces of the guide frame 2 are provided with scale or grade markings which are arranged in degrees.

The wheels 4 are pivotally secured to an indicator which is formed in two pieces 5 and 6, each piece being substantially T-shaped and formed with alining pointers 7 and 8. Two of the wheels 4 are located on the lateral arms of the indicator plates or pieces and the third wheel is located on the leg thereof. The wheels 4 are held pivotally to the plates 5 and 6 by means of bolts 9 having rivet heads formed on their outer ends. A weight 10 of lead or other material is secured to the lower end of the plates 5 and 6 by riveted bolts 11, so as to hold the pointers 7 and 8 in a substantially vertical position when the holding frame 1 is placed edgewise. The pointers 8 extend over the outer faces of the guide frame 2 and the pointers 7 extend within a short distance of said outer faces.

In using the device as a plumb the holding frame 1 is placed edgewise on the material to be measured and the grade or angle can be quickly ascertained by calculating the degree or inches the scale markings of the guide frame 2 are out of line or spaced apart from the pointers 7 and 8. Normally the lowest or zero sign or symbol would occupy a vertical position when the instrument is held sidewise on a level and the degree of the grade or angle of an inclined surface would be indicated in inches or degrees by the extent the zero mark or sign is out of line or register with the tips of the pointers. The scale markings preferably read from the points indicated by A and B in opposite directions so that variations can be calculated by reading from the pointers 7 and 8. In using the instrument or device for estimating angles or grades with reference to leveling work the instrument may be placed edgewise on or endwise against the material to be measured. When placed in either position the weight 10 automatically brings the pointers 7 and 8 to a vertical position or to the center of gravity line, thereby enabling the user to instantly detect the extent in inches or degrees of the variation.

Having described my invention I desire to claim by Letters Patent:

1. In a device of the class described, a circular frame having scale markings on its outer faces and a track on its inner periph-

ery, a T-shaped indicator, wheels movable on the track of the frame pivotally secured to the indicator and a weight secured to the indicator.

5 2. In a device of the class described, a circular frame having a track on its inner periphery and inch scale markings on its outer faces, an indicator comprising two plates, each being formed with alining
10 pointers and lateral arms, wheels pivotally secured on the lateral arms and adjacent to one of the pointers for movably supporting the indicator on the frame, and a weight secured on the remaining pointer.

15 3. A device of the character described, consisting of a frame having a track on its inner periphery an indicator comprising two plates, means for revolubly mounting said indicator on said track, and a weight
20 mounted between said indicator plates.

4. A device of the character described, consisting of a circular frame provided with a track on its inner periphery, a T-shaped indicator revolubly mounted on said track, and wheels pivoted on the arms of said indicator and adapted to revolve on said track with said indicator. 25

5. A device of the character described, consisting of a circular frame having a scale on its outer circumference and a track on its inner periphery, and a T-shaped indicator comprising two plates, and wheels pivoted between said plates movable on said track. 30

In testimony whereof I affix my signature, in presence of two witnesses.

DENNIS E. REILLY.

Witnesses:

CHARLES B. NETTLETON,
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