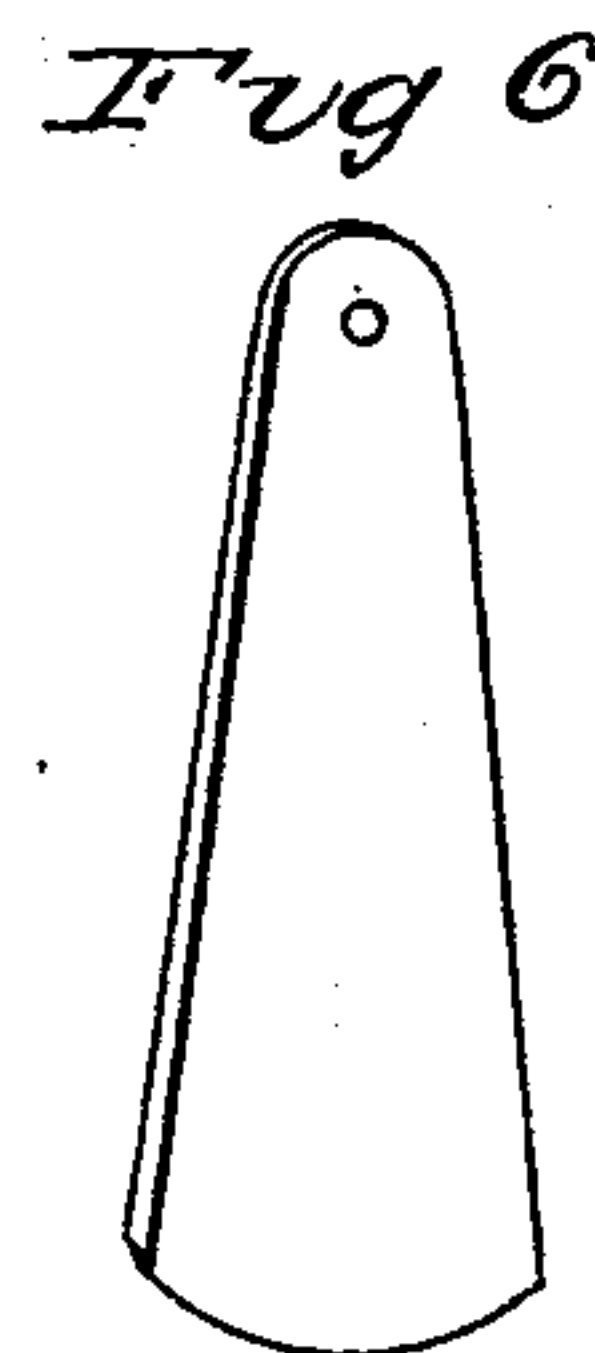
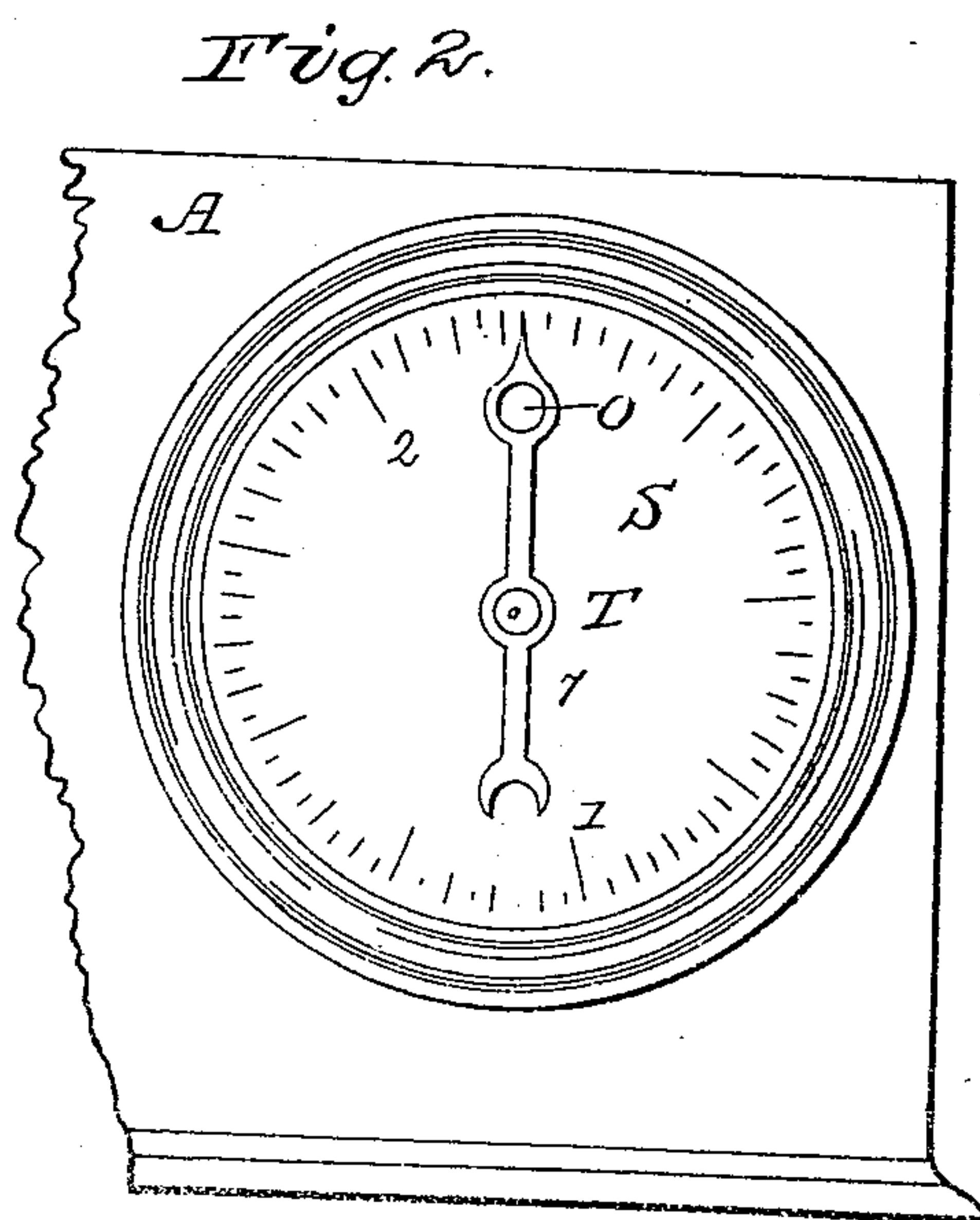
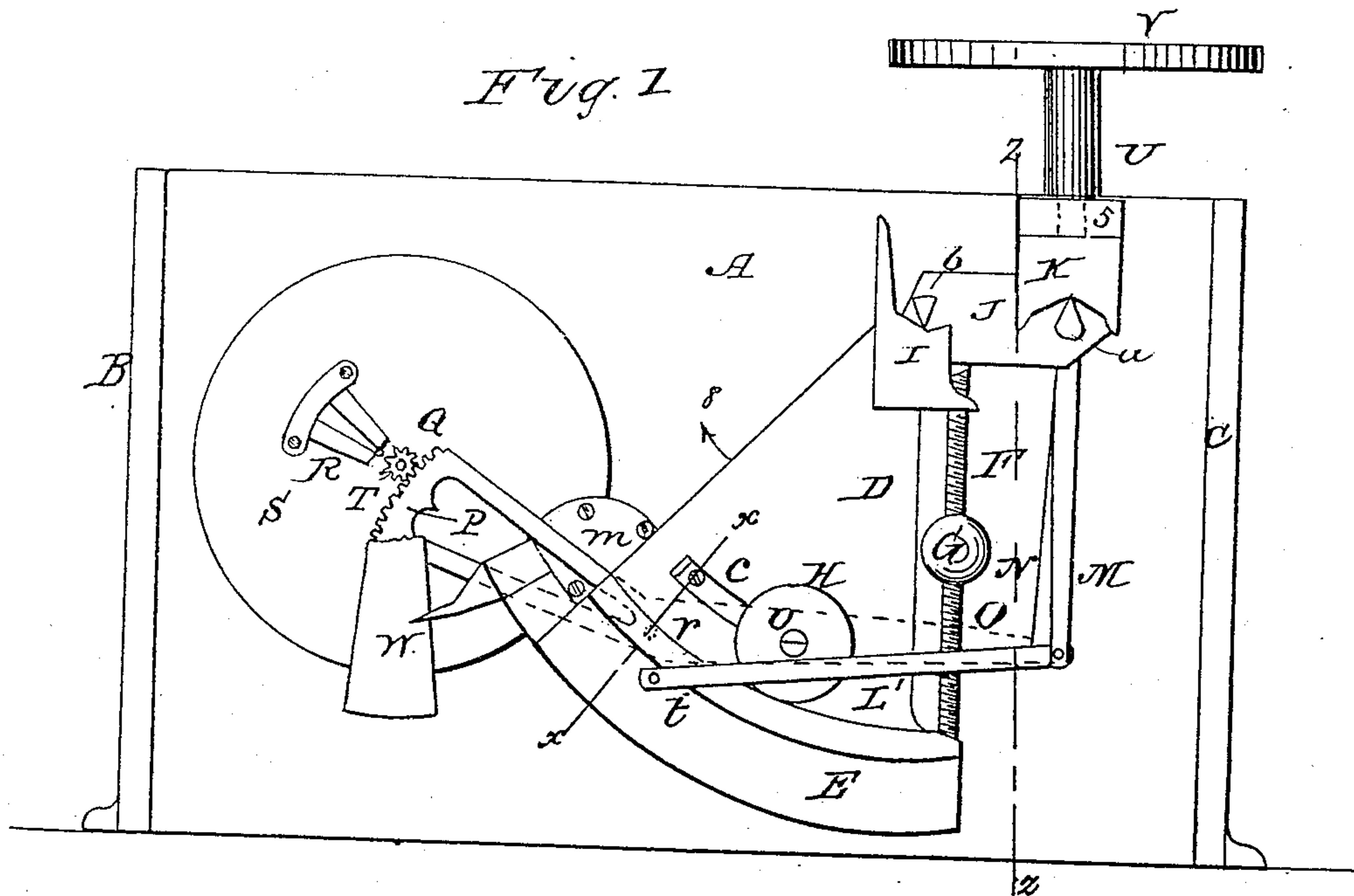


J. G. DYER.
Weighing Scale.

No. 89,862.

Patented May 11, 1869.



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Inventor
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Fig. 4

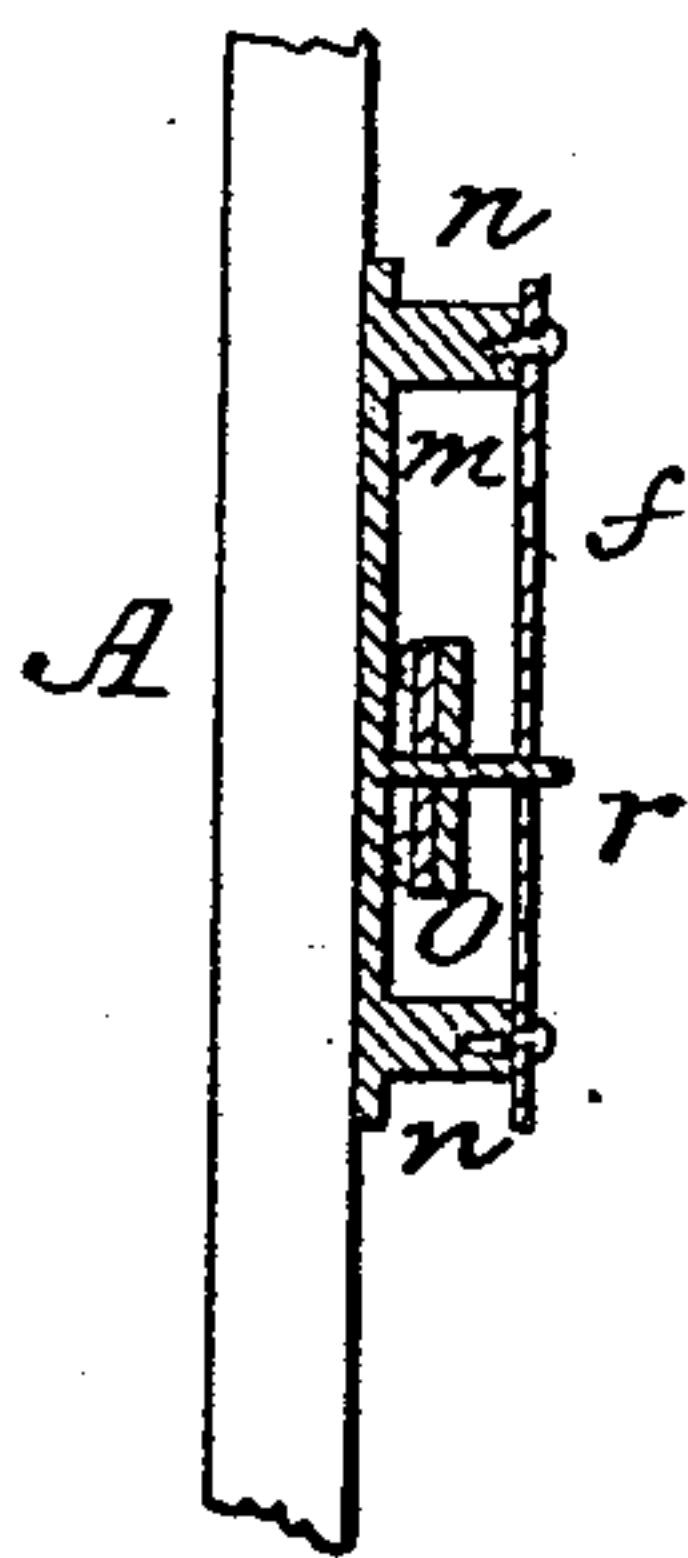


Fig. 3

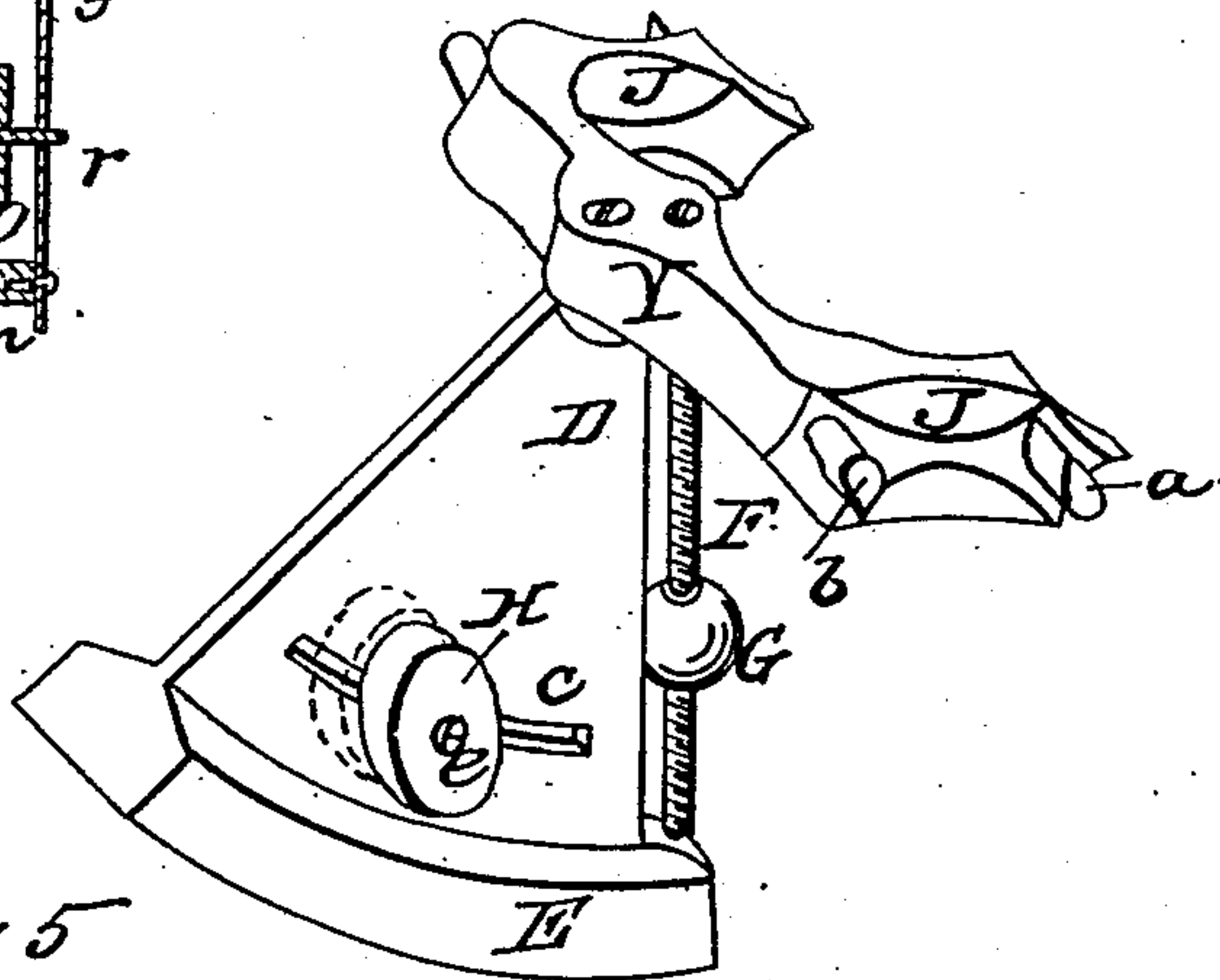
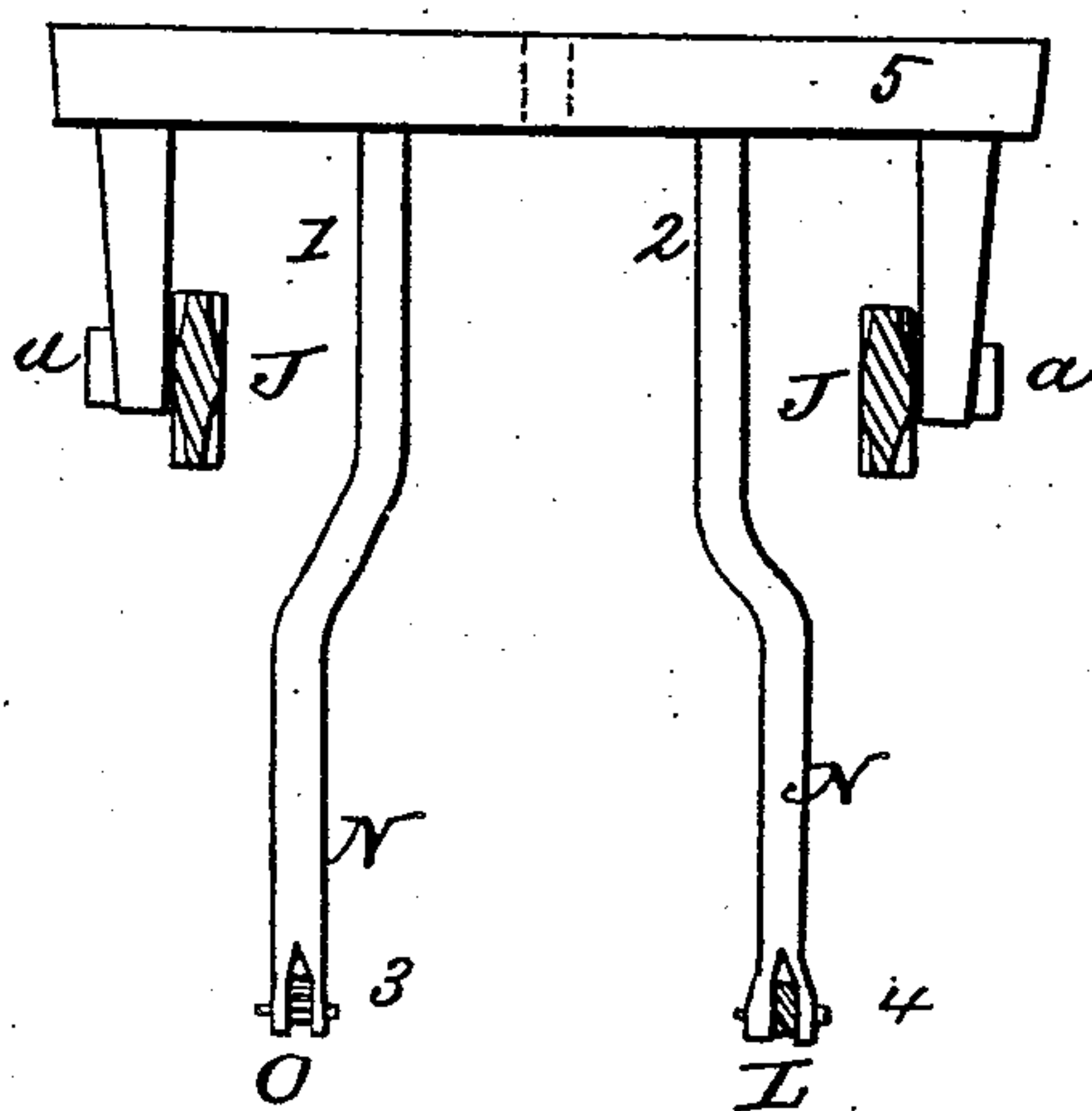


Fig. 5



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United States Patent Office.

JONATHAN G. DYER, OF CHICAGO, ILLINOIS.

Letters Patent No. 89,862, dated May 11, 1869.

IMPROVEMENT IN SELF-INDICATING WEIGHING-SCALE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JONATHAN G. DYER, of Chicago, in the county of Cook, in the State of Illinois, have invented a new and improved Scale; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is an elevation of my invention, with one side of the case removed, to give a clear view of the device.

Figure 2, a view of one of the dials, and a broken elevation of the opposite side of the case.

Figure 3, a perspective representation of the weighted balance and its attachments.

Figure 4, a broken section of the case, taken through the line *x x*, and showing how the multiplying-lever is pivoted to the case.

Figure 5, an elevation of the connecting-rods and beams, shown transversely to fig. 1, and taken on the line *z z*.

Figure 6, an elevation of the regulator, which checks the vibration of the multiplying-lever.

The nature of this invention consists, in part, in the novel construction of a balancing-lever, which is weighted at the under side, and has attached to it a screw-rod and ball, to give a light or heavy weight, and also a movable weight, to regulate the indicator to the balancing-point; and in the novel arrangement of a multiplying-lever, in combination with the indicator.

To enable others skilled in the art to make and use my invention, I have marked corresponding parts with similar letters and figures, and will now give a detailed description.

A, fig. 1, drawing 1, represents one side of the case, and B C, the ends, the front side being removed to give a clear view of the devices inside.

This case is made of metal or other suitable material, and such a size as is suitable to protect and support the working-parts of the scale.

D, fig. 1, drawing 1, and fig. 3, drawing 2, represents a balancing-lever, which is made of metal; and with an enlarged curved end, E, at the bottom, of sufficient weight to balance the article weighed on the platform V; and it has, fastened to its top, a cross-beam, Y, having arms J J, to which arms are rigidly attached pivots *b b* and *a a*, the former supporting the weight of the balancing-lever D, on the bearings I, attached to both sides of the box A, and the pivots *a a* supporting a metal beam, 5, fig. 1, drawing 1, and fig. 5, drawing 2.

This lever D has also a slot, *c*, made through it, in which the journal of a cylindrical weight, H, is put; and this weight can be moved to any point in the slot,

as the case may require, to fix the starting-point of the indicator, hereinafter described, a set-screw, *e*, being used to hold the weight in place when adjusted.

A screw-rod, F, is attached to the weighted part E of the lever D, and to the under side of the beam Y, and on this rod a ball, G, is adjusted, to give light or heavy weights, to correspond with the legal standard.

Connecting-rods M N are rigidly attached to the under side of the beam 5, fig. 1, drawing 1, and fig. 5, drawing 2, and the rod M is pivoted to the bar L, whose opposite end is pivoted to the front side of the case, at I, and the rod N is pivoted to the end of a multiplying-lever, O.

The object of this lever is to operate the indicator 7, on the dial *s*, fig. 2, and to accomplish this a pivot, *r*, fig. 1, drawing 1, and fig. 4, drawing 2, is made to project outward from the side A, and through the lever, and the end of the latter has a cogged segment, P, fig. 1, which turns a pinion, Q, attached to the same pivot, T, that supports said indicator 7.

It will be seen from this description that, if the article to be weighed is put on the platform V, the balance D will move in the direction indicated by the dart 8, and that the connecting-rod N will bear down on one end of the multiplying-lever O, and cause the segment P to turn the pinion Q and pivot T, and that as soon as the article is removed, the balance will swing back.

The rod M and bar L are used especially to hold the beam 5 and platform V in a horizontal position, otherwise they would get out of place, as they have no other support, except the pivots *a* on the arms J.

When manufacturing the scales, I intend to use dials, S, on both sides of the case A, in order that the weight of articles may be readily ascertained from both sides of the counter or stand on which the scales are placed.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The balancing-lever D, having a weighted end, E, a screw-rod, F, and ball, G, for adjusting the scale to a standard weight, and weight H, made adjustable in the slot *c*, for fixing the starting-point, substantially as set forth.

2. The combination of the balancing-lever D, having arms J, with beam 5, connecting-rod N, multiplying-lever O, having a cogged segment, P, pinion, Q, pivot, T, and indicator, 7, the whole being arranged and constructed as herein described.

JONATHAN G. DYER.

Witnesses:

EVERETT W. WALKER,
A. HAYWARD.