J. L. FOLLETT.
Weighing Scales.

No. 201,604. Patented March 26, 1878.

Fig. 1:

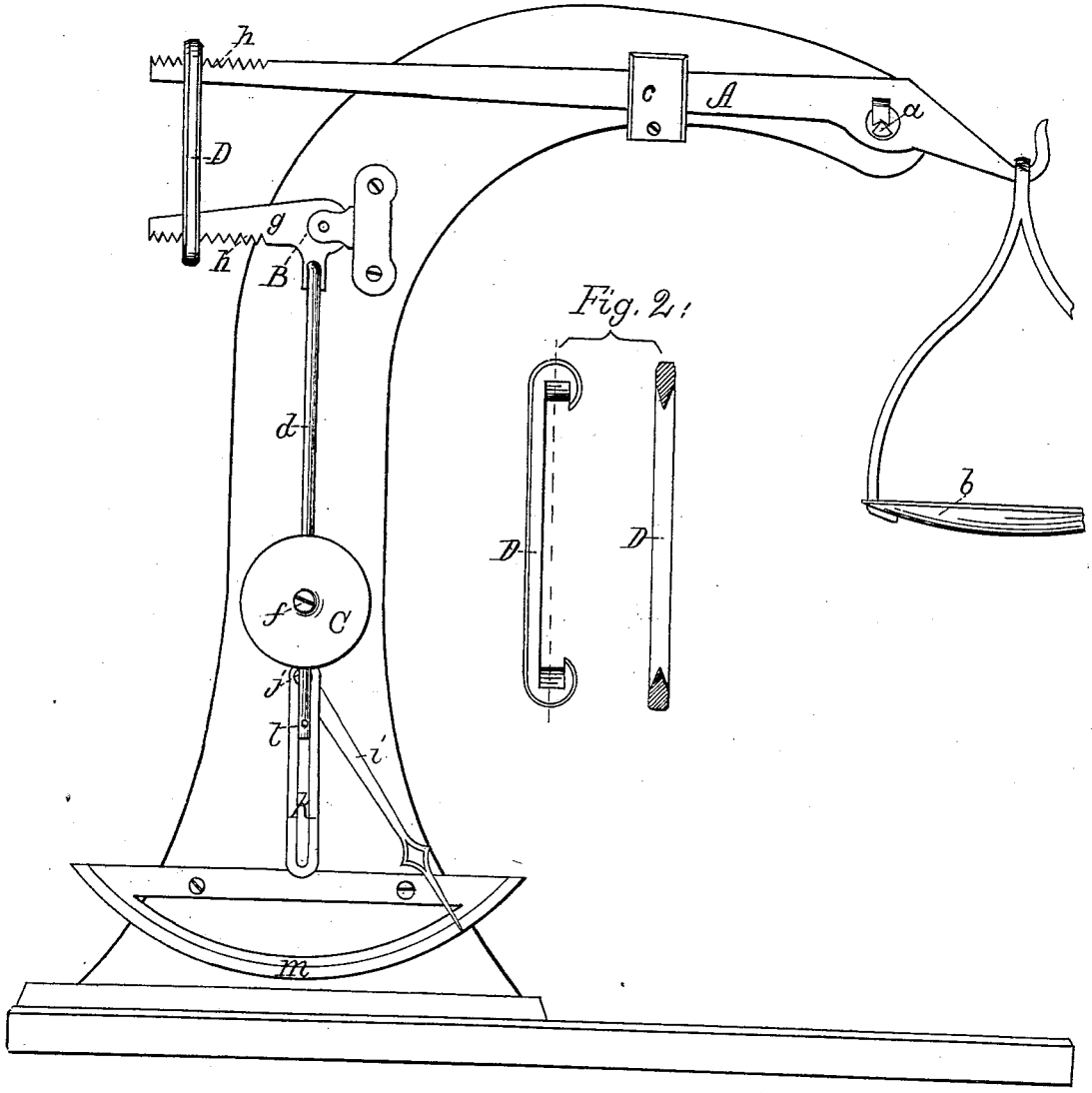

Fig. 2:

Witnesses:
Geo. H. Graves
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JOSEPH L. FOLLETT, OF NEW YORK, N. Y.

IMPROVEMENT IN WEIGHING-SCALES.

Specification forming part of Letters Patent No. **201,604**, dated March 26, 1878; application filed February 28, 1878.

To all whom it may concern:

Be it known that I, JOSEPH L. FOLLETT, of the city, county, and State of New York, have invented certain new and useful Improvements in Weighing-Scales, of which the following is a specification:

The scale in which I have embodied my invention comprises, in combination, a scale-beam and a weighted pendulum-lever, connected and arranged, substantially as hereinafter described, to adapt the apparatus for weighing very light as well as very heavy bodies. In furtherance of this object, I provide the scale-beam or the pendulum-lever, or both, with weights adjustable to and from the centers of action of said devices, respectively. I also, for the same purpose, adjustably connect the said scale-beam and pendulum-lever.

With the apparatus is combined an indicator, which preferably is connected with and operated by the pendulum, inasmuch as these two parts—viz., the pendulum-lever and the indicator—may be used as an attachment to any suitable scale now in use.

The nature of my invention will be understood by reference to the accompanying drawing, in which—

Figure 1 is a side elevation of an apparatus embodying my invention in its preferred form. Fig. 2 is a view of the link that, in the present instance, is used to connect the scale-beam and pendulum.

A is a scale-beam, of ordinary or suitable construction, hung on a knife-edge fulcrum at *a*, and provided with a swinging pan, *b*, to contain the article to be weighed. The scale-beam may, if desired, be provided with a weight, *c*, which preferably is adjustable on the beam toward and away from the fulcrum *a*, and can be held at any desired adjustment by means of a clamp or set-screw.

The pendulum-scale consists, in this instance, of an angle-lever, B, pivoted at its elbow, and having its vertical and longer arm *d* weighted, as shown at C. The weight C preferably is adjustable up and down on the part *d*, and is held in place thereon by a clamp or set-screw, *f*. The shorter arm *g* of the pendulum-lever is nearly horizontal, and about parallel with the longer arm of the scale-beam, directly beneath which it is arranged in the same vertical plane. This arm of the pendulum-lever is connected with the scale-beam by a link, D, the hooked ends of which are provided with knife-edges adapted to enter and engage any one of a series of notches, *h*, formed on the upper edge of the scale-beam and the under edge of the shorter arm of the pendulum-lever.

The link is movable, and can be adjusted to any one of the notches, thus lengthening or shortening, as the case may be, the working length of the two arms which it connects.

The above is the preferred manner of connecting the two devices. It, however, is manifest that, in lieu of the particular link shown, other means of connecting the two levers may be employed without departure from my invention.

I propose to use in connection with the scale an indicator of suitable construction, which may be connected with or actuated by any movable part of the scale. I prefer, however, as hereinbefore stated, to have the indicator connected with or actuated by the pendulum-lever. Such an arrangement is shown in the drawing, consisting of a hand or pointer, *i*, vibrating upon an axis, *j*, upon which also moves a slotted arm, *k*, rigidly attached to the pointer, and engaging a pin, *l*, which projects from the lower part of the pendulum-lever into the slot. The pointer moves over the face of a dial, *m*.

There may be two or more indicators, each operated by some moving part of the scale, and designed for different classes of weights, according to the adjustment of the scale; or the dial *m* may carry on its face two or more registers or scales of division for the same purpose.

For weighing light articles, the connecting-link between the scale-beam and the pendulum-lever is adjusted away from the centers of action of these devices. On the other hand, the slide on the scale-beam and the weight on the pendulum-lever are moved toward their respective centers of action. This lessens the resistance, and renders the scale sensitive to light weights.

To adjust the scale for heavy weights, the adjustments are reversed, with the effect of largely increasing the resistance.

Having described my invention, I shall state my claims as follows:

1. The combination, with a scale-beam, of a pendulum-lever connected therewith, and provided with a weight adjustable for the purpose of varying the resistance, substantially as set forth.

2. The combination of the scale-beam, the slide or weight adjustable thereon, the pendulum-lever connected with said scale-beam, and the weight adjustable on said pendulum-lever, substantially as set forth.

3. The combination of the scale-beam and the pendulum-lever adjustably connected together, substantially as and for the purposes set forth.

4. The combination of the scale-beam, the pendulum-lever adjustably connected therewith, and the adjustable weights carried by the scale-beam and the pendulum-lever, or either, substantially as set forth.

5. The combination of the scale-beam, the pendulum-lever, and the movable connecting-link, substantially as set forth.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOSEPH L. FOLLETT.

Witnesses:
THOMAS F. COEN,
A. V. J. SMITH.