C. L. BELLAMY.
Weighing-Scale.

No. 196,865. Patented Nov. 6, 1877.

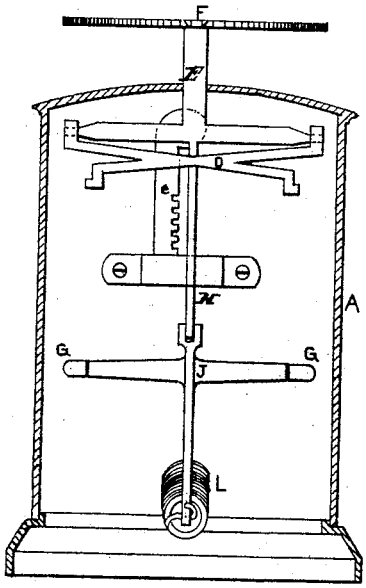

FIG. 1

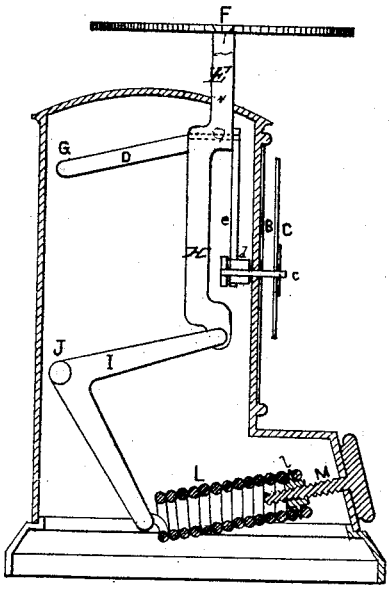

FIG 2

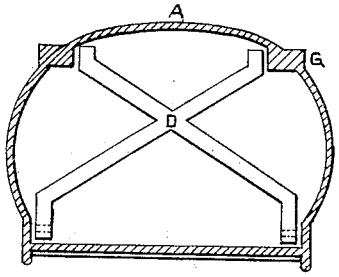

FIG 3

WITNESSES

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CHARLES L. BELLAMY, OF ARLINGTON, NEW JERSEY.

IMPROVEMENT IN WEIGHING-SCALES.

Specification forming part of Letters Patent No. **196,865**, dated November 6, 1877; application filed August 27, 1877.

To all whom it may concern:

Be it known that I, CHARLES L. BELLAMY, of Arlington, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Weighing-Scales; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, and to the letters of reference marked thereon, and in which—

Figure 1 is a vertical transverse section of my improved scales. Fig. 2 is a similar longitudinal section, and Fig. 3 a horizontal section of the same.

Corresponding parts in the several figures are denoted by like letters.

This invention relates to certain improvements in weighing-scales; the object of which is to get a true movement, and to obviate the distortion of the spring; and it consists, first, in so connecting the platform or dish supporting standard with its spring as to permit of the contraction and expansion of the latter in the direction of its longitudinal axis; secondly, in connecting the dish or platform supporting standard to its spring by a right-angled lever; thirdly, in casting or constructing the standard in a T shape; and, fourthly, in adjusting the spring upon its regulating-screw by a loose tubular nut, substantially as hereinafter more fully set forth.

In the annexed drawings, A refers to an upright case or inclosure to receive the operative mechanism, and which is cast or made in two pieces, it having heretofore been constructed in three or more parts, to permit of the adjustment therein of the parts of the scale. Bolted to the inner rear side of the case A is a bar having a cross-piece or arms, G G, to which the rear legs or portions of the X-shaped frame D are pivoted.

F is the weighing dish or platform, mounted upon the standard E, which is cast or made in a T shape, or provided with arms, which are pivoted to the forward legs or portions of the X-shaped frame D. The lower end of this standard is pivoted or connected to one arm of a right-angled lever, I. The lever I is pivoted at its angle to the lower end of the bar having the cross-piece or arms G G. The other arm of this lever is connected to a spiral spring, L, in any suitable manner.

The spring L is extended beyond the case A within a tubular or other shaped case, and receives a tubular nut, *l*, fitting loosely upon the inner end of the screw M, but engaging the thread of the screw. This screw is provided, exterior to its case, with a head, to permit of its being turned.

A rack, *e*, attached to the standard E, engages a pinion, *d*, upon an axis, *c*, carrying the pointer C, which turns in front of a dial, B, upon the case A.

When the pointer stands at O upon the dial, the frame D occupies a plane at an angle to and above a horizontal plane, as seen in Fig. 2, and when it stands at O again, or a complete circle has been described by the pointer, the said frame will have descended to and occupy a plane at about the same angle below a horizontal plane, thus describing the true arc of a circle, imparting a like movement to the mechanism, and insuring accuracy in weighing.

It will be seen that, by the use of a right-angled lever pivoted at its angle at a point between its points of attachment to the platform-supporting standard and spring, as shown in Fig. 2 of the drawings, the said spring will be expanded or distended in the direction of its length or longitudinal axis, or very nearly so, the slight variation of the movement of the lower arm of the lever, or that arm attached to the spring from a straight line, being provided for by the loosely-fitting tubular nut *l* upon the screw M allowing the lever end of the spring to rise and fall to conform to said variation in the movement of the lever. By thus distending or expanding the spring it will be prevented from becoming distorted, which would render the scales inaccurate, and, of course, useless.

This construction of lever also enables me to arrange the spring in the lower part of the inclosing-case in a horizontal position, to permit of its adjusting-screw being operated from the lower front part of the case, by which said operation or adjustment of the screw is facilitated, it being more conveniently reached by the hand.

By casting or constructing the platform or dish supporting standard in the manner above described the number of parts is lessened, the mechanism simplified, and the expense of making the scales reduced.

What I claim is—

1. In a weighing-scale, the combination, with the dish or platform supporting standard, of the right-angled lever I and spring L, connected to the inclosing-case by an adjusting-screw, arranged to operate substantially as shown, and for the purpose set forth.

2. In weighing-scales, the combination, with the platform-supporting standard, of the right-angled lever I, spring L, and screw M, having the loosely-fitting nut *l*, by which the spring is attached to the said screw, substantially as and for the purpose set forth.

3. The combination of the T-shaped platform or dish supporting standard E with the lever I, spring L, screw M, and the pointer-operating mechanism, substantially as and for the purpose set forth.

4. The platform-supporting standard E and the pointer-operating mechanism, in combination with the frame D, supporting bar and arms G G, right-angled lever I, spring L, and screw M, having nut *l*, substantially as and for the purpose set forth.

CHARLES L. BELLAMY.

In presence of—
A. SIDNEY DOANE,
WILLIAM V. H. HICKS.