

M. S. DRAKE.  
Spring-Scales for Weighing.

No. 197,618.

Patented Nov. 27, 1877.

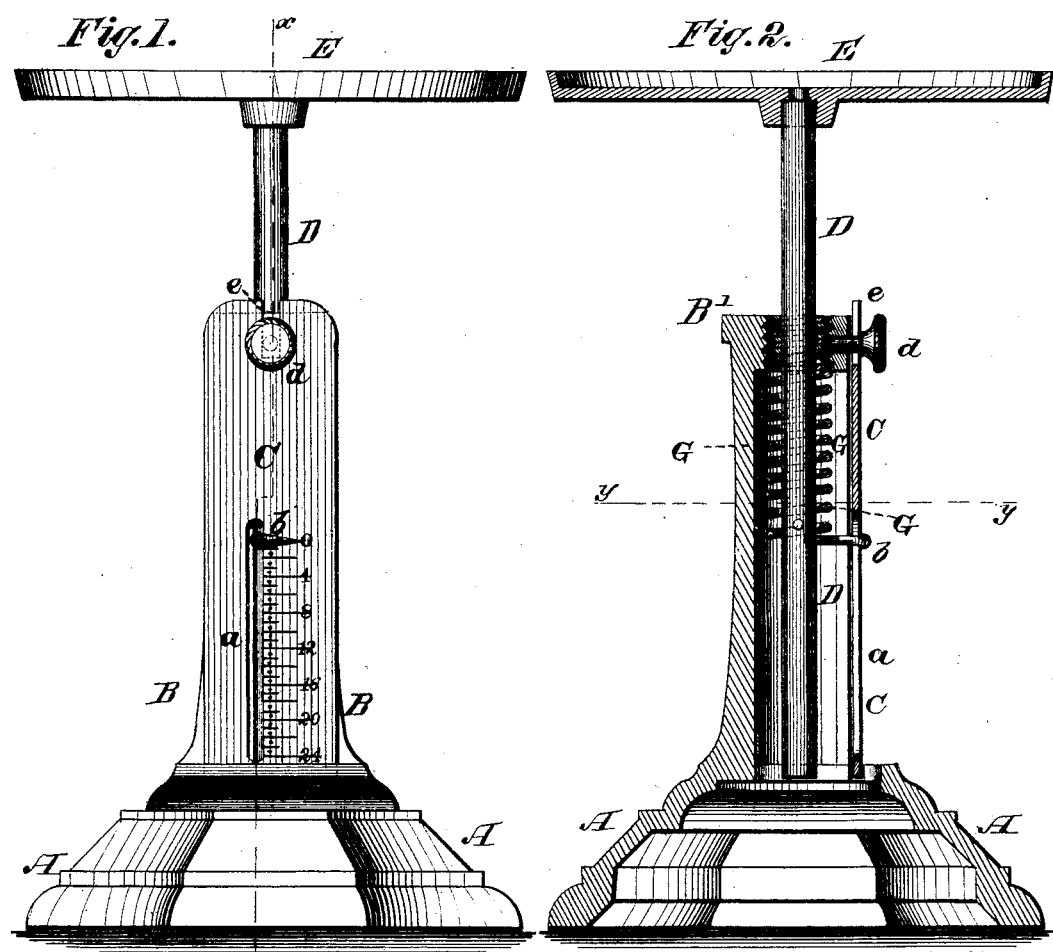
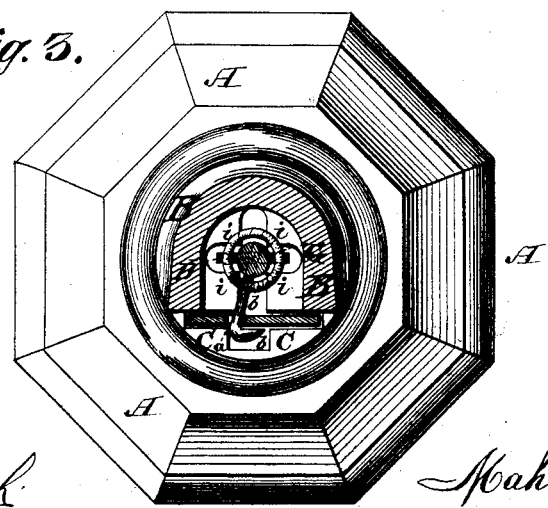


Fig. 3.



Witnesses:  
P. Dieterich  
Frank H. Duffy

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN SPRING-SCALES FOR WEIGHING.

Specification forming part of Letters Patent No. **197,618**, dated November 27, 1877; application filed August 11, 1877.

*To all whom it may concern:*

Be it known that I, MAHLON S. DRAKE, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Spring-Scales for Weighing; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a spring-scale, as will be hereinafter more fully set forth.

In the annexed drawings, which fully illustrate my invention, Figure 1 is a side elevation. Fig. 2 is a central vertical section on line *x x*, Fig. 1; and Fig. 3 is a transverse section on line *y y*, Fig. 2.

A represents the base of the scale, with hollow post or standard B, having the index or dial C on the front. D is the rod, G the spring, and E the dish or plate, of the scale.

The index C is provided with a longitudinal slot, *a*, for the passage of the finger or pointer *b*, which projects from the rod D. The lower end of the index is inserted in a slot or mortise in the top of the base A, while the whole index is held in place by means of a set-screw, *d*, passing through a slot, *e*, in the upper end of the index into the top cap B' of the hollow post.

By means of this set-screw and slot the index can be adjusted so the pointer will stand at O. No matter how the scales are adjusted, and whatever the position of the spring, the index can be adjusted to correspond.

The rod D extends through the entire length of the spring, and supports the same in an even position, as it stands vertical when in use.

The springs in this class of scales are usually fastened on one side by a pin or a rod, which makes the spring draw from one side, and thus requiring an extra strain on the spring. In my case the top cap B', which receives the spring, has interior screw-threads, into which the upper end of the spring is screwed, so that the weight is supported on every side of the spring, thus obviating any side strain.

In the base A are formed guides for the rod to pass through, each guide being formed with three, four, or more points, *i*, which alone touch the rod, thus reducing the friction on the rod to the minimum.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The cap B', provided with interior screw-threads to receive and hold the upper end of the spring, for the purposes herein set forth.
2. The base A and top cap B', formed with guides having points *i*, in combination with the rod *d*, for the purposes herein set forth.
3. The combination of the top cap B', the spring G screwed therein, and the rod D, as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

MAHLON S. DRAKE.

Witnesses:

C. H. WATSON,  
WM. MILLSAUGH.