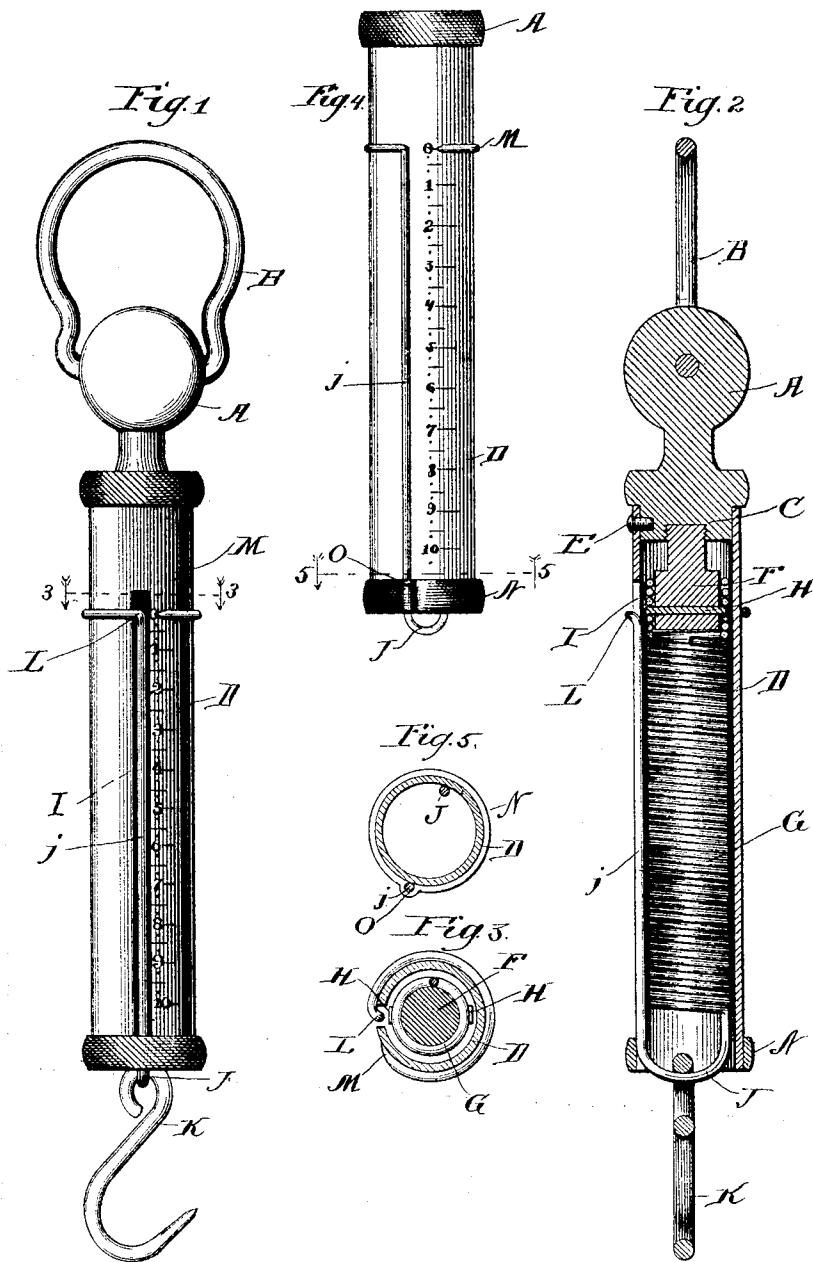


(Model.)

E. N. GILFILLAN.
SPRING SCALE.

No. 498,711.

Patented May 30, 1893.



Witnesses:
Wm. J. Hamming.
M. M. Rheem.

Inventor:
E. N. Gilfillan
Elliott & Lusk
Attys.

UNITED STATES PATENT OFFICE.

ESSINGTON N. GILFILLAN, OF CHICAGO, ILLINOIS.

SPRING-SCALE.

SPECIFICATION forming part of Letters Patent No. 498,711, dated May 30, 1893.

Application filed May 19, 1892. Serial No. 433,541. (Model.)

To all whom it may concern:

Be it known that I, ESSINGTON N. GILFILLAN, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Scales, of which the following is a full, clear, and exact specification.

My invention relates to that class of scales which employ a spring or similar yielding medium from which the thing or substance to be weighed is suspended and to which the index is attached.

The object of my invention is to greatly simplify the construction in general and more particularly to improve and simplify the means of connecting the index with the spring whereby the index and spring may be constructed in one piece and at the same time form means for the attachment of the hook or pan by means of which the thing or substance being weighed is suspended.

A further object of my invention is to so connect the index with the spring that such index will play between the extremities of the spring, thus avoiding the necessity of extending the scale plate or casing beyond either end of the spring.

With these ends in view, my invention consists in certain features of novelty in the construction, combination and arrangement of parts hereinafter fully described, with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1, is a side elevation of a scale embodying my invention. Fig. 2, is a longitudinal section thereof, taken on a line passing through the slot in the casing. Fig. 3, is a transverse section taken on the line 3—3, Fig. 1. Fig. 4, is a view similar to Fig. 1, but of a modified form, portions being broken away, and Fig. 5, is a transverse section taken on the line 5—5, Fig. 4.

In the said drawings, wherein like signs of reference indicate like parts throughout the several views, A indicates any suitable head, which may be provided with a convenient form of finger ring, or handle, B, and which is preferably provided with a cylindrical hub or flange C, upon which is fitted a cylindrical barrel or casing D, the latter being held in place by any suitable means, such as the set screw E. This head A, is provided at its in-

ner end with an axially arranged stem F, upon which is secured the inner end of the coiled spring G. The spring G may be secured upon this stem F, in any suitable way, but I prefer to accomplish this by means of the pin or stud H, passing through or secured in the stem F, with its ends slightly protruding therefrom, so that such ends will engage between the convolutions of the spring and thus make it possible to turn the stem F into the spring the desired distance, after the fashion of a screw.

The casing D, is provided throughout the range of the index with a longitudinal slot I, and throughout the length of this slot, the casing is marked or otherwise provided with the ordinary graduated scale, and within the length of which scale the spring is arranged. The lower end or terminal of the spring G is bent downward longitudinally of the casing D, as more clearly shown in Fig. 2, and then upward within the casing, so as to form a loop or eye J, thus forming means for the attachment of the supporting hook K or for the attachment of the ordinary pan when the same is used. The wire or strip of which the spring and the loop J are formed, is carried upward along the slot I to the point where it is desired that the index should remain when in its normal position, and it is here turned slightly outward, as shown at L, and coiled transversely around the barrel or casing D, in a manner more clearly shown in Fig. 3, and its extreme end is sharpened or pointed so as to constitute the index M, which terminates preferably near the other side of the slot in the line of the graduated scale. The spring G, is preferably of nearly the same diameter as the interior of the barrel or casing D, and the strip or extension j, which extends along the slot I, is preferably arranged between the edges of the barrel or casing, which form the slot, and flush with the surface of such casing, so that the edges of the slot will stiffen the extension j and avoid the danger of such extension becoming bent or injured, and at the same time, the possibility of rotating the spring within the casing, and thus shifting the index out of alignment with the scale, is avoided. The lower end of the casing, if desired, may be provided with any suitable finishing and stiffening ring or band

N, sprung thereon or otherwise secured in place.

In the form shown in Figs. 4 and 5, the slot I is omitted and the extension *j* is passed upward on the outside of the casing D. In order, however, that the rotation of the spring in this instance may be prevented, I provide the stiffening ring N with a groove or channel O, formed therein in any suitable manner, through which the extension *j* passes.

While I have been particular to describe and prefer to use a cylindrical casing or barrel, it is, nevertheless, quite obvious that a barrel of any other suitable contour might be employed, without departing from the spirit of my invention.

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

1. In a scale, the combination with a head piece, and a graduated scale plate secured to said head piece; of a spring secured to said head piece and having its lower end turned upward on the outside of the spring and carrying an index, substantially as set forth.

2. In a scale, the combination with a head piece, and a casing having a graduated scale thereon, secured to said head piece; of a spring secured to said head piece and having its lower end turned upward on the outside of the spring around said casing and formed into an index, substantially as set forth.

3. In a scale, the combination with a head piece and a graduated scale plate secured to said head piece; of a spring secured to said head piece and having its lower end turned downward and upward, so as to form the loop J and the upper end of said up-turned portion being provided with an index, substantially as set forth.

4. In a scale, the combination of the casing having a longitudinal slot, and the spring secured in said casing and having its lower or outer end turned upward along said slot and provided with an index, substantially as set forth.

5. In a scale, the combination of the casing having a longitudinal slot, and the spring secured in said casing and having its lower or outer end turned upward in said slot and coiled around the casing, so as to form an index, substantially as set forth.

6. In a scale, the combination of the cylindrical casing provided with the longitudinal slot; of a coiled spring fitting in said casing and having its lower end turned upward along said slot and being provided with an index, and a stiffening ring secured on the lower end of said casing, substantially as set forth.

ESSINGTON N. GILFILLAN.

Witnesses:

F. A. HOPKINS,
R. C. OMOHUNDRO.