

No. 635,520.

Patented Oct. 24, 1899.

W. F. STIMPSON.
SPRING SCALE.

(Application filed Jan. 9, 1899.)

(No Model.)

Fig. 1.

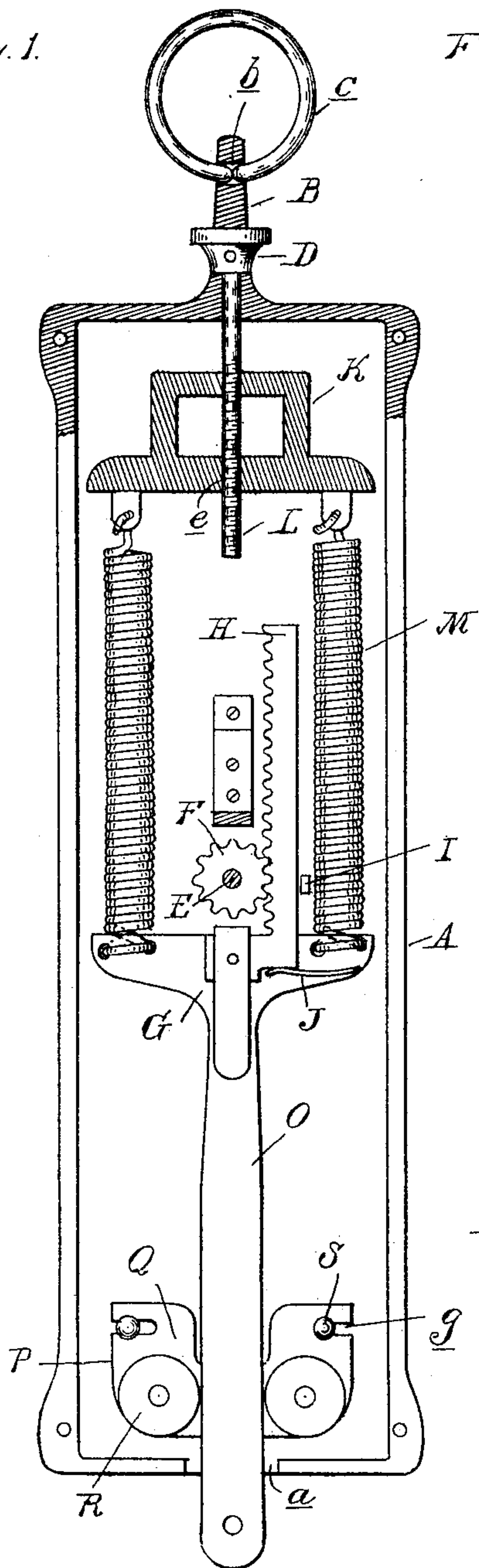


Fig. 2.

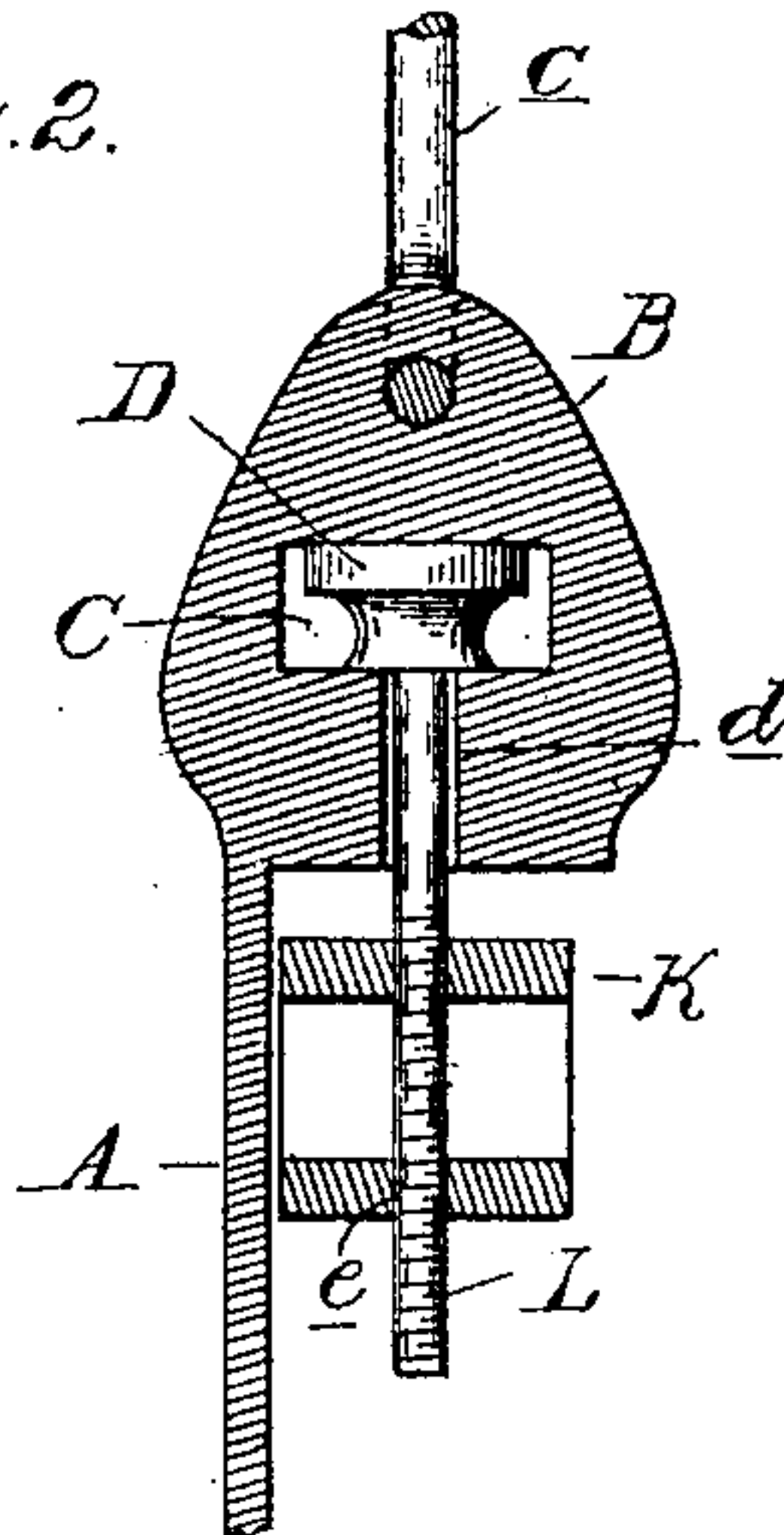
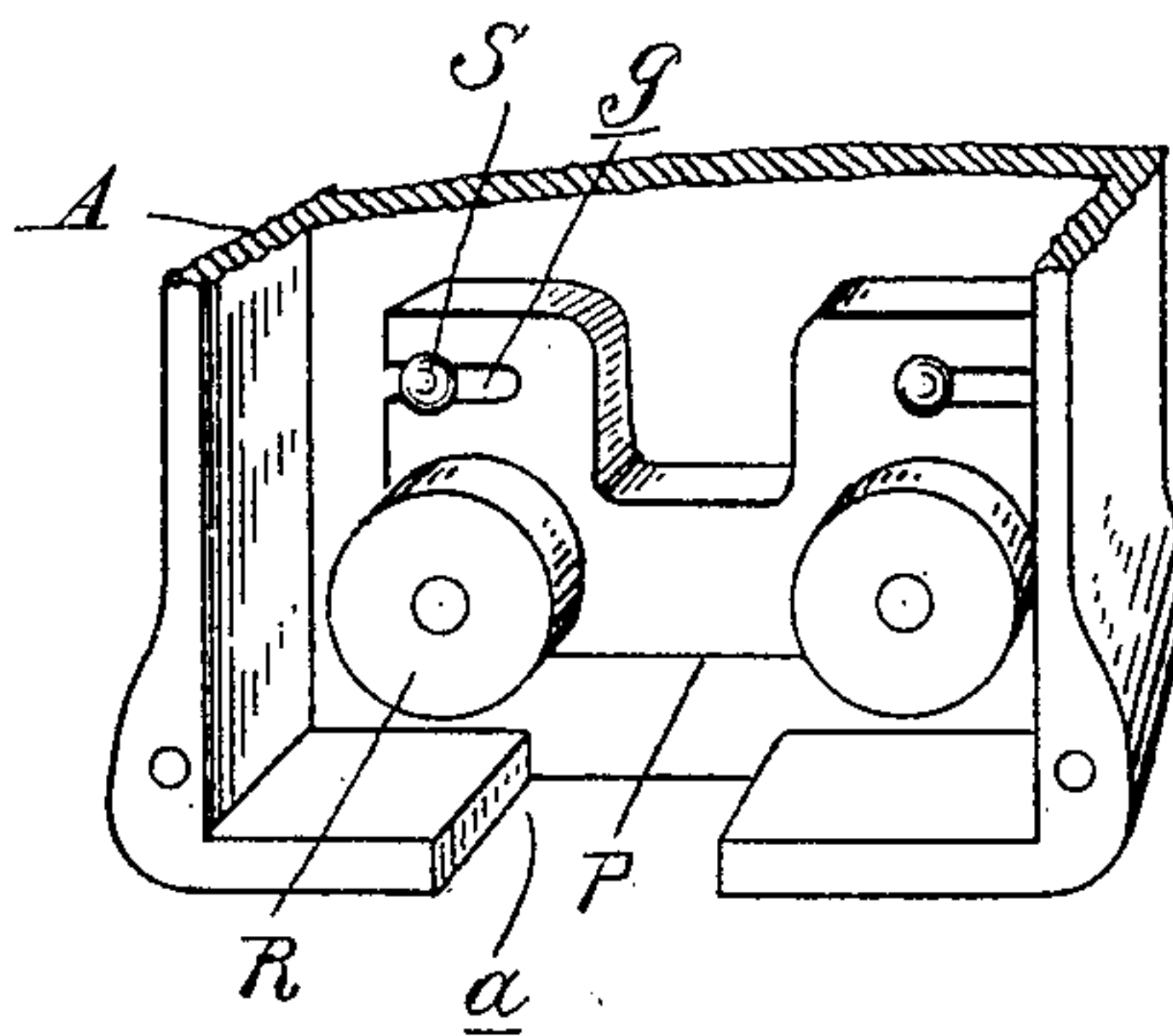


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER F. STIMPSON, OF DETROIT, MICHIGAN.

SPRING-SCALE.

SPECIFICATION forming part of Letters Patent No. 635,520, dated October 24, 1899.

Application filed January 9, 1899. Serial No. 701,669. (No model.)

To all whom it may concern:

Be it known that I, WALTER F. STIMPSON, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Spring-Scales, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention has reference to spring-scales, and relates particularly to the novel form of spring-casing and to an adjusting mechanism for the pan-supporting device.

One of the objects of my invention is to provide a simple and compact casing for the scale parts that may be manufactured at a small cost.

Another object of my invention is to provide means whereby the pan-support may be adjusted relatively to the casing, so that the said support may be made to constantly hang plumb, thereby permitting a more accurate reading of the scale.

With these objects in view my invention consists in an improved spring-scale and in the novel arrangement, combination, and construction of the various parts thereof, as will be more fully hereinafter described and shown.

In the drawings, Figure 1 is a vertical central section through the scale. Fig. 2 is a sectional view of the top of the scale at right angles to Fig. 1; and Fig. 3 is a perspective view of the lower portion of the scale, with the pan-supporting bar removed to more fully illustrate the construction of the adjusting mechanism for said bar.

The letter A designates the usual spring-casing of the scale, which is provided with an opening or slot *a* in the lower portion thereof and terminates at the top in a lug or ear B. The lug referred to is preferably flat, as shown in the drawings, and provided near the middle thereof with an opening or seat C, in which is located a thumb-nut D. The lug is likewise perforated at the top, as at *b*, to receive the usual ring *c*, and is provided with the aperture *d*.

E represents the usual index-shaft, carrying the index, (not shown,) upon which shaft is located the pinion F.

G is a cross-bar, to which is pivotally connected the pinion-operating rack H, and I is

a stud or guide fixedly secured to the casing, against which the rack is adapted to bear.

J is a spring which is fixedly secured to the bar G, the free end of which bears normally against the rack to hold the same in engagement with the pinion.

K is a spring-carrying cross-head within the casing and is provided with a threaded bearing *l*, and L is a screw engaging the threaded bearing in the head and extending through the bearing in the lug B into the opening C, where it is fixedly secured to the thumb-nut D. The head referred to carries the springs M, which springs are secured at their lower ends to the cross-bar G, as plainly shown. To the latter cross-bar is pivotally secured the usual pan-support in the form of a bar O. This bar extends downwardly through the opening in the bottom of the casing and carries at its lower end the usual pan. (Not shown.) In order that this bar may constantly hang plumb, I have provided an adjusting mechanism for the same in the form of an adjustable roller-bearing guide P, which is adjustably secured within the casing in proximity to the opening therein. This adjustable guide comprises a guide-block Q, having slots *q* in each side thereof near the top, and guide-rolls R, pivoted to said block.

S designates the screws, by means of which the roller-bearing guide may be secured to and adjusted transversely of the casing for the purpose set forth.

It will be observed from the foregoing description of my invention that by arranging the adjusting-nut within the lug or ear B a more compact casing is provided, which is neat in appearance and simple and inexpensive in construction. Likewise by means of the adjustable roller-bearing guide the pan-supporting device is caused to be suspended in the proper manner relative to the casing, which will insure the accurate reading of the scale.

What I claim as my invention is—

1. In a spring-scale, the combination of a casing having an opening formed in the bottom thereof, the index-shaft, a vertically-arranged spring-supported bar within the casing and extending through the opening, a connection between the bar and index-shaft, and a transversely-adjustable roller-bearing

guide for the bar arranged in a plane parallel to the plane of said bar.

2. In a spring-scale, the combination of a casing having an opening formed in the bottom thereof, a spring-supported bar within the casing and extending through the opening, and an adjustable roller-bearing guide for the bar comprising a transversely-adjustable guide-block, and oppositely-arranged rollers upon the block between which the bar is adapted to pass.

3. In a spring-scale, the combination of a casing having an opening formed in the bottom thereof, a spring-supported bar within the casing and extending through the opening, and an adjustable roller-bearing guide for the bar, comprising a single guide-block arranged upon the casing for transverse adjustment, roll-supports fixedly secured to the block, and rolls upon said supports between which the bar is adapted to pass.

4. In a spring-scale, the combination of a casing terminating at its top in a lug or ear, said ear having a seat and a bearing formed therein, a screw engaging the bearing and depending within the casing, a thumb-nut for the screw arranged within the seat, said

nut forming a head for and being fixedly secured to said screw, a cross-head within the casing provided with a threaded bearing with which the screw engages, and the index-operating mechanism depending from the head, substantially as described.

5. In a spring-scale, the combination of a casing terminating at its top in a lug or ear, said ear having formed therein a transverse slot and an aperture leading from the slot into the casing, a thumb-nut arranged within the slot, a screw within the aperture having its upper end fixedly secured to the nut and the lower or threaded end extending into the casing and threadingly engaging the cross-head, the cross-head, the cross-bar, springs connecting the cross-head and cross-bar, and an index-operating mechanism carried by said cross-bar, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER F. STIMPSON.

Witnesses:

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