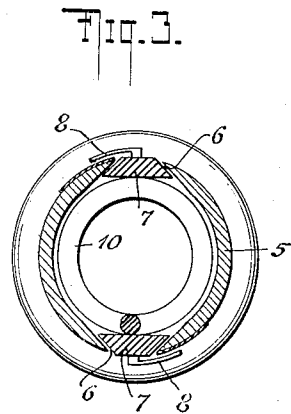
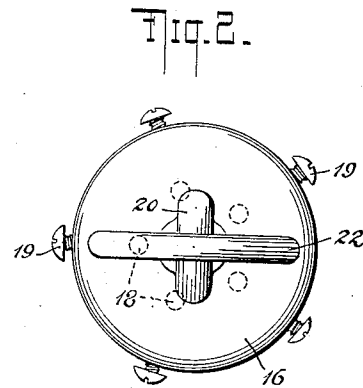
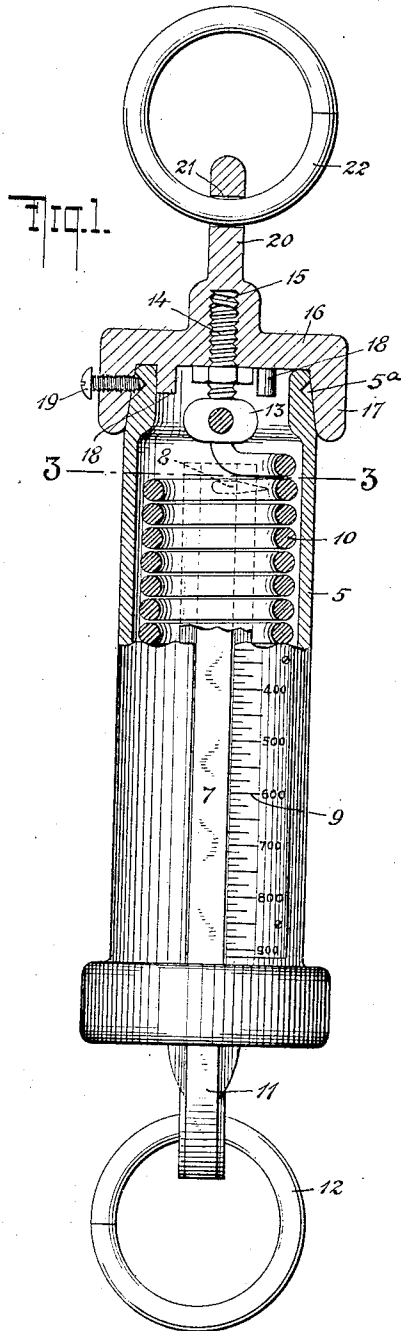


F. M. STEVENS.
ADJUSTING DEVICE FOR SCALES.
APPLICATION FILED APR. 18, 1912.

1,052,023.

Patented Feb. 4, 1913.



WITNESSES

G. V. Rasmussen
John A. Kellert

INVENTOR

Frederick M. Stevens

BY

Brisson & Thaw
ATTORNEYS

UNITED STATES PATENT OFFICE.

FREDERICK M. STEVENS, OF NEW YORK, N. Y., ASSIGNOR TO JOHN CHATILLON & SONS,
OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ADJUSTING DEVICE FOR SCALES.

1,052,023.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed April 18, 1912. Serial No. 691,674.

To all whom it may concern:

Be it known that I, FREDERICK M. STEVENS, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Adjusting Devices for Scales, of which the following is a specification.

My invention relates to devices for adjusting pointers in scales and more particularly in cylinder scales or balances and has for its object to provide a simple device of this character which is readily accessible and easily operated to compensate for any changes which may take place in the usual springs from use, changes in temperature or the like.

My improvement will be fully described hereinafter and the features of novelty will be pointed out in the appended claims.

Reference is to be had to the accompanying drawings in which—

Figure 1 is an elevation partly in central longitudinal section of a cylinder scale with my improvement applied thereto; Fig. 2 is a plan view thereof and Fig. 3 is a horizontal section on the line 3—3 of Fig. 1.

In the drawings 5 represents the cylinder which may be constructed of any suitable material and is preferably in the nature of an open ended tube and provided with recesses 6 extending parallel with the axis of the cylinder and open toward the bottom and preferably located at points diametrically opposite to each other. The vertical walls of said recesses preferably diverge toward the inside of the cylinder and form guides for the vertically movable slides or runners 7 one of which is located in each recess. The vertical walls of the said slides also preferably diverge toward the inside of the cylinder so as to prevent removal of the slides from the cylinder by a movement toward the outside in a direction at an angle to the axis of the cylinder. Each slide carries a pointer or indicator 8 which is movable over the usual indications 9 produced in any suitable manner on the outer surface of the cylinder adjacent to said recesses 6. The slides 7 may if desired be secured in any suitable manner to move with a coil spring 10 located within the cylinder 5 and may have their lower portions fastened to a block 11 through which one end of the spring 10 passes and which fur-

ther serves as a support for a ring or other suspending medium 12 from which a receptacle for containing the material to be weighed or the material itself may be suspended. The upper end of the spring 10 is secured in the head 13 of a screw 14 the screw-threaded shank of which screws into an internally screw-threaded recess 15 formed in a cover 16 provided with a depending peripheral flange 17 adapted to extend over the one end of the cylinder 5. The said cover 16 is rotatable on the said cylinder end and may be provided with an internal annular flange 18 extending adjacent to the inner surface of said cylinder 5 as clearly shown in Fig. 1. The said cover may be secured against rotation relatively to the cylinder 5 in any suitable manner as for instance by means of screws 19 which pass through the flange 17 and have their inner ends preferably extending into an annular groove 5^a formed on the cylinder 5 near its one end. The cover 16 is also provided with a preferably integral projection or lug 20 having an aperture 21 through which a ring, hook or analogous device 22 extends and by means of which the scale may be suspended.

If it is found that the pointers 8 in their normal position do not register with the zero points of the indications or scale 9 the screws 19 or other fastening devices are simply loosened to disconnect the cover 16 from the cylinder 5. After this has been done the said cover may be rotated relatively to the cylinder in one direction or the other this depending on whether the initial position of the pointers is above or below the zero points. As the cover is thus rotated, it will cause the shank of the screw 14 to move into or out of the recess 15 according to the direction of rotation and will accordingly raise or lower the spring 10 and with it the slides 7 and pointers 8 it being understood that the screw 14 is held against rotation during this operation and the spring 10 consequently held against torsional twisting. As soon as the pointers 8 are in registry with the zero points, the rotation of the cover 16 is discontinued and the screws or other fastening means 19 are again tightened to secure the cover against movement on the cylinder and to fasten the other elements in their adjusted position. The flanges 17 and 18 serve as guides during the rotation of the

cover while the ends of the screw 19 or other devices coöperating with the annular groove 5^a prevent displacement of the cover 16 relatively to the cylinder 5 in an axial direction even during the rotative movement hereinbefore described.

It will be seen that any distortion of the spring due to use, to changes in temperature or to other causes which would displace the normal position of the pointers relatively to the scale may be readily corrected by simply manipulating the cover as described. An absolutely correct condition of the scale or balance is thus easily and always maintained and a correct reading is thus at all times assured.

My improvement also has the advantage of having the runners or slides with the pointers thereon rigidly connected with the spring so that no relative movement between the spring and said slides other than the necessary stretching movement of said spring can take place.

Various changes in the form shown and described may be made within the scope of the claims without departing from the spirit of my invention.

I claim:

1. A scale comprising a casing provided with indications, a spring located in said casing, a suspended member connected with the lower end of said spring, a pointer connected with said spring to move adjacent to said indications and means movably mounted on said casing and connected with the upper end of said spring and movable in a plane at an angle to the direction in which the pointer operates to bodily move the spring in the casing and adjust the normal position of the pointer relatively to the indications.

2. A scale comprising a tubular casing

provided with indications, a coil spring extending lengthwise of said casing, a suspended member connected with the lower end of said spring, a pointer connected with said spring to move adjacent to said indications, a screw-threaded member connected with the upper end of said spring, a cover rotatably mounted on the upper end of said casing, and in screw-threaded engagement with said member, and rotatable relatively thereto to bodily move the spring in the casing and adjust the normal position of the pointer relatively to the indications and means for securing said cover against rotation relatively to the casing.

3. A scale comprising a casing provided with longitudinally extending recesses and having indications adjacent to said recesses, slides movable in said recesses, pointers carried by said slides to move adjacent to said indications, a coil spring in said casing connected with said slides, a suspended member connected with the lower end of said spring, a screw-threaded member connected with the upper end of said spring, a cover for one end of said casing having a screw-threaded engagement with said member and rotatable relatively thereto on said casing end to bodily move said slides and spring lengthwise of the casing to adjust the normal position of the pointers relatively to the indications, and means for securing said cover against rotation relatively to said casing.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FREDERICK M. STEVENS.

Witnesses:

JOHN A. KEHLENBECK,
M. H. LOCKWOOD.