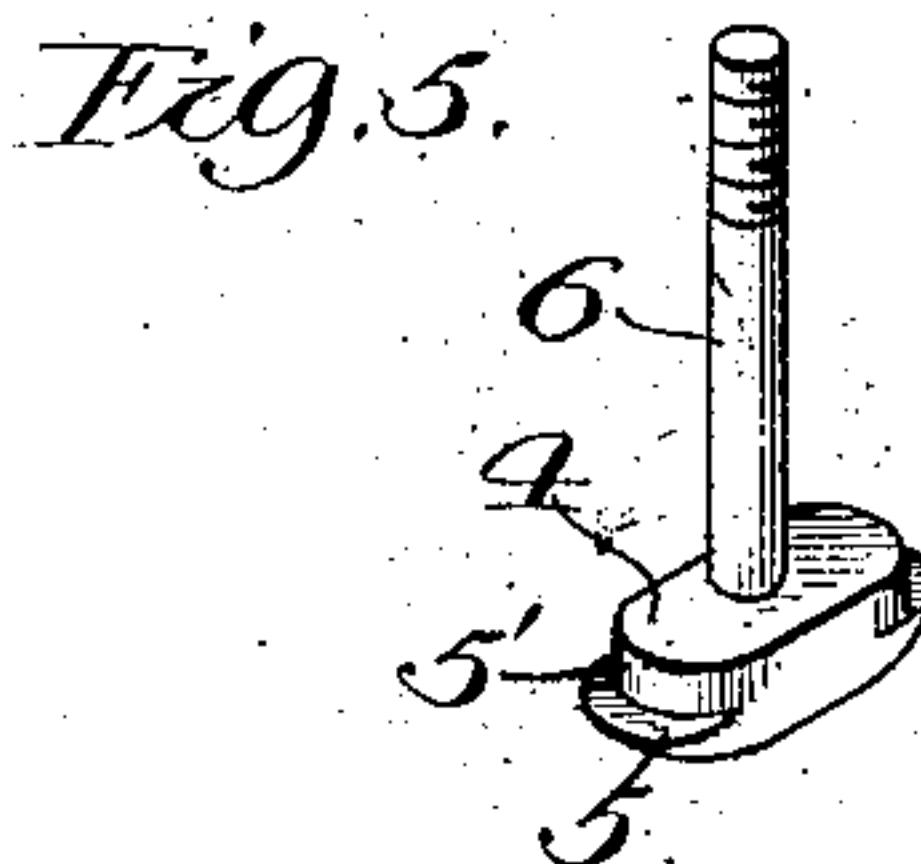
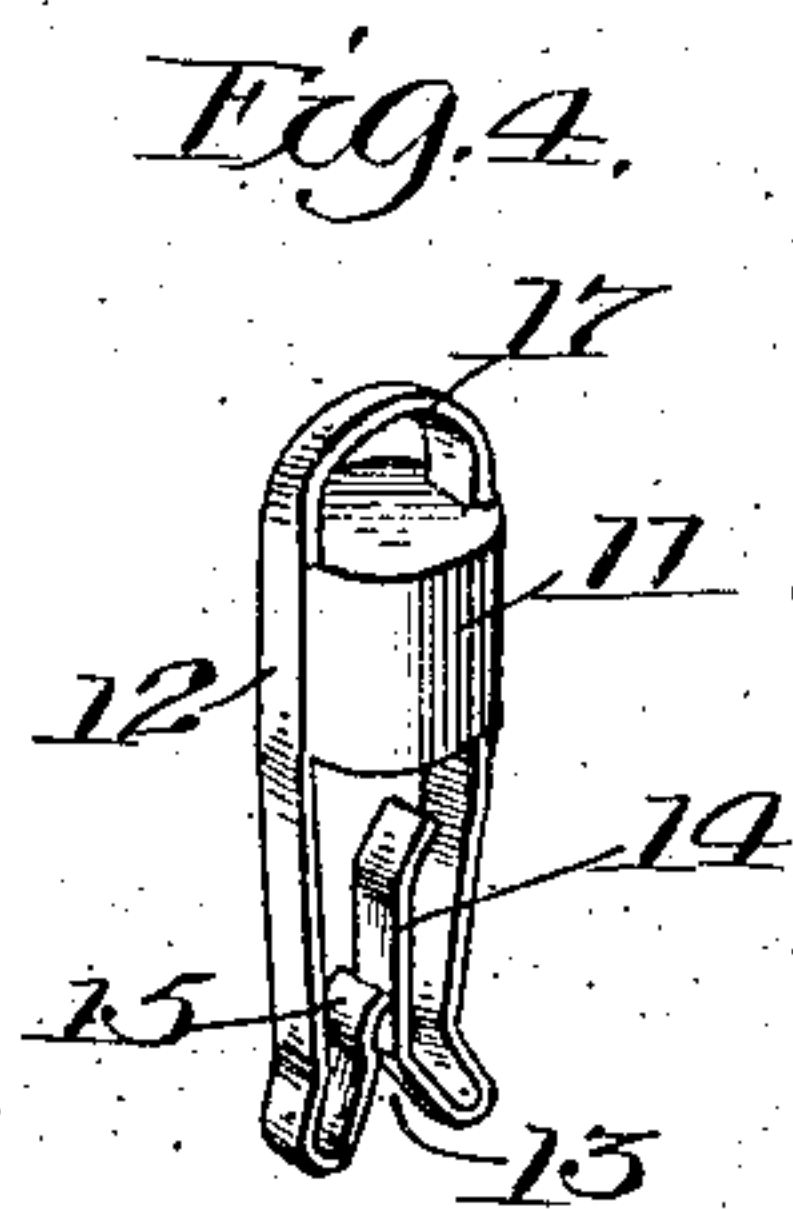
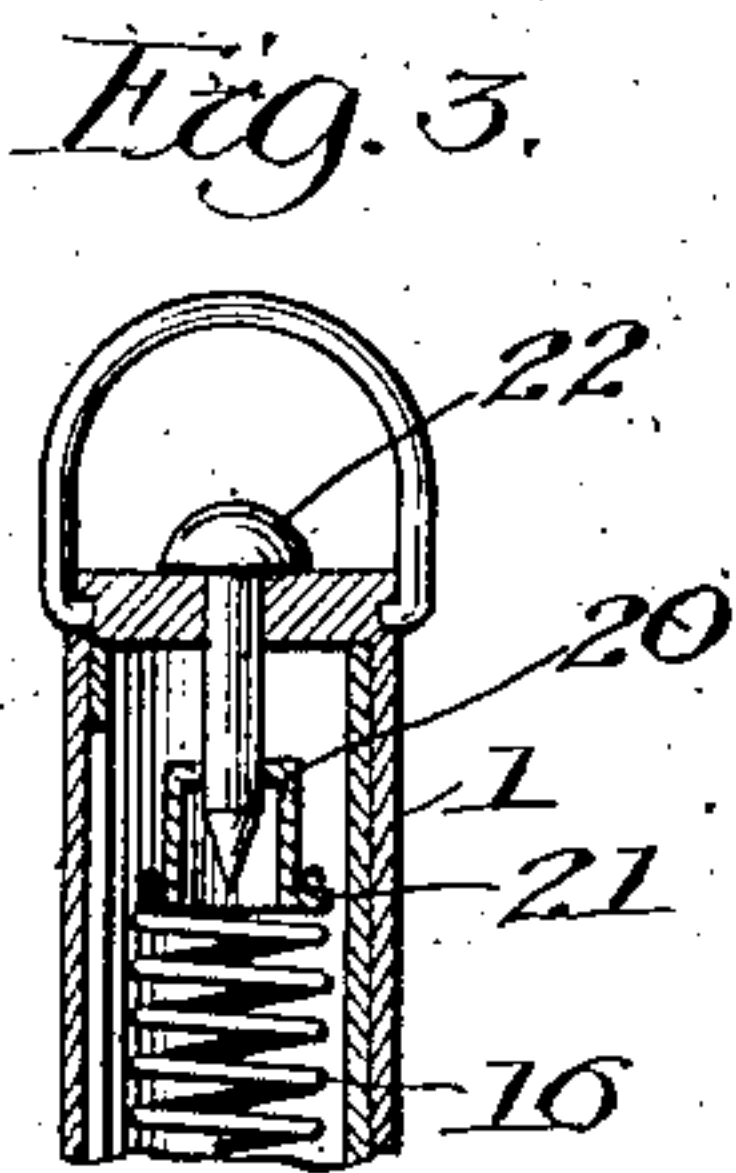
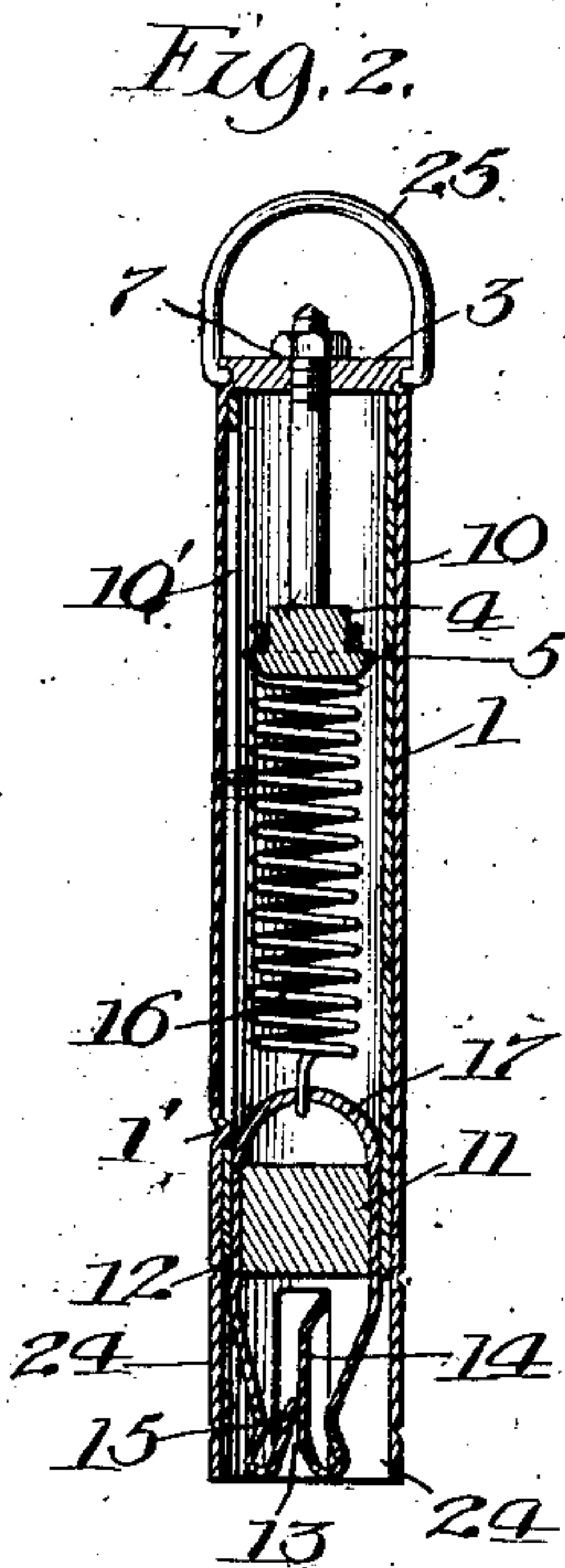
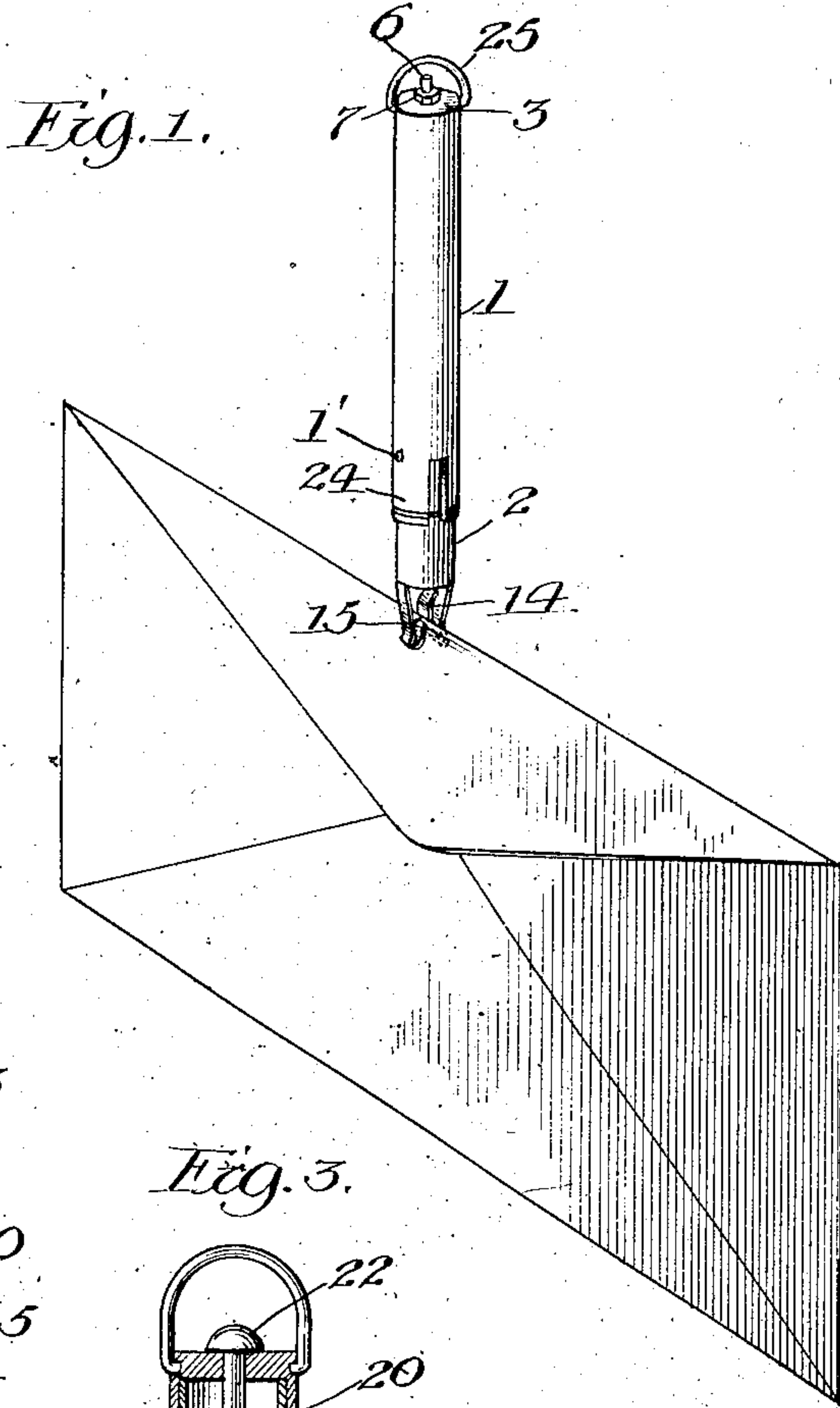


O. G. SHERMAN.  
POCKET SCALE.  
APPLICATION FILED OCT. 24, 1907.

917,169.

Patented Apr. 6, 1909.



Witnesses:  
O. G. Sherman  
A. S. Phillips.

Inventor  
Ozro G. Sherman  
by *Harold H. H. H. H.*  
att'y.



# UNITED STATES PATENT OFFICE.

OZRO G. SHERMAN, OF CHICAGO, ILLINOIS.

## POCKET-SCALE.

No. 917,169.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed October 24, 1907. Serial No. 398,891.

*To all whom it may concern:*

Be it known that I, OZRO G. SHERMAN, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Pocket-Scales, of which the following is a specification.

My invention relates to devices for ascertaining the weight of small articles, such as letters and other light mail matter, and the object thereof is to produce a light and inexpensive spring balance which may be attached to a key ring and carried in the pocket or which, when made of suitable material, may be used as a watch charm.

My invention consists in certain novel features of the construction, combination and arrangement of the parts, whereby the whole will be compact and convenient for use, while simple and cheap in construction, and the mechanism of which will not readily be disarranged or made inoperative.

The principles of my invention are illustrated in the drawings, in which—

Figure 1 represents a perspective view of my device with a letter suspended thereon; Fig. 2 is a vertical section thereof; Fig. 3 is a similar section, showing an alternative construction; Fig. 4 represents the lower base plate and spring and weight attaching devices; Fig. 5 is an upper spring attaching device.

Further describing my invention with reference to the drawings in which like characters of reference denote like parts throughout: 1 is an outer shell or casing having a slot 2 at the lower end and provided with a top plate 3, or, if so desired, the whole may be drawn from a piece of suitable metal. The spring support shown in Fig. 5 consists of a head 4 and a flange 5. A stem 6 is centrally attached thereto, which may be threaded to pass through the end of the casing and there secured in place and adjustment given thereto by the nut 7. An inner tube or shell 10, of such outward diameter as will permit it to fit within the casing and have free movement therein, is provided and into the lower part thereof is fitted the base plate or plug 11. The latter should have oppositely placed notches in its periphery. A piece of spring metal 12 is bent into the form of a U with unequal arms so that the opposite sides thereof will fit and be seated in said peripheral notches, and so that when the base plate is placed within the inner

tube, the whole will be securely fixed therein. The ends of the metal strip 12 should be turned inwardly and upwardly as illustrated so as to form a notch 13 into which the edge of a letter may be readily inserted. One of such ends should have a face 14 of appreciable length, while the other end should be somewhat shorter and be provided with a bearing point 15, which will rest snugly and firmly against the face 14 of the other weight support.

In assembling the parts the balance spring 16 should be secured to the loop 17 of the strip 12. The support shown in Fig. 5 may be turned into the upper end of said balance spring the flanges 5 engaging the coils of the spring, while the shoulders 5' serve to center the device within the spring, whereby the stem 6 is extended in the axial line thereof. The stem being passed through the central opening in the top plate may be adjusted by the nut 7. A similar upper fastening means for the spring is illustrated in Fig. 3 in which 20 is a cup shaped device having the flanges 21 around the open end. The cup being centrally perforated, a small rivet 22 may be passed therethrough and secured by soldering or other convenient means. The formation of the slot 2 in the casing 1 produces two oppositely placed downwardly projecting lips 24. The several parts of the device should be of such dimensions and the spring so adjusted that when the latter is not under tension the inner tube will be withdrawn within the casing 1 so that the weight support or loops formed by the ends of the strip 12, will rest within and be protected by the lips 24. The inner casing should be provided on one side with a slot 10'. The inner tube is provided with a graduated scale which may be read as the same is withdrawn by a pointer or reference mark on the outer shell or casing. A slight depression 1' should be made in one side of the outer casing, and this should register with the slot 10' so as to hold the spring-weight supports in the position last described where they will normally be protected from injury but into which, crosswise of the slot 2, an envelop or other article may be inserted. The peculiar construction of the spring metal ends of the strip 12 adapts them to readily engage and firmly support a folded paper when the fold is placed between them. Such fold slightly thickens the paper and when the fold is



pressed between the clips the point 15 will engage below the thickened point and give secure attachment.

A wing or bail 25 may be added to the top of the casing 1 by which it may be secured to a key ring or otherwise as desired. When made of proper size,—and the drawings are exaggerated to illustrate the construction, the whole presents a practical and useful device for the purpose described.

I claim:

1. In a spring balance, the combination of an outer tube and inner tube telescoping therein, a spring adapted normally to hold the inner tube in the outer tube, and weight supporting jaws attached to the inner tube, said outer tube being provided with members spaced from each other and adapted to protect the weight supporting means when retracted.

2. In a spring balance; an outer tube, an inner tube telescoped therein, a weight supporting device attached to the inner tube, a spring within the tubes having its ends respectively attached to each tube, and means on the outer tube integral therewith for protecting the weight supporting device when retracted by the spring.

3. In a spring balance, an outer tube, an inner tube telescoped therein, a weight supporting device comprising inwardly facing spring jaws secured to the inner tube, a spring within the tubes having its ends respectively attached to each tube, and a plurality of members forming protectors in fixed relation to the outer tube adapted to protect the spring jaws when retracted by the spring.

4. In a spring balance; an outer tube or casing provided with a slot to form two opposite projecting members, an inner tube, inwardly facing weight supporting jaws at the end of the inner tube, a spring to normally hold the jaws between the said mem-

bers, and means for securing the tubes against relative rotation.

5. In a balance, two inwardly and upwardly facing spring actuated weight supporting jaws, one of said jaws having a substantially plane elongated face and the other jaw provided with an extension to bear on said elongated face midway thereof.

6. In a balance, two inwardly and upwardly facing weight supporting jaws of spring metal, one of said jaws having a substantially plane elongated face and the other provided with an extension to bear on said elongated face midway thereof.

7. In a spring balance having telescoping tubes and a spring to connect them, a base plate or plug for the inner tube and a metallic strip formed into a loop adapted to secure the spring to the inner tube above the plate and into weight attaching members below the plate.

8. In a spring balance having a casing provided with a plurality of extension members forming protectors, the combination therewith of resilient weight supporting jaws, said extension members being in rigid relation to the casing and so spaced from each other as to permit a weight to be inserted between the jaws while said jaws are within the protectors.

9. In a balance, a weight supporting device having an elongated jaw adapted to act as an abutment, and another jaw provided with a free inwardly and upwardly projecting end adapted to bear on the first jaw midway thereof at an angle thereto.

In witness whereof, I have hereunto set my hand this 18th day of October 1907, in the presence of two subscribing witnesses.

OZRO G. SHERMAN.

Witnesses:

C. K. CHAMBERLAIN,  
A. S. PHILLIPS.