No. 755,025. PATENTED MAR. 22, 1904.

S. R. MUNSON.

SPRING BALANCE.

APPLICATION FILED NOV. 14, 1902.

NO MODEL.

Fig. 1.

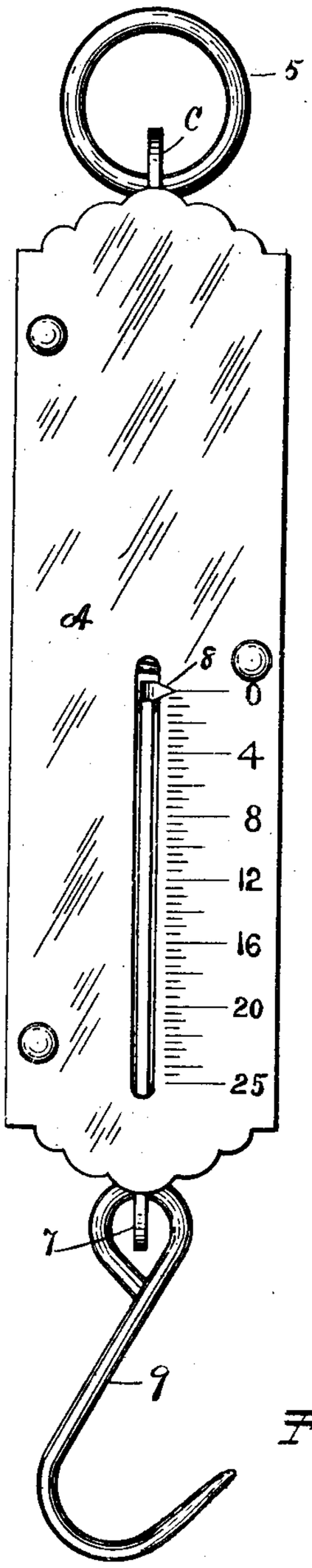


Fig. 2.

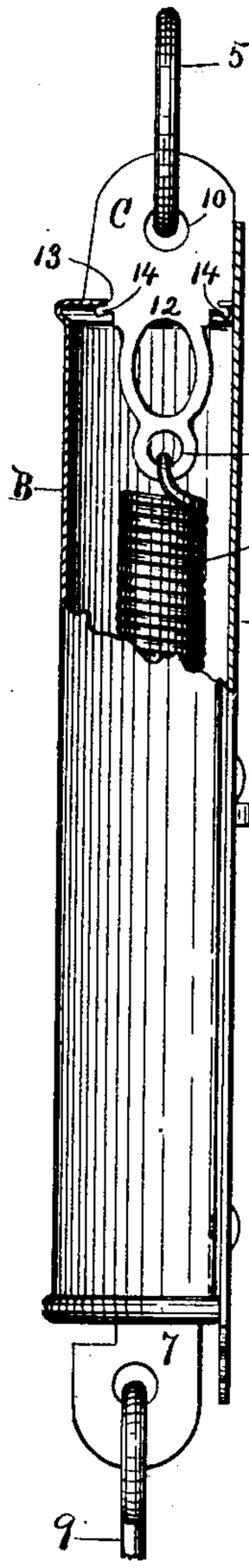


Fig. 3.

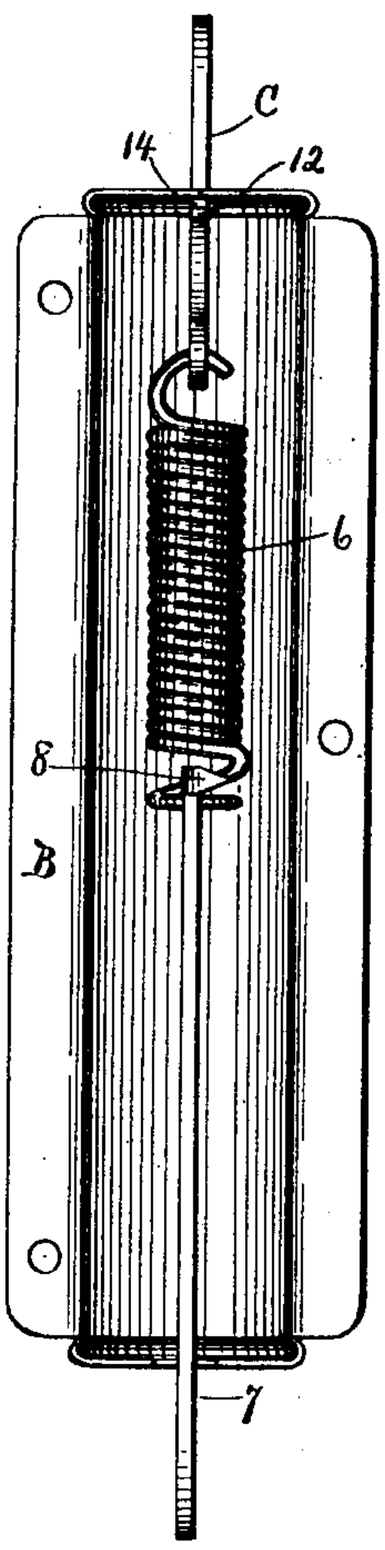
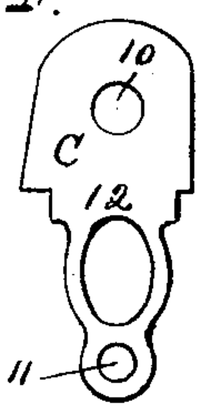


Fig. 4.



Witnesses.

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No. 755,025. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

SAMUEL R. MUNSON, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO LANDERS, FRARY AND CLARK, OF NEW BRITAIN, CONNECTICUT.

SPRING-BALANCE.

SPECIFICATION forming part of Letters Patent No. 755,025, dated March 22, 1904.

Application filed November 14, 1902. Serial No. 131,334. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. MUNSON, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Suspension Spring-Balances, of which the following is a specification.

My invention relates to improvements in suspension spring-balances; and the object of my improvement is to provide a simple and inexpensive means for adjusting the balance-spring.

In the accompanying drawings, Figure 1 is a front elevation of my spring-balance. Fig. 2 is a sectional side elevation of the same, the upper end of the case and face-plate being shown in central vertical section and the hook at the lower end being broken off. Fig. 3 is a front elevation of the same with the face-plate removed and with the ring at the upper end and hook at the lower end omitted, and Fig. 4 is a detached side elevation of the suspension-lug.

The supposed novel construction of my scale resides in the suspension-lug and its relation to the other parts. All of the said other parts when considered independently of the said lug are or may be of any ordinary construction.

A designates the graduated face-plate which forms the front of the case; B, the case-body, and which, with the said face-plate, constitutes the case.

C is the suspension-lug secured in the upper end of the case-body. 5 is the suspension-ring in the upper end of the said lug, 6 the balance-spring suspended from the lower end of the said lug, and 7 the draw-bar suspended from the lower end of the said balance-spring. The said draw-bar is provided with the usual pointer 8 at its upper end and with a hook 9 or other means for suspending therefrom whatever is to be weighed.

The suspension-lug C has the usual eye 10 for the ring 5 at its upper end and the usual eye 11 for the end of the balance-spring at the lower end of the said lug. It may be secured to the upper end of the case-body in any ordinary manner, but as shown it is first formed with a shoulder-neck 12, as shown in Fig. 4, which neck is received in a rectangular hole or slot 13 of the case-body, with the shoulders above the neck resting on the upper end of the case-body. By means of a suitable tool the metal in the neck is cut from its lower end upwardly to throw outwardly and upwardly two securing-burs 14 14, one at each end of the said hole or slot, all as shown in Fig. 2. I add to this suspension-lug the intermediate adjustable portion 12, which, as shown, is substantially in the form of an oval ring, the two side members of which are so narrow that when made of the usual low-grade steel or malleable metal the said intermediate portion may be bent to change its shape and still have rigidity enough to retain the new shape given to it.

If in order to adjust the balance-spring longitudinally it is desired to raise the spring, this may be accomplished by compressing the suspension-lug longitudinally by means of pliers or other compressors, so as to bend the sides of the intermediate portion, and thereby shorten the length of the said portion without detaching the said suspension-lug from the case. If, on the other hand, it is desired to lower the spring either from the original form of the lug or when the lug has been shortened too much by bending, the intermediate portion of the said lug may be compressed laterally to partially straighten the sides and elongate the lug. In this manner the balance-spring is readily adjusted and the intermediate portion of the suspension-lug adds almost nothing to the cost of production.

I claim as my invention—

1. In a suspension spring-balance, a case, and the suspension-lug for the balance-spring depending from the upper end of the said case, the said lug having an eye at its lower end for the attachment of the upper end of the said spring, and between the said eye and upper end of the case an intermediate malleable portion of symmetrical form, for adjusting the said eye along a central line to and from the said upper end of the case by bending the said intermediate malleable portion.

2. A suspension spring-balance consisting of a case-body, in combination with a gradu-

ated face-plate which with the said body constitutes the case, a suspension-lug permanently secured in the upper part of the said case and having at its upper end, outside of the case, means for suspending the spring-balance, and within the said case, at the extreme upper end thereof, a malleable portion in the form of an oval ring, the balance-spring with its upper end secured to the lower end of the said suspension-lug, below the said malleable portion, the draw-bar having a pointer, adjacent to and in front of the said graduated face-plate, and means, outside of the case at the lower end of the said draw-bar for suspending the load to be weighed.

SAMUEL R. MUNSON.

Witnesses:
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