(No Model.)

W. R. WATT.

SPRING BALANCE.

No. 338,894. Patented Mar. 30, 1886.

Fig. 1.

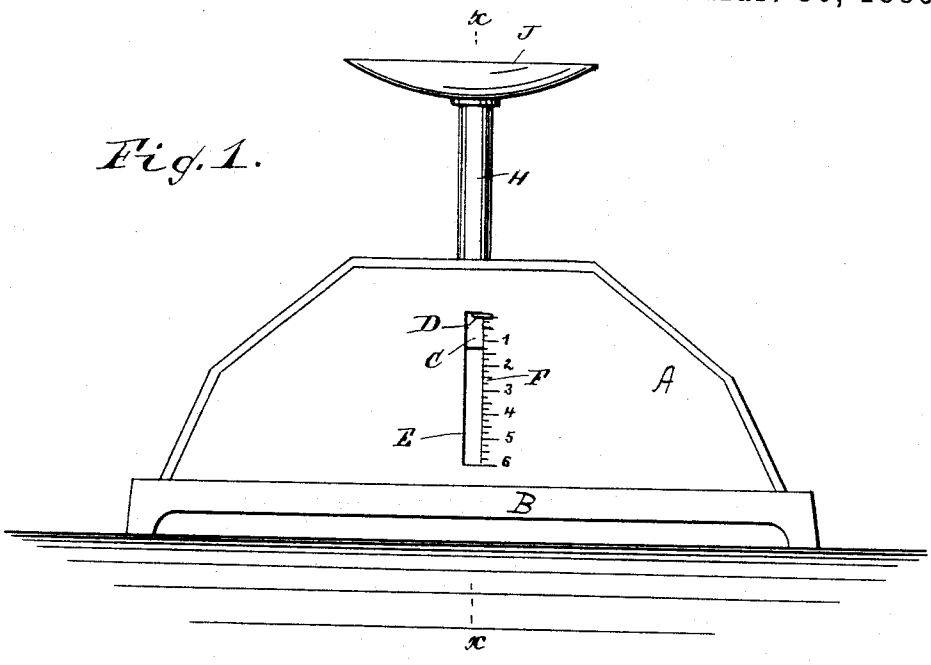


Fig. 2.

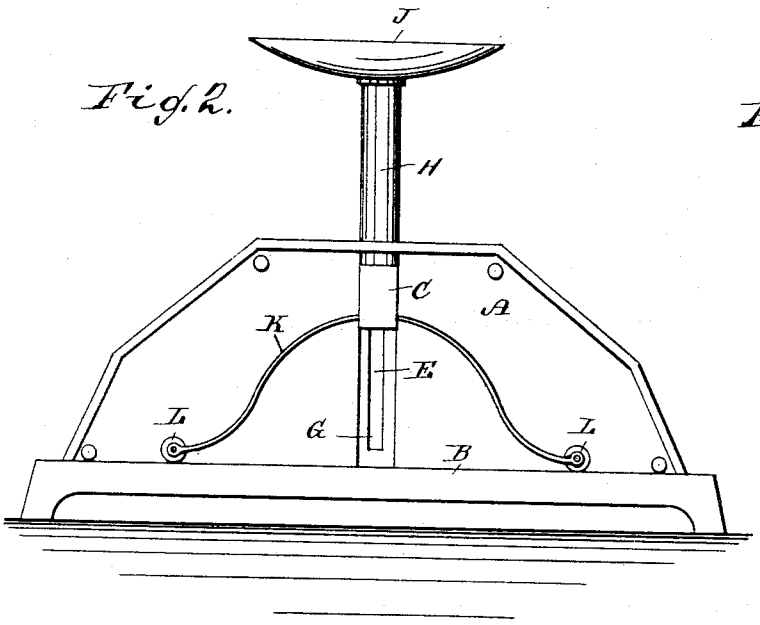
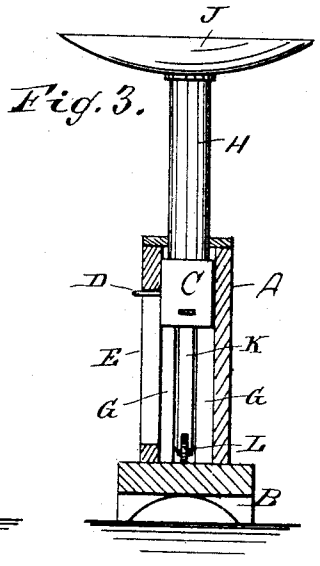


Fig. 3.



WITNESSES:

Theo. G. Hoster.

C. Sedgwick

INVENTOR:

W. R. Watt

BY Munn & Co

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM RUFUS WATT, OF SOMERVILLE, TENNESSEE.

SPRING-BALANCE.

SPECIFICATION forming part of Letters Patent No. 338,894, dated March 30, 1886.

Application filed November 30, 1885. Serial No. 184,345. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RUFUS WATT, of Somerville, in the county of Fayette and State of Tennessee, have invented a new and useful Improvement in Spring-Balances, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved spring-balance which is simple in construction, weighs exactly and accurately, and is not expensive in manufacture.

The invention consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front view of my improved spring-balance. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a cross-sectional view of the same on the line *x x*, Fig. 1.

The longitudinal casing A is secured on a base, B, and at its center contains the vertically-sliding block C, which is provided with the pin or pointer D, projecting through the vertical slot E in the front of the casing. A graduated scale, F, is produced in some suitable manner on the front of the casing at the edge of the slot E. The block C is guided by the vertical grooves G in the inner surfaces of the front and rear sides of the casing. From the sliding block C the rod H projects upward and through the top of the casing A, and on its upper end the pan or plate J, for receiving the article to be weighed, is secured. A flat curved or bow spring, K, is secured in the block C, and in the ends of said spring the rollers L are mounted to revolve, the said rollers running on the upper surface of the base.

The operation is as follows: The spring K usually keeps the rod H and the pan J on the same raised as shown, the pointer D being at the top of the slot E. When an object is placed on the pan J, it presses the same and the rod H downward, and thereby the spring K is compressed more or less, its ends separating. The pointer D shows the distance the pan has been moved downward, and thus shows the weight of the article. When the said article is removed from the pan, the spring K contracts and moves the pan J and the rod H upward until the pointer D is at the top of the slot E. The rollers L reduce the friction and permit the ends of the spring K to run easily on the base B.

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

1. The combination, with a casing, of a vertically-moving rod for supporting the article to be weighed, and of a bow-spring connected with the lower end of said rod, the ends of said spring having rotatable bearings, substantially as herein shown and described.

2. The combination, with a casing containing a vertically-sliding block, of a rod on said block for supporting the object to be weighed, and of a bow-spring in the casing connected with said block, the ends of said spring having rotatable bearings, substantially as herein shown and described.

3. The combination, with a casing, of a vertically-sliding rod guided in the same, and of a bow-spring connected with the said rod and provided on its ends with rollers running on the bottom of the said casing, substantially as herein shown and described.

4. The combination, with the casing A and the base B, of the block C, guided by vertical grooves in the sides of the casing, a rod projecting upward from the said block and carrying a pan or plate, and of the bow-spring K, held in the said block, the ends of said spring having rotatable bearings, substantially as herein shown and described.

5. The combination, with the casing A, provided with the slot E and the guide-grooves G, of the base B, the sliding block C, the rod H on the same, a pan on said rod, the pointer or pin D on the block and projecting through the slot E, the bow-spring K, held in the block C, and of the rollers on the ends of the said spring K, substantially as herein shown and described.

6. A spring-balance provided with a bow-spring for supporting the pan or plate, the ends of said spring having rotatable bearings, substantially as herein shown and described.

WILLIAM RUFUS WATT.

Witnesses:
MARCUS P. ALEXANDER,
GEORGE E. HARVEY.