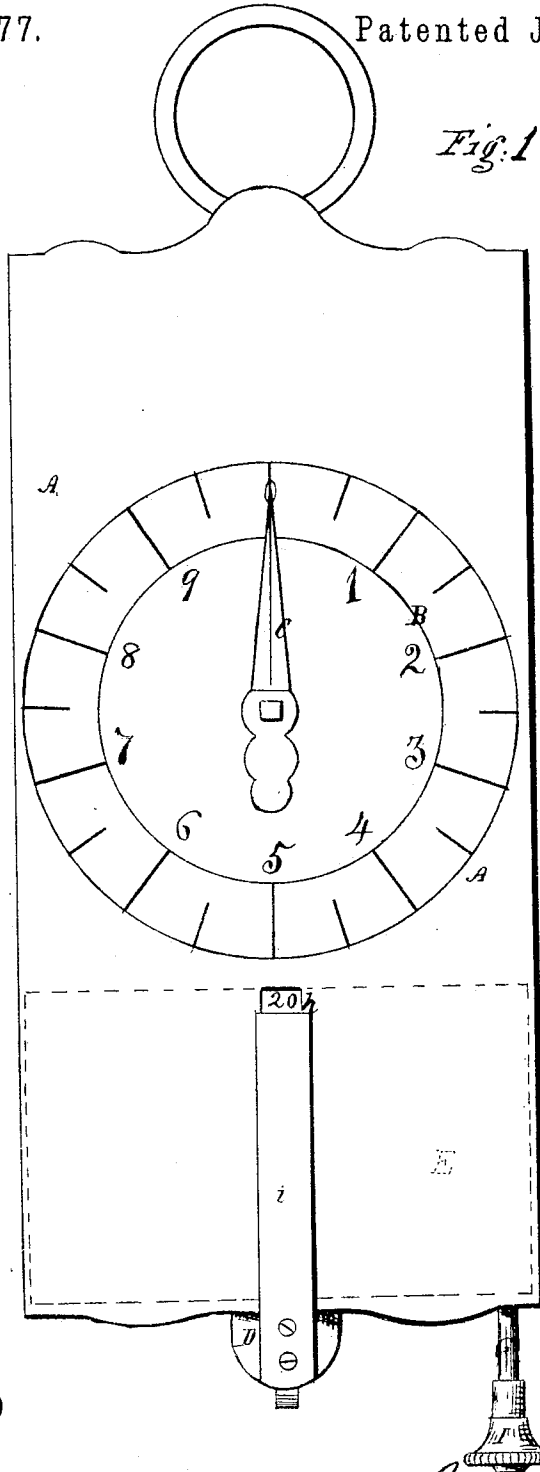


S. R. P. CAMP
Spring Scales.

No. 103.977.

Patented June 7, 1870.

Fig. 1



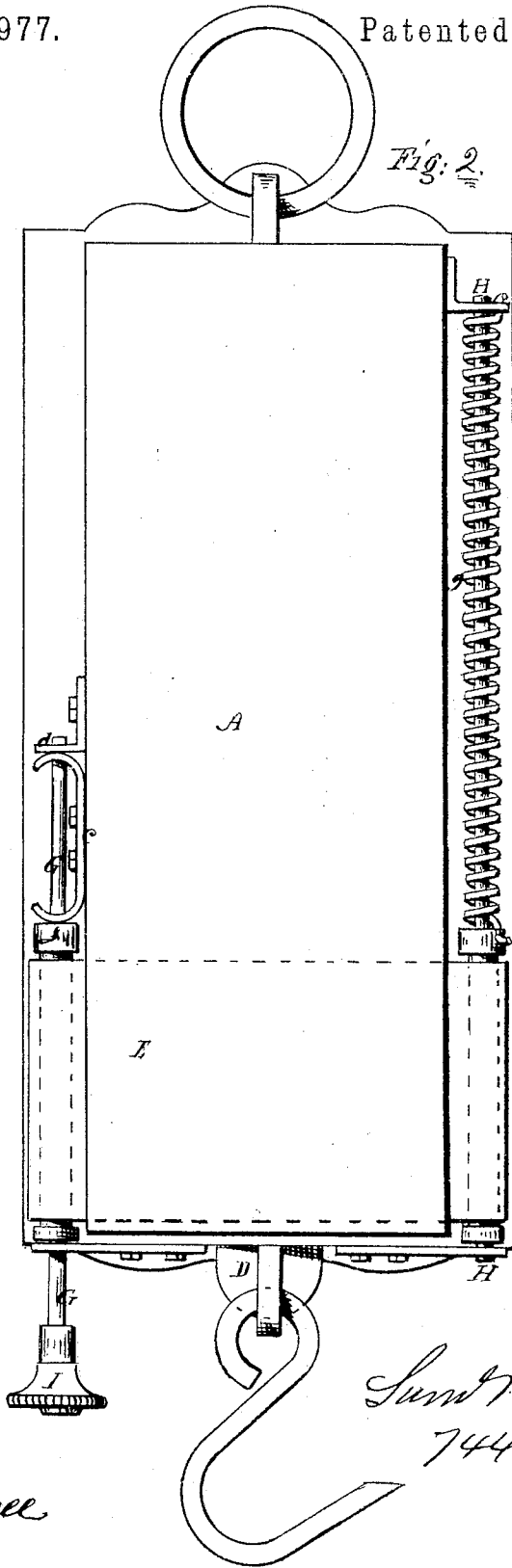
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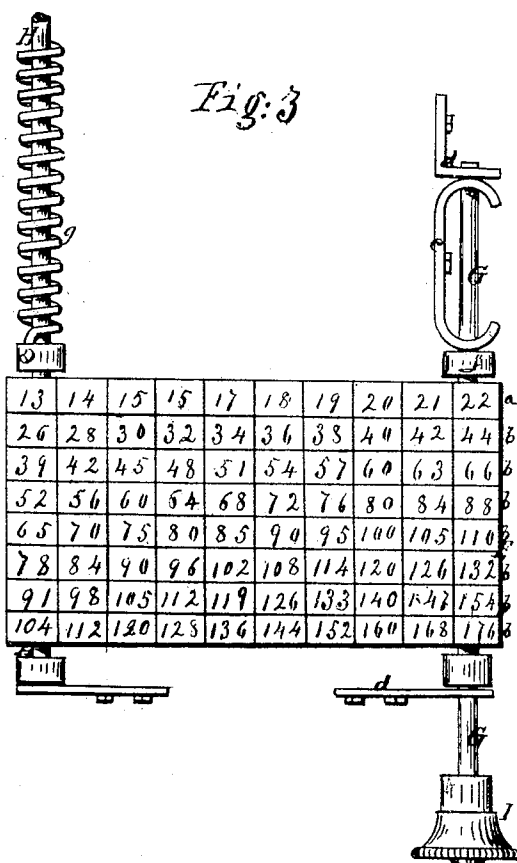
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United States Patent Office.

SAMUEL R. P. CAMP, OF NEW YORK, N. Y.

Letters Patent No. 103,977, dated June 7, 1870.

IMPROVEMENT IN COMPUTING SPRING-BALANCES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, SAMUEL R. P. CAMP, of the city, county, and State of New York, have invented an Improvement in Weighing and Computing Balances or Scales; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being a front view of a spring-balance provided with my improvement.

Figure 2, a rear view of the same.

Figure 3, a view of the part which embodies my improvement, detached.

Like letters designate corresponding parts in all of the figures.

The nature of my invention consists in the combination, with a weighing-balance or scales, of an apron or flexible tablet, provided with a series of numbers indicating the price per pound, and with corresponding series of numbers showing the value of the articles for the number of pounds in weight designated by the balance, the said apron or flexible tablet having a reciprocating movement across the balance, and suitable mechanism for adjusting its position and retaining it as adjusted, substantially as herein specified.

Let A represent the case of a spring-balance, with a scale, B, of pounds, index C, and suspension bar or slide, D, all of which may be of ordinary construction.

In the lower part of the case A is located the apron or flexible tablet E, having sufficient length extending horizontally across the case to exhibit the series *a*, fig. 3, of pieces, equal in number to the number of pounds which the balance is capable of weighing, and sufficient breadth extending downward to contain as many series, *b b*, of multiples or computing numbers as may be convenient or desirable.

This apron or flexible tablet has its two ends secured respectively to, so as to wind alternately on, enlarged portions or cylinders of two vertical shafts, G H, mounted in the balance-case, behind the front plate thereof.

One shaft, G, extends downward below the balance-case, and terminates in a knob or milled head, I, by which the apron is wound or unwound on the shaft with the hand of the attendant. It has a spring brake, *c*, passing between its upper bearer, *d*, and a rubber or disk, *f*, on the shaft, for holding the apron in any position to which it may be adjusted on the shaft. Any equivalent brake or detent may be used.

The shaft H, on which the other end of the apron winds, is provided with a torsional-spring, *g*, arranged so as to automatically wind the apron E upon the shaft as fast as it is unwound from the other shaft G, and thereby take up the slack of the apron, and keep it stretched at all times. Its strength is quite slight, just sufficient to effect the purpose intended, so that it will readily yield when the apron is wound upon the other shaft.

Thus constructed and arranged to operate, this apron or flexible tablet is connected with the movements of the balance by means of a slot, *h*, in the front plate of the balance-case A, extending vertically across the width of the apron, and wide enough to exhibit a single number of either of the series *a b b*, and of an index-plate, *i*, attached to the suspension slide D of the balance, and extending upward in front of the case A, so as to cover the said slot, except a part of the upper end, sufficient to show the number of the price series, *a*, on the apron, when the balance is empty, and the index C is at zero, as shown in fig. 1. Then, as the article to be weighed draws down the suspension bar D, bringing with it the slide-plate *i*, so as to uncover a series, *b*, on the apron E, corresponding with the number of pounds indicated by the balance-index, the full value of the article at the price designated in the upper series *a*, is exhibited through the slot *h*, immediately over the slide plate *i*. The apron is adjusted by turning the knob I, to show the price through the slot, either before or at the time of weighing.

The value of this device lies in this, that, while it adds greatly to the utility of the balance by facilitating the work of weighing and computing the prices of articles, it adds nothing to the size of the balance, and little to the weight and cost thereof, and it does not interfere in the least with its ordinary use. It is very simple, and is easily understood and employed.

What I claim as my invention, and desire to secure by Letters Patent, is—

The reciprocating apron or flexible tablet E, provided with price and computing scales, and the winding shafts G H, provided respectively with a brake and winding spring, all arranged in combination with the spring-balance or scale, substantially as and for the purpose herein specified.

SAML R. P. CAMP.

Witnesses:

S. W. WOOD,
C. M. BISSELL.