(No Model.)

W. A. HALLENBECK.

SPRING BALANCE COMPUTING SCALE.

No. 590,543. Patented Sept. 21, 1897.

Fig. 1.

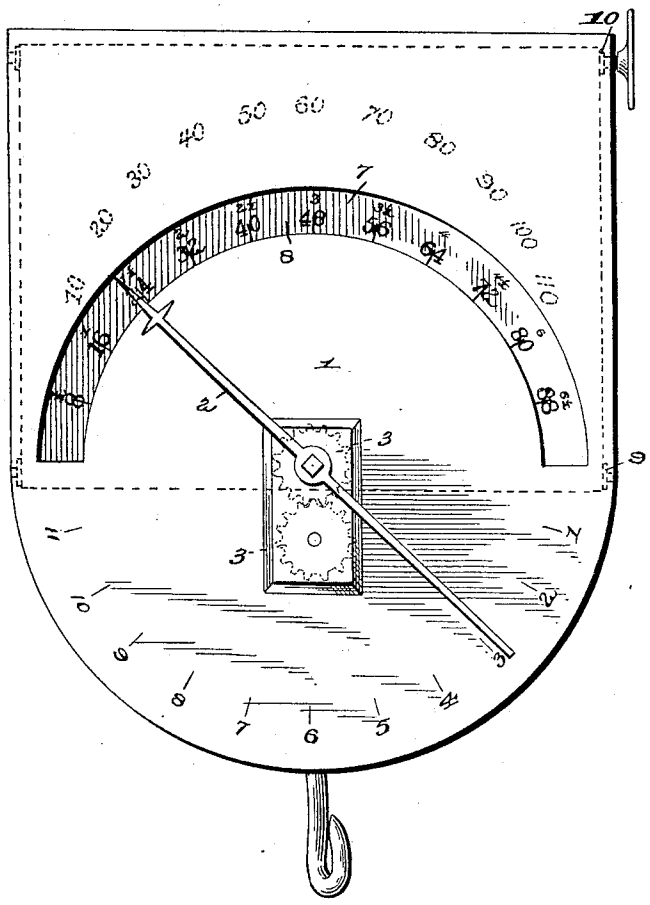
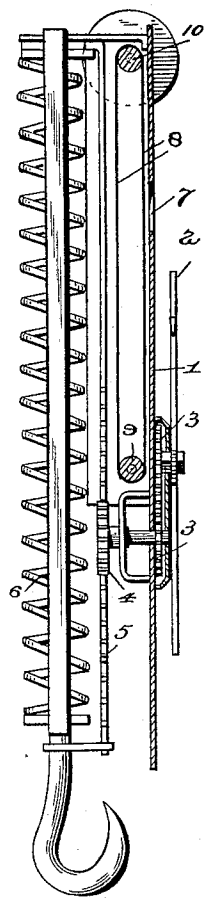


Fig. 2.



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UNITED STATES PATENT OFFICE.

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SPRING-BALANCE COMPUTING-SCALE.

SPECIFICATION forming part of Letters Patent No. 590,543, dated September 21, 1897.

Application filed January 2, 1897. Serial No. 617,698. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. HALLENBECK, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Spring-Balance Computing-Scales; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to computing-scales; and it is the object thereof to simplify the construction of such devices and thereby reduce the cost and liability of the same getting out of working order to the minimum.

The invention includes an endless apron having a series of rows of amounts printed or indited thereon which are adapted to be brought in the path of a pivoted pointer which is operated after the usual manner.

The invention also includes the details of construction, as herein described, and particularly pointed out in the claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the scale, and Fig. 2 is a side elevation with parts in section.

The dial of the scale is shown at 1, to the face of which is pivoted the pointer 2, which is rotated by means of the intermeshing gears 3 3 and the pinion 4, which is operated by the rack 5, controlled by the usual spring 6. The dial 1 has a concentric slot 7 cut through the same beneath the end of the pointer, this slot, as shown, extending half-way around the dial.

An endless apron 8 of the full width of the dial is placed directly against the back thereof and is perceivable through this slot. This apron has a series of rows of figures thereon, said rows being arranged on the same radius as said slot, so that they may be brought into exact alinement therewith. The apron is carried on the rollers 9 10, journaled in the sides of the dial, the upper roller 10 having a knob extending therefrom to present means for readily turning the same in shifting the apron.

The numbers on the apron in the first row corresponding to an amount computed on an article at so much per pound—say, for instance, eight cents—the first figure in the row would therefore be "8," and the second, if the characters are spaced the distance apart that the pointer would travel if a pound was placed in the balance, would be "16," and so on with a proportionate increase the entire length of the row. The distance between the figures, however, is immaterial, and they may be placed the distance of a half or a quarter pound. The second row on the apron would contain figures computing at a higher rate per pound—say ten or twelve cents.

The lower half of the dial may be graduated as usual. The numbers denoting the pounds may start with "1," which is placed diametrically opposite to the first space in the row on the apron, so that as the front of the pointer points to the computed amount the butt thereof will point to the weight in pounds or ounces.

I may place a supplemental row of numbers above or below each main row which will denote a fractional computation, so that the supplemental row will, taking the first row, for instance, denote the amount at eight and one-half cents per pound—that is, the supplemental row will denote the computation at one-half cent per pound, and by adding this to the number below, computed at eight cents per pound, the amount at eight and one-half per pound is found.

I claim—

1. In combination in a computing-scale, a pivoted pointer, a dial having a horizontal slot therein concentric with the pivot of said pointer, and a vertically-movable apron having a plurality of rows of figures thereon, each of said rows being curved on a radius corresponding to the radius of the curve of said slot, substantially as described.

2. In combination in a computing-scale, a pointer, a dial having series of figures of increasing denominations arranged in an arc of a circle concentric with the pivot of said

pointer, said figures denoting the weight in pounds, said dial having a slot therein diametrically opposite to said figures, and an apron having a series of figures of increasing denominations indicated thereon adapted to aline with said slot said figures denoting the computed cost in cents, the latter figures starting at a point diametrically opposite the starting of the former figures and increasing in an opposite direction thereto, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. HALLENBECK.

Witnesses:
EDWIN G. BABCOCK,
JOHN M. SHULTZ.