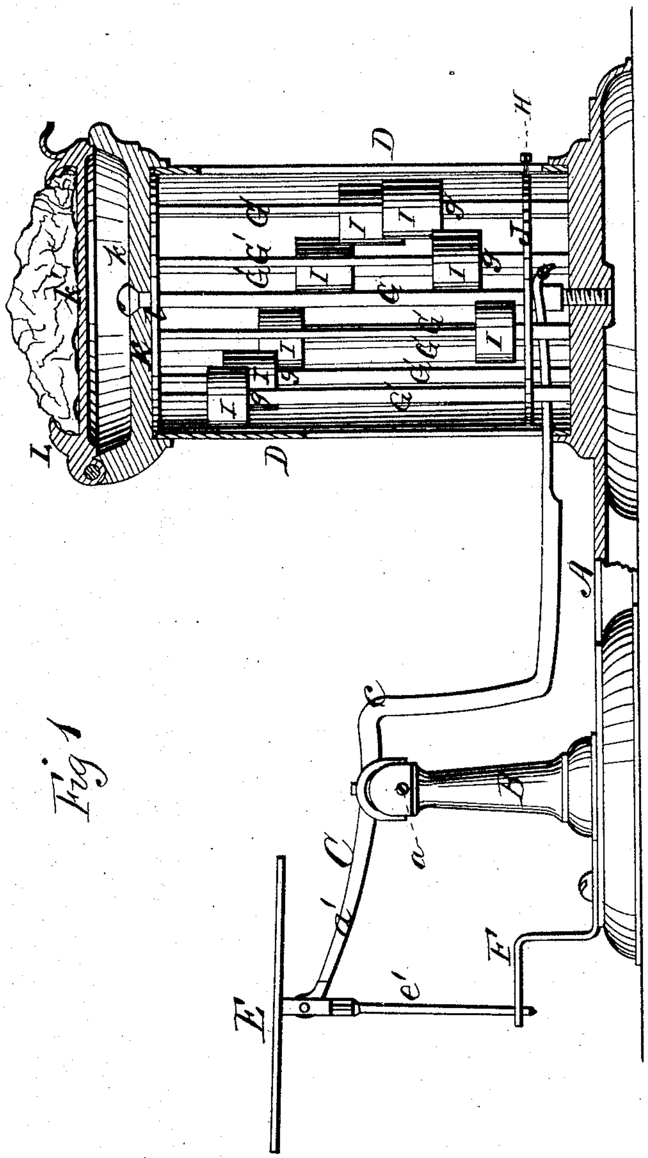
2 Sheets--Sheet 1.

T. LANSTON.

Postal Weigh-Scale.

No. 161,130. Patented March 23, 1875.



WITNESSES

Robert Everett

Geo. E. Uphaus

INVENTOR

Tolbert Lanston

Chipman Hosmer & Co

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

2 Sheets--Sheet 2.

T. LANSTON.

Postal Weigh-Scale.

No. 161,130. Patented March 23, 1875.

Fig 2

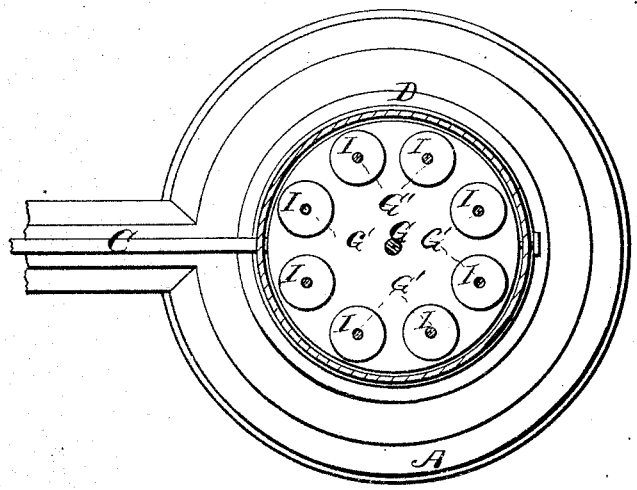


Fig 3

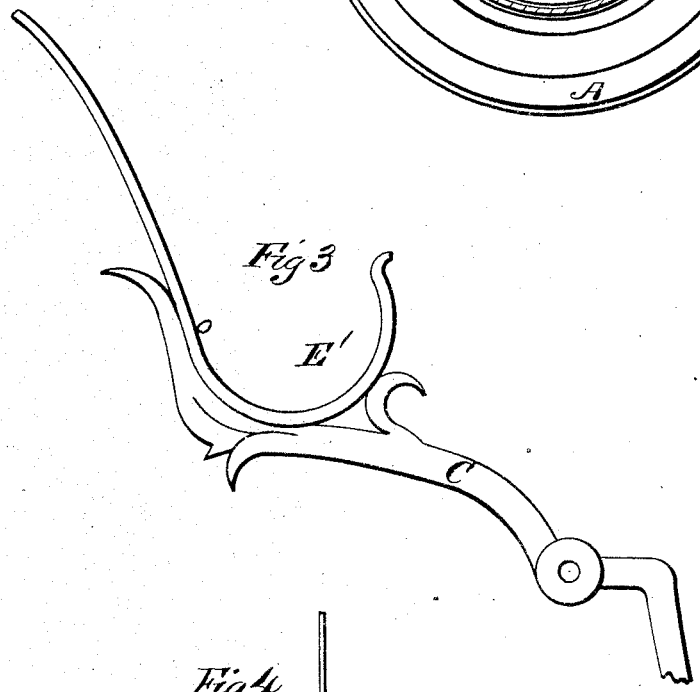
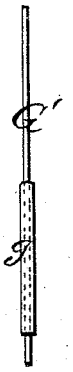


Fig 4



WITNESSES

Robert Everett

F. J. Masi

INVENTOR

Tolbert Lanston

Cushman Fosmer & Co

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

TOLBERT LANSTON, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN POSTAL WEIGH-SCALES.

Specification forming part of Letters Patent No. **161,130**, dated March 23, 1875; application filed December 19, 1874.

To all whom it may concern:

Be it known that I, TOLBERT LANSTON, of Washington, in the county of Washington and District of Columbia, have invented a new and valuable Improvement in Postal Weigh-Scales; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a longitudinal vertical section of my scales, and Figs. 2, 3, and 4 are detail views of the same.

This invention relates to improvements in weigh-scales, which are more especially adapted to weighing letters, with a view to determining the amount of postage necessary to insure their carriage through the mail. The object of the invention is to dispense with the usual movable weight used in weigh-scales in connection with a graduated scale-beam, and to produce an article which shall be automatic in its action and registration. To this end the nature of the invention consists in combining with a vertically-vibrating beam, having upon one end a letter-platform, and its other resting under a weight-platform, having vertical movement in a horizontal plane upon guide-rods, a number of vertically-movable weights, arranged upon and guided by the said rods, whereby, as the weight upon the letter-platform is increased, the weights will be successively taken up by the platform until the weight upon one platform shall balance that upon the other, as will be hereinafter more fully explained.

In the annexed drawings, A designates the base of my improved scale, upon one end of which is erected a vertical upright, B, in the upper bifurcated end of which is arranged a knife-edged horizontally-rotating rod, *a*, upon which is rigidly secured in any suitable manner a vertically-vibrating beam, C. This beam is bent vertically at *c*, extending thence downwardly a certain distance, whence it passes through a slot in a preferably cylindrical casing, D, terminating in a bifurcation, *e*. E designates a letter-platform, having a shank, *e'*, by means of which it is pivoted to the short arm *a'* of beam C, which shank extends down to a guide, F, rigidly secured to platform A, through which its extremity passes, thereby affording a means whereby the letter-platform is maintained, during the vibration of beam C, in a horizontal position. J designates a horizontal platform, guided to move vertically in a horizontal plane by means of rods G G', vertically arranged within and rigidly secured to the case D, the former in a central and the latter in positions radiating therefrom, as shown in Fig. 2. This platform is of slightly greater weight than necessary to balance the letter-platform E, for a purpose hereinafter made clear. I designates a number of vertically-movable and preferably cylindrical weights, arranged upon and guided by rods G, the said weights being above the platform, and maintained in a position one above the other, in an ascending spiral, by means of shoulders, enlargements, or collars *g* upon rods G.

The weight of platform I is designed to be heavier by half an ounce than that of the letter-platform E, and consequently when a letter or other parcel of mail matter weighing more than one half ounce is placed upon platform E it will depress the short arm *a'* of beam C, thereby elevating the other end, and with it the platform J, which will be stopped by the first weight. If the parcel weigh more than an ounce, and less than one and one-half ounce, it will raise the first weight I, and the platform J will be arrested by the second weight I, and so on until the whole series, which may be of any suitable number of weights, is exhausted.

H designates a needle or indicator, which passes through a vertical slot of case D, and is screwed into or otherwise secured to platform J, so that when the latter is raised the degree of its elevation and the weight upon the letter-platform shall be indicated by the needle upon a graduated scale at one or both sides of the slot. K designates a metallic cap, the upper surface of which is concave, forming a cup, *k*, for postage-stamps, which is removably applied upon case D above a lid, *l*, in which the upper ends of rods G G' are suitably secured. This cap is provided with a hinged lid or cover, L, the upper part of

which also has a cup, k', in which a sponge is designed to be placed for the purpose of wetting the stamps.

The weights I, instead of being in spiral, as above described, may be arranged as follows: The first weight being on any given rod, G′, the next weight will be on a rod diametrically opposite, a third and a fourth upon rods in a plane vertical to the plane of the first two rods, each pair of successive weights being in a plane vertical to that of the two preceding, until the requisite number of weights have been located. By this means the friction of platform J against the guide-rods G G′ is more evenly distributed. I do not propose, however, to confine myself either to the spiral arrangement or to that just described, but may use any other which, involving the same principle, may be found most convenient and desirable.

In practice I may sometimes dispense with shank e' and guide F of letter-platform E, in which case I shall use a device, E′, as shown, in the nature of a trough, which is or may be rigidly secured to the end of short arm a' of beam C, and of which one of the sides o is longer than the other, for the purpose of preventing letters being weighed from falling therefrom.

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

1. In a weigh-scale, the combination of a platform, J, vertically movable upon guides in a horizontal plane, with the vertically-vibrating scale-beam C, substantially as specified.

2. The combination, with the platform J, vertically movable in a horizontal plane upon rods G G′, of the weights I, vertically movable, and arranged upon the said rods, substantially as specified.

3. The combination, with the rods G′, having shoulders g, of the vertically-movable weights I, substantially as specified.

4. The weights I, arranged one above the other, and guided to move vertically upon rods G′, in combination with vertically-movable platform J and beam C, substantially as specified.

5. The combination, with the vertically-vibrating beam C and guide F, of the letter-platform E, pivoted to the said beam, and having shank e', substantially as specified.

6. The combination, with the vertically-vibrating scale-beam C, of the letter-trough E′, having its lower side o larger than the other, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

TOLBERT LANSTON.

Witnesses:

GEORGE E. UPHAM,

D. D. KANE.