

J. HOLCOMB.
Platform Scales.

No. 30,922.

Patented Dec. 18, 1860.

Fig. 1.

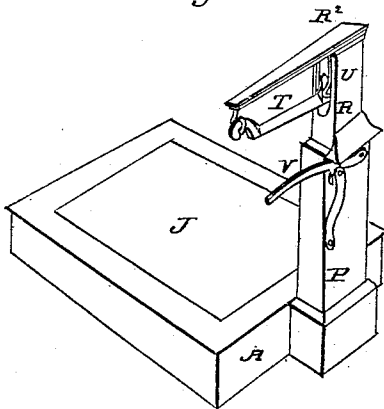


Fig. 3.

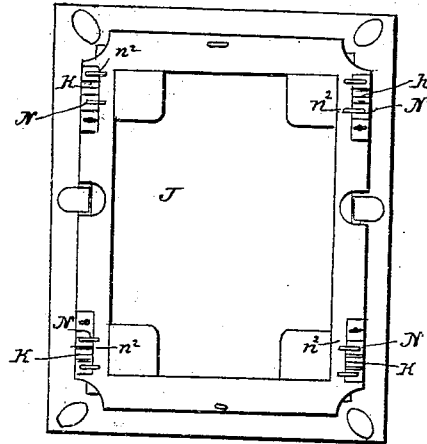


Fig. 2.

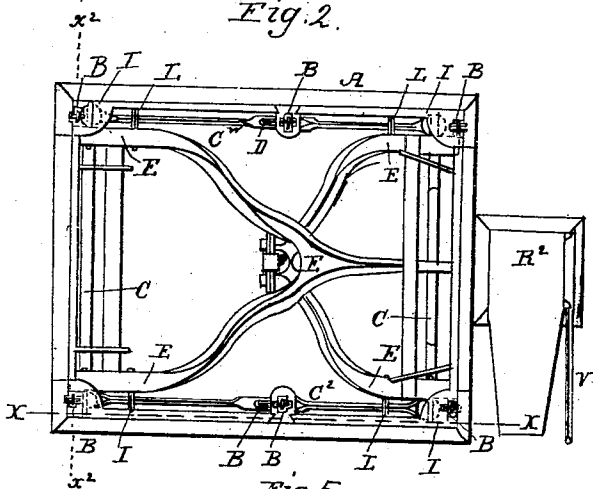


Fig. 4.

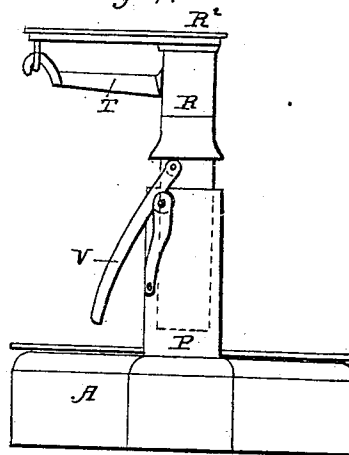


Fig. 5.

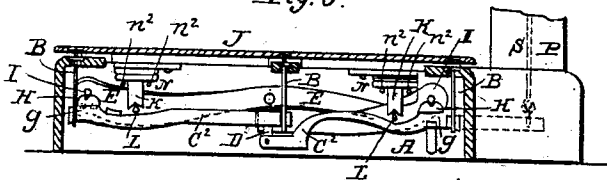


Fig. 6.

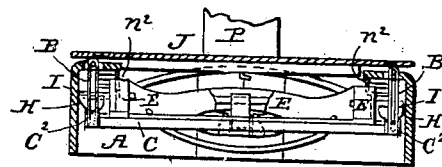


Fig. 7.

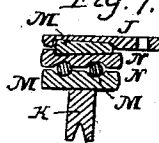
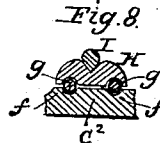


Fig. 8.



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UNITED STATES PATENT OFFICE.

JEDEDIAH HOLCOMB, OF BRANDON, VERMONT.

IMPROVEMENT IN PLATFORM-SCALES.

Specification forming part of Letters Patent No. 30,922, dated December 18, 1860.

To all whom it may concern:

Be it known that I, JEDEDIAH HOLCOMB, of Brandon, Rutland county, State of Vermont, have invented certain new and useful Improvements in Platform-Scales or Weighing-Machines; and I do hereby declare the following to be a full description of the same.

The nature of my improvements consists in the method of adjusting the weighing-levers upon jointed side bars, each suspended by links at the middle and both ends, so that the weighing-levers may vibrate in all directions while under the load and yet not affect their capacity to weigh accurately.

The fourth part of my invention relates to the method of elevating the platform without disturbing the equipoise of the weighing-beam by means of a double standard or case, one of which works vertically in the other by means of a lever attached to the side of the external stationary case, so that by its elevation the platform can be raised without disturbing the balance of the weighing-levers.

But to describe my invention more particularly, I will refer to the accompanying drawings, forming a part of this specification, the same letters of reference wherever they occur referring to like parts.

Figure 1 is a perspective view of the scale. Fig. 2 is a plan view of the same having the platform removed. Fig. 3 is a detached view of the platform, showing the under side of it. Fig. 4 is a back end elevation of the machine, showing the method of elevating the platform by means of the sliding case. Fig. 5 is a side elevation of the scale through the line $x x$, Fig. 2. Fig. 6 is an end view of the machine through the line $x^2 x^2$, Fig. 2. Fig. 7 is a detached sectional view of the series of intermediate transverse rollers for supporting the platform. Fig. 8 is a detached sectional view of the ball-and-socket device, on which the "knife-edge" of the fulera of the weighing-levers are supported.

Letter A is the frame of the machine. In this frame is suspended by means of one middle and two end links B a frame C, composed of jointed side rods or bars c^2 , united by a short link D and rigid end bars. The object of this is to form a swinging frame for the weighing-levers E to rest upon, so that under all circumstances they may be forced

backward or forward against the sides of the frame when loading the platform without disturbing the accuracy of the weighing in consequence of their tendency when at a state of rest to gravitate to the center of the frame.

On the ends of the jointed side rods C^2 are formed cavities or sockets f , in which are inserted balls g . These balls are held in their seats by a cap-block H, having in its lower face corresponding cavities f to those in the ends of the side rods, so as to inclose the balls. In the upper face of the cap-blocks are cut notches, in which fit the knife-edges of the fulera I, secured in the weighing-levers, and which, resting upon the cap-blocks, hold them down upon the balls to prevent their escape, and thus preserve a rolling motion under the fulera I. The object of this adjustment of the fulera of the weighing-levers upon self-adjustable balls at the four corners of the weighing-levers is to prevent the knife-edges of the fulera from wearing too rapidly, in consequence of a tendency of the weighing-machine to sway backward and forward when loading and unloading the platform. By this arrangement, and in combination with the swinging motion of the frame on which the weighing-levers are adjusted, the whole machine has a perceptible vibratory motion, whereas if the weighing-levers are adjusted upon a fixed and immovable frame, without self-adjustable balls to rest on, the knife-edges of the fulera are destroyed and worn out very rapidly, and as a consequence destroys their ability to give accurate indications of small variations of weights, and thus rendering the scale comparatively worthless.

Letter J is the platform. This is made to work loosely within the frame of the machine. Attached to the lower side of it are four supports or studs K, having notches in their lower ends to rest on pins L, secured in the sides of the weighing-levers E.

Intermediate of each of the studs and the lower side of the platform are arranged three rollers M. These rollers are arranged between the faces of intermediate plates N, transversely of each series—that is, the lower series is composed of two rollers, upon which is a plate having cavities in it to confine the rollers, and the upper series is composed of

one roller arranged transversely of the lower series, and is held in its place between the lower side of the platform and an intermediate plate N, and the whole kept in contact with the lower corners of the platform by metal straps n^2 , so as to allow the stud and plates to have a slight vibratory motion. The object of this is to give to the platform an independent vibratory motion under the concussion consequent upon shifting on and from off the scale, and thus by its independent motion, in connection with the action of the balls under the fulera of the weighing-levers and the swinging motion of the frame on which the levers are supported, obtaining a universal and compensating motion by distribution of the concussion on the scale to lessen, if not entirely get rid of, the wear on the knife-edges of the fulera, and thus give greater durability to the scale, as well as preserving its sensitiveness to small differences of weights.

Letter P is a hollow upright case or standard attached to the back end of the frame of the machine. In this case is adjusted an extension-case R. Through its center is a rod S, having its lower end secured to the end of the weighing-lever E and its upper end to the fulera of the weighing-beam T, suspended by a hook U, in the usual way, to the box or head R² of the extension-case.

Letter V is a lever attached by any suitable means to the side of the stationary case P. This lever is used to elevate the extension-case, the object of which is to lift the platform from off the frame of the machine when weighing articles and at the same time apply the power to lift it directly to the end of the weighing-levers E, instead of applying it to the fulera of the weighing-beam, as is commonly done in platform-scales, which method of elevating the platform has a tendency to disarrange the counterpoise of the weighing-beam at each weighage, but at the same time warp or spring the beam itself.

Having now described my invention and its operation, I will proceed to set forth what I claim and desire to secure by Letters Patent of the United States:

1. The combination of the jointed siderods c^2 , connected by the link D, and six links B for supporting the same, with the frame A and weighing-levers E of a platform-scale, for the purposes hereinfere set forth.

2. The use of the extension-case R, in combination with the stationary case P, weighing-levers E, and scale-beam T, for the purposes hereinbefore set forth.

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Witnesses:

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