A. B. DAVIS.

PLATFORM SCALE.

No. 33,297. Patented Sept. 17, 1861.

Fig. 1.

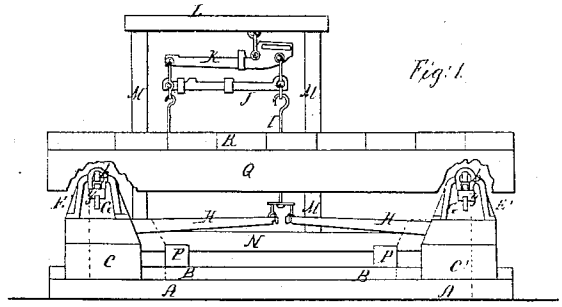


Fig. 2.

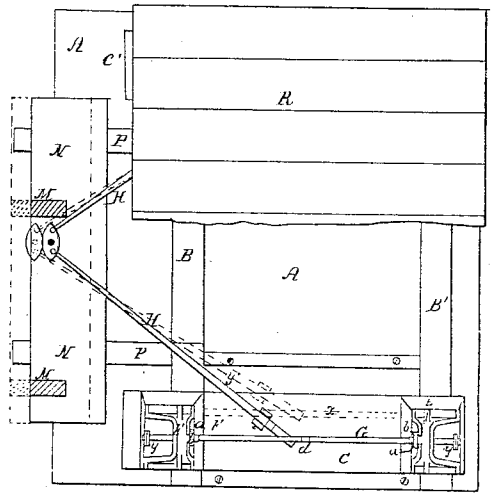
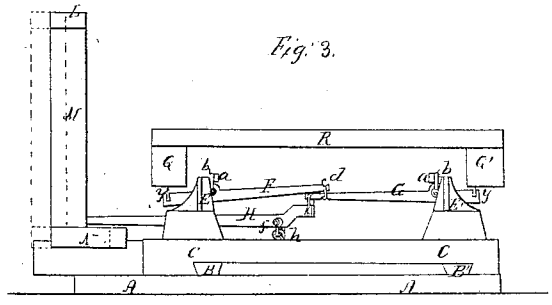


Fig. 3.



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UNITED STATES PATENT OFFICE.

AUGUSTUS B. DAVIS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PLATFORM-SCALES.

Specification forming part of Letters Patent No. **33,297**, dated September 17, 1861.

To all whom it may concern:

Be it known that I, AUGUSTUS B. DAVIS, of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Platform-Scales; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in that class of platform-scales which is used for weighing loads of hay, coal, and other heavy objects; and my improvement consists in a peculiar arrangement of levers, described hereinafter, whereby a platform of extended length may be substituted for a shorter platform after a simple adjustment of the said levers and their appurtenances, and without resorting to a general dismemberment and reconstruction of the scale, which under the above circumstances would be demanded by a platform-scale of the ordinary construction.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is an end view of a platform-scale with my improvements; Fig. 2, a plan view with part of the platform removed, and Fig. 3 a side view.

Similar letters refer to similar parts throughout the several views.

A represents the foundation of the scale, and to this foundation are secured the two beams B and B′, which serve as guides for the two transverse beams C and C′, and which are also secured to the foundation. Near one end of the beam C is secured a chair E, and near the opposite end of the beam a similar chair E′, the beam C′ at the opposite end of the foundation being furnished with similar chairs. Each chair has a projection *a*, carrying a clevis *b*, the clevis of the chair E carrying the lever F and that of the chair E′ carrying the lever G. These levers F and G are connected together by the clevis *d*, and the latter lever is connected to the short arm of the lever H by a clevis *e*, the fulcrum of the latter lever being in the clevis *f*, which is secured to an eyebolt *h*, so connected to the beam C as to readily turn therein.

A system of levers precisely similar to that above described are suspended to chairs secured to the beam C′ at the opposite end of the foundation.

It will be observed on reference to Fig. 2 that the levers H take an angular direction, their ends nearly meeting each other at a point where they are connected to a vertical rod I, the upper end of which is attached to the graduated scale-beams J and K, the latter being supported by a frame composed of the cross-bar L and the uprights M M, which are secured to a beam N, resting on and guided by the beams P P of the foundation A. The graduated scale-beams J and K are in the present instance constructed and arranged in the manner described in my patent of February 26, 1861. As they form no part of my present improvement, however, and as any of the usual scale-beams may be used in place of those shown, an explanation of them will be unnecessary.

The platform consists of two longitudinal beams Q and Q′, connected together by the boards R, the beam Q resting on the knife-edges *y* on the short arms of the two levers F F and the beam Q′ on similar knife-edges on the short arms of the levers G G, so that any depression of the platform caused by a weight on the same will communicate a movement through the medium of the four levers F F and G G, and the two diagonal levers H H to the scale-beams K and J, by means of which the weight of the object on the platform may be ascertained.

An ordinary platform-scale is so constructed and its levers are so arranged that should an extension of the platform be required to receive objects of a length for which the original machine was not designed it becomes necessary either to make a new machine or, what is a most expensive and tedious operation, to entirely dismember and reconstruct the old one. This is not the case with a machine constructed on the plan above described, for, after withdrawing the necessary bolts or other fastenings which secure the beams C and C′ to the foundation A, these beams, with their chairs E and E′ and their levers F and G, can be moved from or toward each other, always however, retaining their position at right angles to the platform. An alteration in the position of the beams C C′ will of course de-

mand an alteration in the angular position of the levers H. For instance, in Fig. 2 the beams C and C′, with their levers, are shown as having been adjusted from a position in which a short platform was required to one which requires a longer platform, the dotted lines *x* showing the position occupied by the levers F and G, and the dotted lines *y* the position of the lever H prior to the extension of the platform. On adjusting the beams and levers for the reception of an extended platform the levers F and G and lever H will occupy the positions shown in plain lines, the angle of the lever H being changed, and this change involving the necessity of a change in the position of the frame which carries the graduated scale-beams J and K, the base N of this frame having been moved nearer to the edge of the platform from the position shown by dotted to that illustrated by plain lines, Fig. 2. It will now be seen without further description that when an extended platform is required for a scale constructed as described above, all that is necessary is to remove the fastenings which secure the beams C an C′ and those which secure the base T of the frame which carries the graduated levers, then to move the beams apart from each other and to adjust the base N to the position demanded by the change in the position of the levers H H, after which the parts may be again secured and the extended platform deposited in its place. As the eyebolts *h*′ to which the levers H are connected can turn freely, the said levers will adjust themselves to any angle required. It will be understood that the under side of the beams Q and Q′ are furnished with recessed plates of metal for resting on the knife-edges of the levers F and G, and that these plates must be so arranged on the extended platform as to suit the position to which the said knife-edges have been adjusted.

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

The levers F F and G G on the adjustable beams C and C′, in combination with the diagonal levers H H and the adjustable frame which carries the graduated scale beam or beams, the whole being arranged substantially as and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

A. B. DAVIS.

Witnesses:
HENRY HOWSON,
CHARLES E. FOSTER.