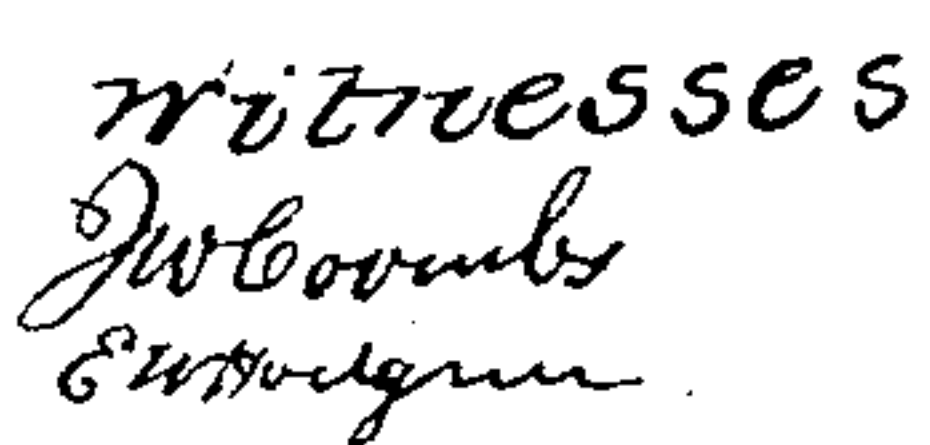


Platform Scales.

Patented May 20, 1862.



Inventors
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN PORTABLE PLATFORM-SCALES.

Specification forming part of Letters Patent No. 35,218, dated May 20, 1862.

To all whom it may concern:

Be it known that we, JOHN HOWE, JR., FRANCIS M. STRONG, and THOMAS ROSS, all of Brandon, in the county of Rutland and State of Vermont, have invented a new and useful Improvement in Platform-Scales, whereby the same are rendered portable and convenient for army and other uses; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front sectional elevation of an invention shown adjusted for use and taken in the line $x x$, Fig. 2; Fig. 2, a side sectional view of the same, taken in the line $x' x'$, Fig. 1; Fig. 3, a section of a portion of the same, taken in the line $y y$, Fig. 1; Fig. 4, a section of a portion of the same, taken in the line $z z$, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a platform-scale which will be capable of being folded so as to form a very compact article when not required for use, and have all its parts so protected that they cannot be injured by transportation under ordinary care, and at the same time admit of being very easily adjusted for use.

The invention is more especially adapted for army use; but may be advantageously employed in other cases.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a rectangular box, which contains two lever-frames, B B', on which the platform C rests. The frames B B' are suspended within the box A by loops or hangers a , and are connected at their inner ends by a link, b . The frame B has one arm, D, projecting from its inner end, and to the end of this arm the steelyard-rod E is attached. This steelyard-rod E is formed of two parts, $c d$, connected together by a joint, e , formed of two hooks, said joint being a trifle above the box A and extending up at one corner of it.

F is a rectangular box, which is connected to the box A by hinges or joints f , and may be

considered as a cover to the box A, as F fits snugly down on A when the implement is closed, as shown in red outline in Fig. 2, the two parts being secured together by a hasp and staple or other suitable catch or fastening.

The part c of the steelyard-rod E extends along within the cover F, and is connected at its end to a graduated beam, G, which is hung in a loop, g , attached to the inner side of the cover F and on knife-edge journals h , as usual. The rod E is also attached to the beam G by a loop, i , which rests on knife-edge bearings j , attached to the beam, as shown clearly in Fig. 1. The beam G is provided with an adjustable counterpoise, H, as usual, and to the outer end of the beam there is suspended a weight-supporter, I, arranged in the ordinary way.

The outer end of the beam G is fitted in a guide, J, which is attached to the inner side of the outer end of the cover F, and in this guide J there is placed a swinging arm, K, which is forked or slotted at its outer end, and when pressed down fits over the outer end of the beam G and secures the same firmly down on the lower part of the guide J, as shown in red in Fig. 3. A spring, a^x , bears against the upper part of K and prevents it from casually moving. To the inner surface of one of the side pieces of the cover a hook, k , is attached by a spring, l , and this hook is fastened into a staple, m , at the under side of the weight-supporter I, to secure the latter in proper position when not in use. (See Fig. 1.)

The inner side of the beam G has a pin, n , passing through it transversely, and projecting from either side, and at the inner surface of the side of the cover directly below pin n there is a slide, L, which is fitted in a guide, o . The slide L has a forked arm, p , projecting horizontally from its upper end and underneath the pin n . A spring, M, is attached at its upper end to the arm p , said spring being connected at its lower end to the guide o . This spring M has a tendency to keep the arm p down and free from the pin n of the beam G. (See Fig. 1.) The slide L and its arm p are raised, when desired, by means of a lever, N, at the lower part of guide o .

O O' represent two india-rubber bearings,

which are attached to the inner surfaces of the ends of the cover F and serve, when the implement is closed, to keep the platform C in proper position, as shown in red in Fig. 2.

Within the cover F there is placed in suitable bearings, q q , a rod or shaft, r , on which the scale-weights s are placed, and to the rod or shaft r , at each end, there is permanently attached a weight, t . These weights t , by their gravity only, keep the scale-weights s on the rod or shaft r , as said shaft has a plate, u , attached to it, over which the slots v in the weights fit, and this plate is always kept in a vertical position by the weights t in whatever position the cover F is placed. A plate or guard, P, is attached to the inner part of the cover F, directly over the scale-weights s , to prevent the latter being casually detached from the shaft r and plate u .

To adjust the implement for use, the cover F is raised to a vertical position, as shown in Figs. 1 and 2, the hook k detached from the weight-supporter I, the arm K in guide J raised up from the beam G, and the slide L lowered, so that its arm p will be free from the pin n of the beam. The beam, being thus liberated, is free to act in the usual way, the platform C being of course liberated from the elastic bearings O O' by the raising of the cover F. The substance or article to be weighed is placed on the platform C and the weights s placed on the supporter I.

The jointed steelyard-rod E, it will be seen, admits of being folded as the cover F is turned down on the box A. In closing the implement the weight-supporter I is secured by attaching the hook k to it, the outer end of the beam secured by pressing down the arm K upon it, and the inner end of the beam slightly elevated by forcing up the slide L and arm p . This latter adjustment is important, as it prevents the fulcrum h being injured by friction or rubbing, which would occur were the knife-edged journals h allowed to work freely in the loop g . The beam, therefore, and its appendages are fully secured and prevented from working or shifting about when the implement is closed and transported about from place to place. The scale-weights s are also

secured in position, as well as the platform C, as previously stated, and as the platform C rests on the lever-frames B B' they also will be retained or held in proper position. Thus it will be seen that the implement or device, when not desired for use, may be compactly boxed up and transported from place to place without injury to any of its parts, and also readily adjusted for use when required. The cover F serves, when the implement is adjusted for use, in lieu of the ordinary frame or support for the beam.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The lever-frames B B' and platform C, placed within the lower part, A, of a box, in combination with the beam G, placed within the upper part or cover, F, of the box and connected to the lever-frames, as shown, and all arranged in such a manner as to admit of the part or cover F, when the scales are not in use, being folded down on the part A to form a receptacle for the scales, as set forth.

2. The slide L and arm p , or their equivalents, when placed within the box or the cover thereof and in relation with the beam G, as shown, for the purpose of raising the fulcrum h of the beam off from its bearings and preserving them from wear.

3. The elastic bearings O O', in combination with the scale and box, all arranged as and for the purpose herein set forth.

4. The hook k and spring l , when used in connection with the box and scale and placed in such relation with the weight-supporter I to properly hold the same when the box is in a closed state.

5. The rod or shaft i , provided with the plate u and fixed weights t , substantially as shown, for the purpose of holding the scale-weights s , when not in use, within the box, as set forth.

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Witnesses:

E. JUNE,
J. E. HIGGINS.