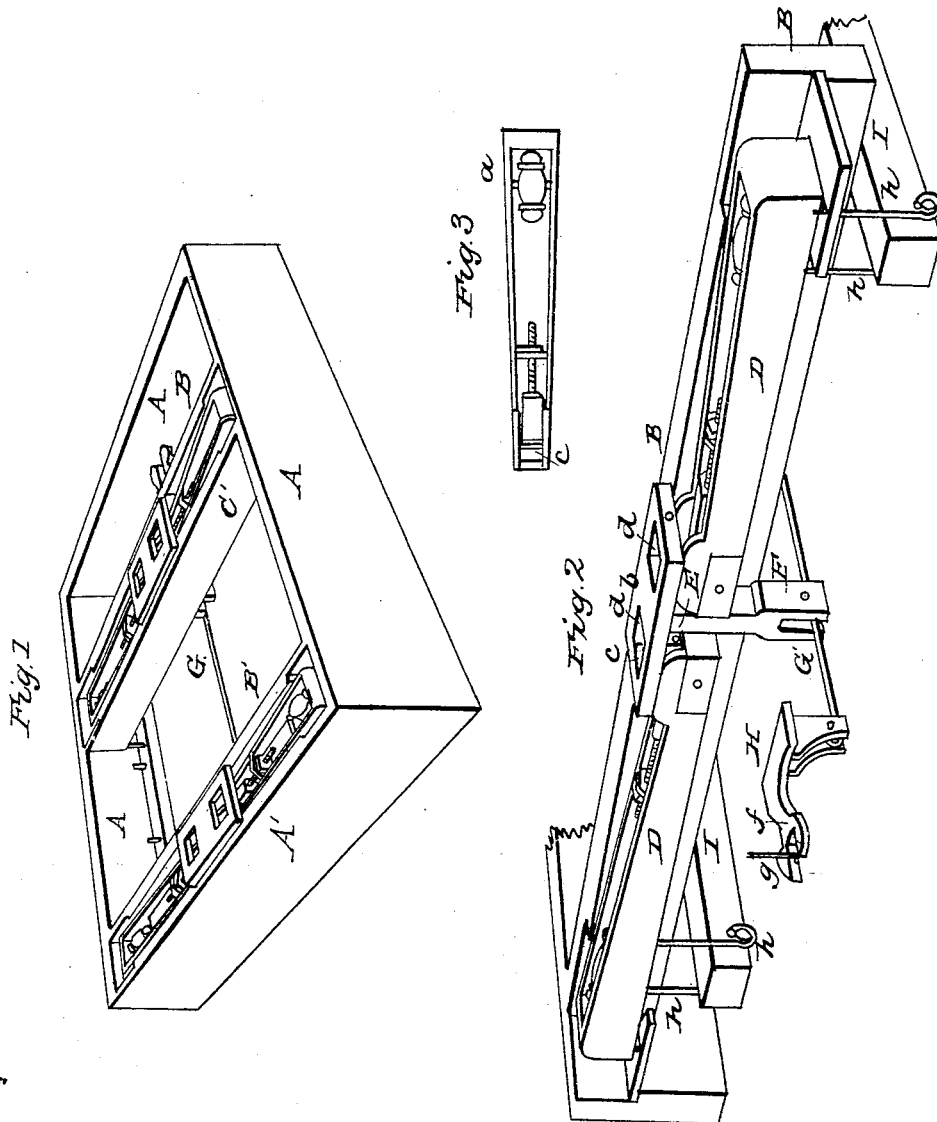


E. SAMPSON.
Platform Scales.

No. 50,537.

Patented Oct. 17, 1865.



WITNESSES
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IMPROVEMENT IN PLATFORM-SCALES.

Specification forming part of Letters Patent No. 50,537, dated October 17, 1865.

To all whom it may concern:

Be it known that I, ELNATHAN SAMPSON, of Lansingburg, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Platform-Scales; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being hereby had to the accompanying drawings, and to the letters of reference marked thereon, which drawings make a part of this specification.

Like letters represent and refer to like or corresponding parts.

Figure 1 is a perspective view, showing my invention and improvements herein described and set forth. Fig. 2 is a perspective view, showing the construction, arrangement, and operation of the various parts hereinafter described and set forth. Fig. 3 is a top view of the horizontal parallel levers hereinafter described and set forth.

The nature of my said invention and improvements consists in the arrangement of parallel levers outside and near to the platform on which the substance or material to be weighed is placed, and their combination at or near the center thereof, in the manner and for the purposes substantially as herein described and set forth.

It also consists in the employment of bell-crank or T-shaped levers and their combination with outside parallel levers, and with a center connecting-rod, in the manner and for the purposes substantially as herein described and set forth.

Having thus described the nature of my said invention and improvements, I will here proceed to describe the construction and operation thereof, in order to enable those skilled in the art to make and use the same, which is as follows, to wit:

A, Fig. 1, is the surrounding frame, and may be of wood or other suitable material, and of any required size. B and B', Figs. 1 and 2, are cross-pieces strongly framed into the frame A at any required distance from the platform of the scale. C is also a cross-piece framed into the said frame A, and near to one side of the scale-platform, and corresponds to and with the cross-piece B'. These cross-pieces may be made of any suitable material, and of a size

and strength to answer the purposes required. The cross-piece B', I frame into the said frame A at any distance from the inside of the outside frame-piece, A', as shown at Fig. 1. I then construct the width of the scale-platform to receive articles to be weighed. I then frame into said frame A, as aforesaid, the cross-piece C, which corresponds to and with the cross-piece B', as before stated. I then, at any required distance from the said cross-piece C, frame into said frame A another cross-piece, B, as aforesaid. Between the said cross-pieces thus arranged I place the horizontal and parallel levers D, Figs. 1, 2, and 3. These parallel levers have each a turning or bearing point or fulcrum, as seen at *a*, Fig. 3. This bearing or turning point may be of knife-edge or other shape, which will answer the purpose required. These bearing or turning points or fulcrums I construct at or near that part of such parallel levers near the outside frame, A, and such bearings are connected to the weighing-platform by any suitable mechanical means. The said levers D may be constructed of any size, shape, or length desired. They will be arranged immediately outside of the said scale or weighing platform, and parallel thereto, and they extend near to the center thereof, in such parallel direction, allowing, however, sufficient room between the ends thereof for the full and free operation of the bell-crank or T-shaped levers hereinafter more fully described and set forth. That end or part of such parallel levers which extends near to the center of such platform, as aforesaid, may be constructed in any required form or strength.

E, Figs. 1 and 2, is the bell-crank or T-shaped lever, and I generally construct it of some metallic substance. The top or horizontal part *b*, Fig. 2, I construct with openings *d* at or near each end thereof, which is for the purpose of facilitating the forming of the connections of said bell-crank lever with the respective ends of the said parallel levers D, which is done by means of any suitable rod extending from the inner end of such levers up to the bearing-fulcrum or turning-point *c*, Figs. 2 and 3, within said top or horizontal part *b*. The said top or horizontal parts *b* have a bearing and hinging or turning point or fulcrum upon the frame-piece A and cross-piece B, Fig. 2, and cross-piece C, Fig. 1, which may be con-

constructed in any suitable manner that will produce or cause as little friction as possible in the operation of weighing. Such bearings or fulcrums will be constructed upon corresponding sides of said horizontal parallel levers D. Upon the under side of the said top or horizontal parts *b*, I construct the downward-projecting arm F, Fig. 2, which is firmly fastened to the said horizontal part *b* in any suitable manner; or it may be cast upon and with the said upper horizontal part of the said lever, E. It will project downward to any required distance, and there be united to or connected with the center horizontal rod, G', Figs. 1 and 2, in any suitable manner which shall cause as little friction as possible in weighing operations. The said bell-crank or T-shaped levers E, constructed and arranged as aforesaid, are connected or combined by means of the said horizontal rod G, so that each will operate at the same time and by the same means. The said bearings or fulcrum of the said bell-crank or T-shaped lever E being upon the frame A and cross-piece C, Fig. 1, or cross-piece B, Fig. 2, the inner ends of the said parallel levers D are sustained and supported in position ready for weighing operations. It will be seen that to each bell-crank or T-shaped lever E there is connected and combined two of the said horizontal parallel levers D, in the manner substantially as hereinbefore described and as shown at Fig. 2. When the said bell-crank or T-shaped levers E are connected and combined by means of the rod G, as aforesaid, I continue the said connecting-rod G by means of the rod G', Fig. 2, until said rod reaches the bell-crank lever H, same figure, which lever is hinged to the scale-frame in any suitable manner. To the arm *f* of said bell-crank lever H, I attach the scale-beam-connecting rod *g*, Fig. 2. Each of said platform-scales will require but two of the said bell-crank or T-shaped levers and four of the said horizontal parallel levers D, each arranged and combined as aforesaid and

substantially as shown at Fig. 1 of the accompanying drawings. I, Fig. 2, are cross-bars, having their respective ends connected to and with outer ends of said parallel levers D by means of the upward-extending rods *h*, Fig. 2. Such bars extend across the scale from lever to lever, as seen at *h*, Fig. 2. Upon the said cross-bars I, I place the platform, upon which material to be weighed is placed, and which I do not deem necessary to have appear in the drawings. The said several bearings, turning-points, or fulcrum, will be correctly determined in the construction and adjustment of the said scale to a true and correct weighing position. The matter to be weighed being placed upon the scale-platform in the usual manner, the weight thereof will be given upon the scale-beam of the usual construction and arrangement.

Having thus described the construction and operation of my said invention and improvements, what I claim, and desire to secure by Letters Patent, is—

1. The arrangement and combination of the horizontal parallel levers D with the bell-crank or T-shaped lever E, in the manner and for the purposes substantially as herein described and set forth.

2. The employment of the bell-crank or T-shaped levers E, constructed and combined with the center connecting-rod, G and G', in the manner and for the purposes substantially as herein described and set forth.

3. The employment of the center connecting-rods, G and G', in combination with the bell-crank lever H, in the manner and for the purposes substantially as herein described and set forth.

In testimony whereof I have, on this 30th day of August, 1865, hereunto set my hand.

ELNATHAN SAMPSON.

Witnesses:

E. CAMEN,

JOHN T. LAMPORT.