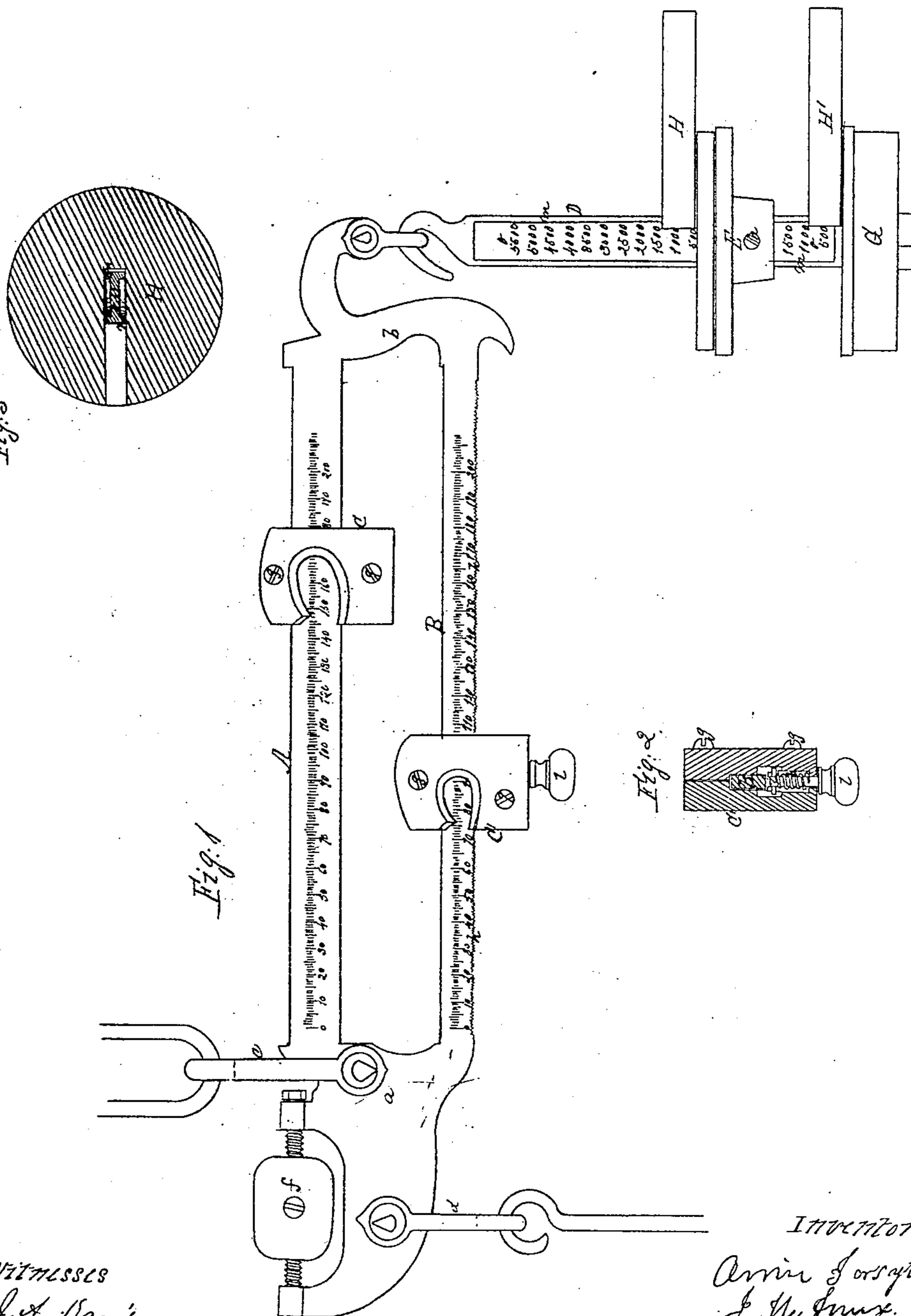


O. FORSYTH & J. H. TRUEX.  
WEIGHING SCALE.

No. 75,146.

Patented Mar. 3, 1868.



WITNESSES  
J. A. Davis  
R. B. Cooper

INVENTOR  
Orrin Forsyth  
J. H. Truex.  
By J. Graser & Co  
Attys

# United States Patent Office.

ORRIN FORSYTH AND JOHN H. TRUEX, OF ROCHESTER, NEW YORK.

*Letters Patent No. 75,146, dated March 3, 1868; antedated February 20, 1868.*

## IMPROVED WEIGHING-SCALE.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, ORRIN FORSYTH and JOHN H. TRUEX, of Rochester, in the county of Monroe, and State of New York, have invented certain new and useful Improvements in Weighing-Scales; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is an elevation of the double beam and pendulum-rod of our improved scales.

Figure 2, a vertical cross-section through the sliding tare-weight and its beam.

Figure 3, a cross-section of the pendulum-rod, and a plan of its weights.

Like letters of reference indicate corresponding parts in all the figures.

Our invention consists, essentially, in the combination of a double beam, formed in a single piece, with a pendulum-rod, having double weight-supports, whereby tare and net weight are separately indicated, and in the construction and arrangement of the parts connected therewith.

As represented in the drawings, A is the net and B the tare-beams, connected at *a* and *b*, so as to constitute a single piece. The double beam thus formed has the usual stirrups, *c d*, for hanging and connecting with the platform, and also the ordinary balance, *f*. Each beam is also provided with a scale of pounds and subdivisions, and with weights, C C', which slide over them. These weights, for convenience of connection to the beams, are made in halves, which are secured together by screws, *g g*, as shown, so that they can be applied or removed at pleasure.

The pendulum-rod D is hooked to the beam in the usual way. It is provided with a vertical scale, for indicating heavy loads, and also with two supports, E G, for the reception of the weights H H'. The support E is for net weight, and G for tare weight, corresponding with the beams A B above.

In weighing tare, if it is very heavy, the weights H' are employed to balance the main load, while the sliding weight C', on the beam B, will balance the overplus. When this is done, the net is weighed in the same manner with the weights H and C. If the loads are light, the simple sliding weights C C' will accomplish the whole.

Two or more beams, A B, have been before used in a similar manner, not formed, however, in a single piece, but connected by links; but, so far as we are aware, the employment of the rod D, with the double supports E G, in combination with the double beams, has never before been known. By this means we are enabled to weigh a heavy load with the same facility as a light one, and to indicate the tare and net separately.

The construction of the beams A B in a single piece not only facilitates the manufacture and lessens the expense, but also renders the device more effective than where they are connected by links, in which case they are liable to disarrangement, and are rattling and irregular in their action.

As the tare is usually weighed first in regular business, it is desirable that the weight C' should be fixed in position, when adjusted, while the net is being weighed. In order to accomplish this, we make a line, *h*, of notches on the lower side of the tare-beam, corresponding with the scale, into which strikes a catch or pawl, *i*, in the weight C', held up by any suitable spring, *k*. The catch is preferably provided with a knob, *l*, by which not only is it depressed to disengage it from the notches, but the weight itself is also moved on the beam. If desirable, the net-beam and weight may be arranged in the same manner. By this arrangement, we can set the weight in any desired position, and hold it there while the net is being weighed.

In weighing the net, the action of the beam is frequently so great that, unless the tare-weight is secured, it will slip. Simple notches on top, as in the ordinary steelyards, would not be effective. The simple device described will obviate all difficulty.

By locating the notches at the bottom instead of the top, the weight is not only more easily adjusted, but the notches themselves will be removed from wear. In this manner the scale may be used for years, and yet the notches receive no material wear.

That portion, *o*, of the pendulum-rod D on which the scale is marked is countersunk or depressed, leaving the edges *m m* projecting, as clearly shown in figs. 1 and 2. Therefore, the weights that are placed over the pendulum-rod will come in contact only with the edges, and will not touch the centre. This not only produces less friction of the weights, but removes the scale entirely from wear, and, therefore, it will endure for years,

and outlive even the apparatus itself. In ordinary weighing-apparatus, much difficulty is experienced from the figures becoming obliterated, or so obscured as to be not readily discerned. If desirable, the beams A B may be constructed in the same manner, though this is not of so much importance.

We make a double scale on the pendulum-rod, to indicate the tare and net weight. We place the numbers of these scales at such a distance apart as to correspond with the thickness of the weights H H'. Thus, a single thin weight, balancing five hundred pounds, will come just opposite the number "500" on the scale, and a weight balancing one thousand pounds, placed on top of it, will come just opposite the number "1,500," as indicated on the support E. In order to render this arrangement perfect in its action, so that weights of varying thicknesses may be adjusted exactly to the numbers, it is desirable to make the weight-supports themselves adjustable up and down on the pendulum-rod. This is accomplished by set-screws, n.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. Notching the under side of the beams, and employing, in combination with the same and the sliding weights, a spring-catch, i, operating in the manner and for the purpose specified.
2. Making the supports E G, on the pendulum-rod, adjustable to different distances apart, in the manner and for the purpose herein set forth.

In witness whereof, we have hereunto signed our names in the presence of two subscribing witnesses.

ORRIN FORSYTH,  
JOHN H. TRUEX.

Witnesses:

R. F. OSGOOD,  
J. A. DAVIS.