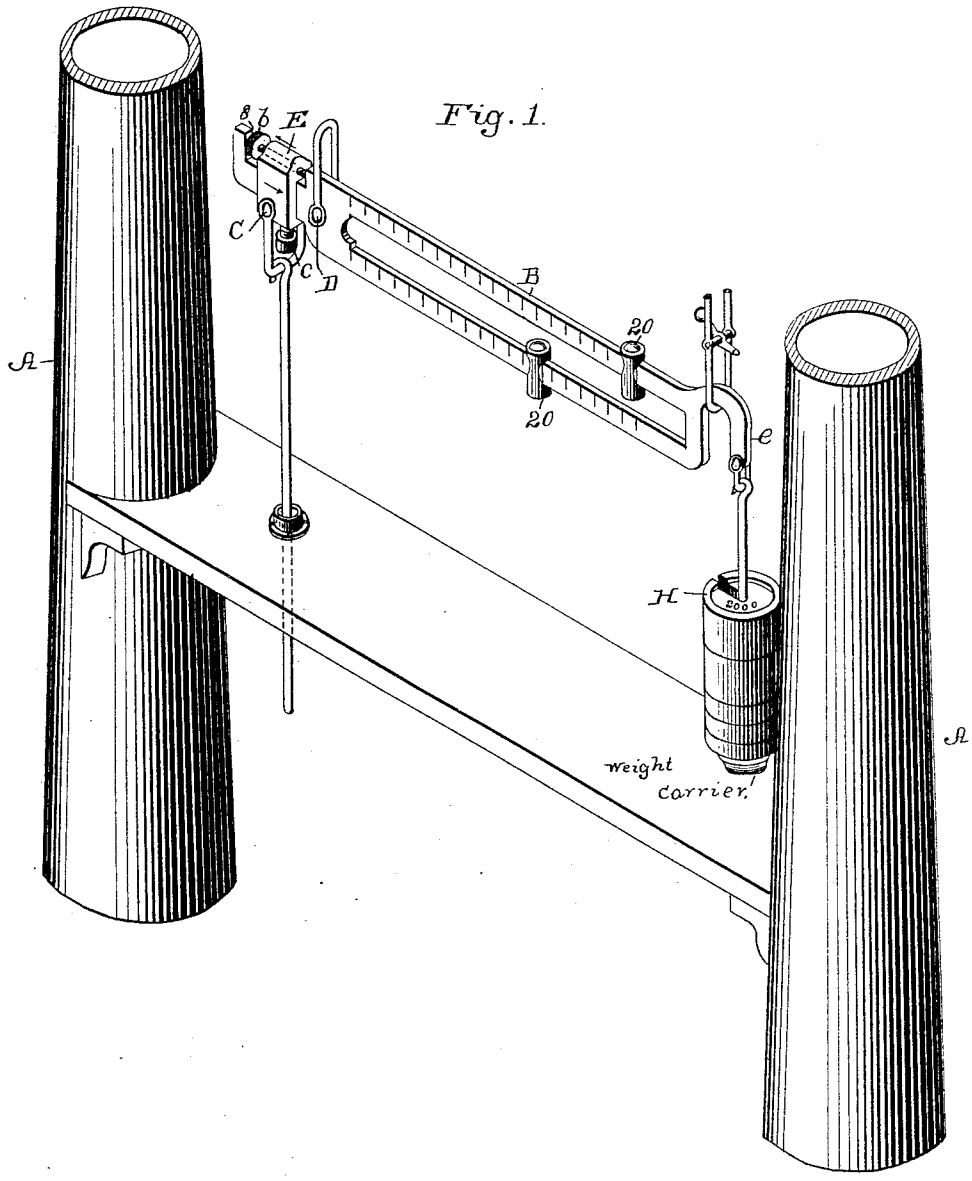
(No Model.) 2 Sheets—Sheet 1

W. H. STEWART.

WEIGHING SCALES.

No. 399,446. Patented Mar. 12, 1889.

Fig. 1.



Witnesses.

L. G. Fischer

A. Macrow

Inventor.

William H. Stewart

By his Attorney J. C. Higdon

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

W. H. STEWART.

WEIGHING SCALES.

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Fig. 2.

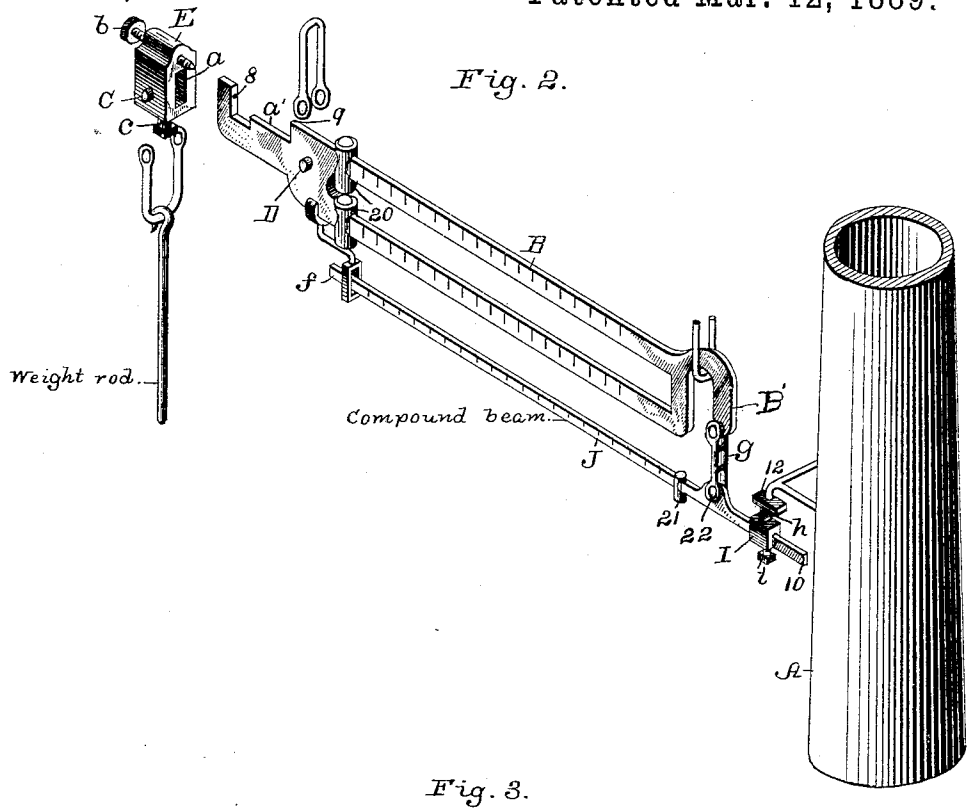
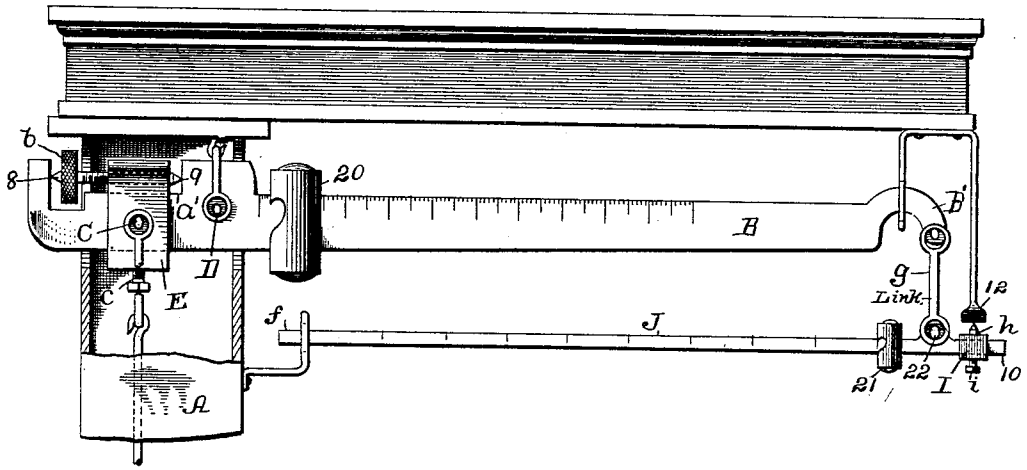


Fig. 3.



Witnesses,

L. G. Fischer

A. Macrae,

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UNITED STATES PATENT OFFICE.

WILLIAM H. STEWART, OF KANSAS CITY, MISSOURI, ASSIGNOR OF ONE-HALF TO WILLIAM S. WHITTAKER, OF SAME PLACE.

WEIGHING-SCALE.

SPECIFICATION forming part of Letters Patent No. 399,446, dated March 12, 1889.

Application filed May 1, 1888. Serial No. 272,420. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. STEWART, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Weighing-Scales, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates particularly to scale-beams; and it may be said to consist in the peculiar construction, combination, and arrangement of devices, hereinafter set forth, and pointed out in the claims.

In the drawings, which illustrate the manner of carrying out my invention, Figure 1 is a perspective view of my improved beam applied to an ordinary platform-scale, the usual counterpoise being dispensed with, but loose weights being employed. Fig. 2 is a perspective view of my invention, the usual loose weights being dispensed with, and Fig. 3 is a side elevation of this last-named arrangement applied to an ordinary platform-scale.

A indicates the supporting standard or standards of the scale.

B represents my improved beam, which is provided with the ordinary graduations and stationary knife-edged fulcrum-point or studs D. The weight-pivots or pivotal point C, however, is made movable and detachable, as will be presently described, whereby said weight-pivots can be moved nearer to or farther from the fulcrum-point for the purpose of balancing the scales without the use of counterpoises. The inner end of the beam B is provided with a shank, a', on which a block, E, carrying pivot-studs C, is adapted to be moved back and forth, as may be necessary. Said block is provided with a passage, a, which engages the shank a' on the beam, and it is also provided with a thumb-screw, b, by means of which it may be adjusted on said shank. The shank a' is provided with a recess in its upper edge, in which the thumb-screw b operates, the ends of said screw having bearings in opposite ends, 8 and 9, of said recess. The set-screw c is passed through the under side of the block E and engages the shank a', for the purpose of locking said block and its studs in any position to which they may be adjusted.

The operation of this arrangement is as follows: When it is desired to balance the beam, the poises or bobs 20 are set back to zero and the thumb-screw b is turned in one direction or the other, thereby moving the block E (carrying the weight-pivots) nearer to or farther from stationary pivot D, after which said block may be securely locked in position by means of the set-screw c. In some cases I may construct the beam with the movable weight-pivots and still make use of the ordinary loose weights, H, at the outer end of beam, as shown more clearly in Fig. 1. However, I prefer the arrangement which I will now describe. J is an additional or compound beam having suitable graduations, and also provided with a suitable sliding poise or bob, 21. One end of this beam is provided with a movable pivot or pivotal point, h, as will be immediately described, while by means of link g it is fulcrumed to the outer end, B', of the main beam B.

An adjustable block, I, is provided with a knife-edged pivot, h, on its upper side, and with a set-screw, i, on its under side, and it has a suitable passage which engages the shank 10 on the outer end of the beam J. The pivot h may also be adjusted nearer to or farther from the fulcrum 22, as may be required, for the purpose of balancing the beam J without the use of counterpoises, and said pivot h presses upward against a stationary bracket, 12, which projects from standard A of the scale. In this arrangement for dispensing with loose weights (shown in Figs. 2 and 3) the bob 21 is to be moved inwardly toward the end f when heavier materials are to be weighed, and vice versa.

The operator need not pay attention to the outer end of the beam B. On the contrary, he should watch the inner end of the beam J to notice when it rises or falls or is poised.

Having thus described my invention, what I claim is—

1. The main beam of a scale, in combination with an additional beam hung below and fulcrumed to the main beam, said additional

beam being provided with a shank at its outer end, and a movable block which is located on said shank and carries a pivot.

2. In a weighing-scale, the main beam B, in combination with additional beam J, hung below it, link *g*, which fulcrums the lower beam to the upper movable block, I, carrying pivot *h*, located on outer end of beam J, and a stationary bracket or surface which is engaged by pivot *h*.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. STEWART.

Witnesses:

S. S. MOREHOUSE,

J. C. HIGDON.