

No. 698,048.

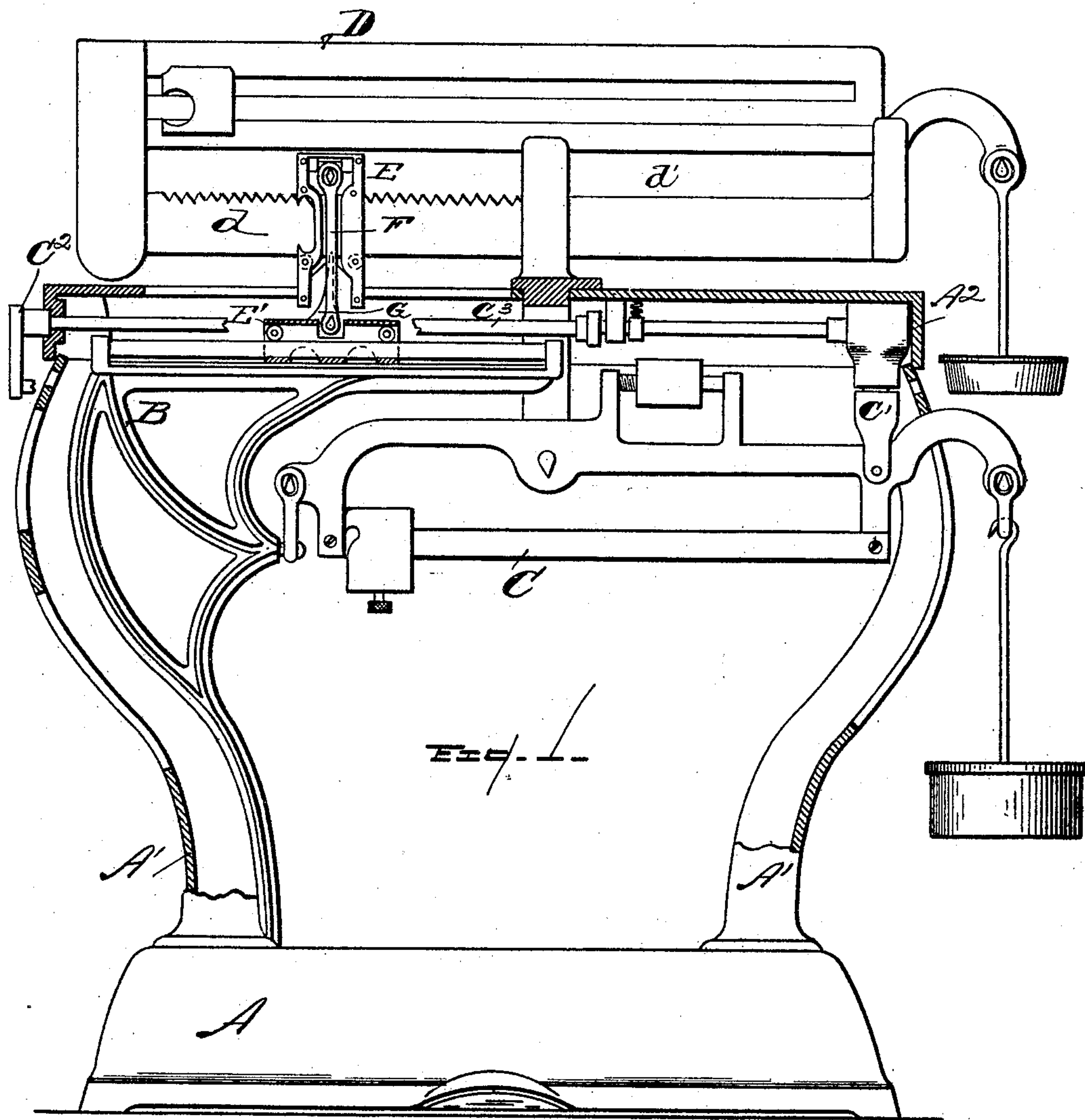
Patented Apr. 22, 1902.

F. C. OSBORN.
COMPUTING SCALE.

(Application filed Dec. 17, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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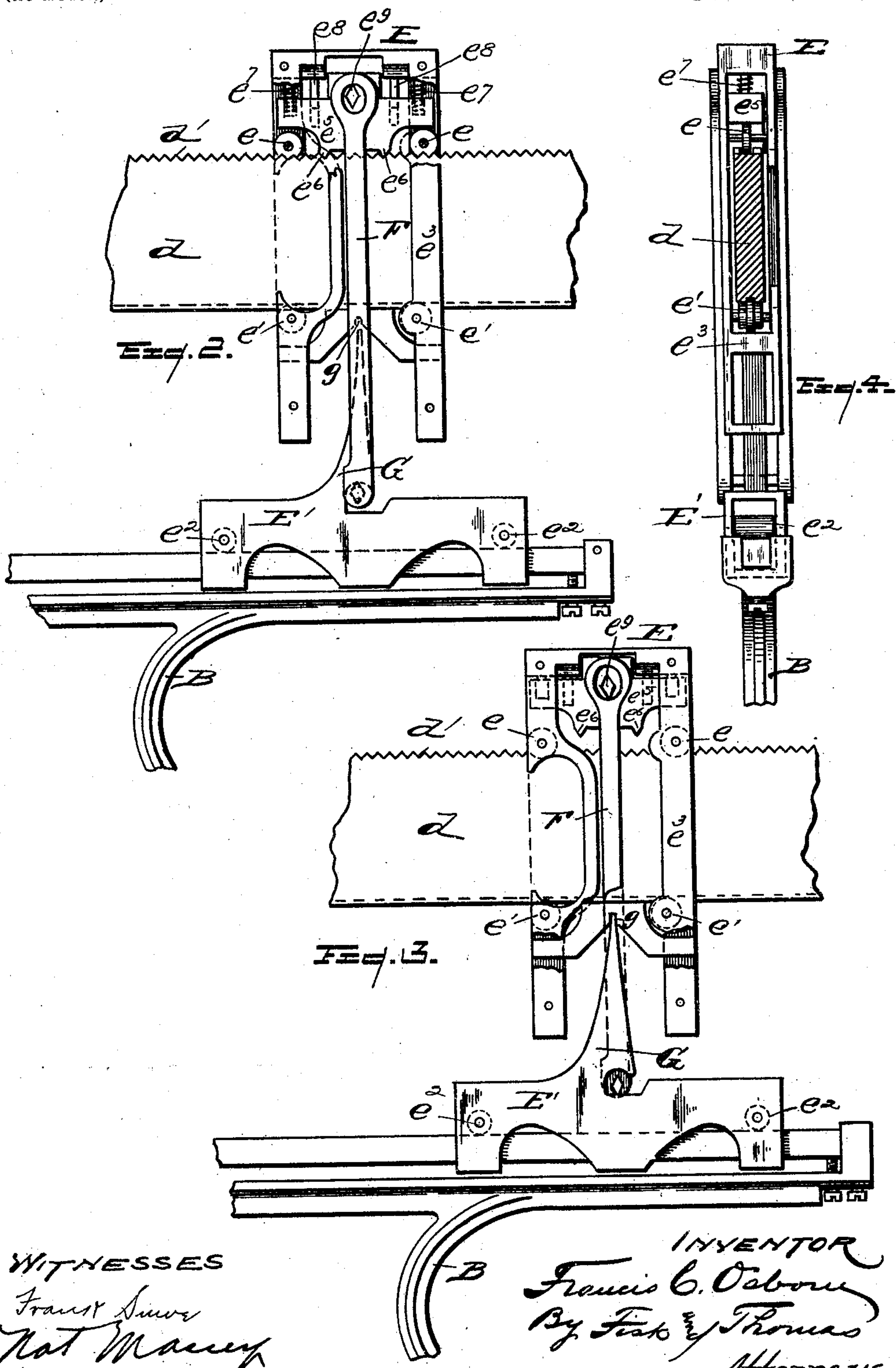
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2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

FRANCIS C. OSBORN, OF DETROIT, MICHIGAN.

COMPUTING-SCALE.

SPECIFICATION forming part of Letters Patent No. 698,048, dated April 22, 1902.

Application filed December 17, 1900. Serial No. 40,179. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS C. OSBORN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Computing-Scales; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to computing-scales; and it consists in improvements in details of the construction of the movable connecting-block.

My invention is shown in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of the upper working parts of a scale embodying my invention. Fig. 2 is an enlarged sectional view of the connecting-block, showing the details of the construction with the front removed. Fig. 3 is a similar view with the parts in different position, and Fig. 4 is a vertical section of the connecting-block.

In the drawings, A represents the base, A' the standards, and A² the upper frame, of the scale.

B represents the standing connecting-frame, the purpose, construction, and connection of which are more fully explained and shown in my application, Serial No. 703,412, filed January 26, 1899.

C represents the tare-beam, which is so connected to the frame B as to constitute the means for lifting the frame B, which lifting is accomplished by tilting the tare-beam through means shown, consisting of the rock-shaft C³, the plunger C', and the lifting-rod C², all of which are more fully described in the said application.

D represents the beam, and *d* that portion of the beam commonly called the "price-bar," being the bar to which the load is applied at varying distances from the fulcrum to correspond with the different prices per pound. This beam is graduated and provided with notches *d'* on the upper edge. The connecting-block that is the subject of my invention herein claimed consists of the head-block E,

having a slidable engagement with the price-beam *d*, the block E', having a slidable engagement with the upper edge of the frame B, and the connecting means between the blocks E and E'. The head-block E is carried along the beam *d* on the rolls *e e*. These rolls are brought to a thin edge on their outer periphery, and the upper edge of the beam *d* is provided with a longitudinal channel, in which the thin edges of the rolls *e e* travel.

e' e' are rolls that have a similar engagement with the under side of the beam. The two pairs of rolls thus serve to constitute an antifriction-bearing between the head-block and the beam, both top and bottom, and also serve to keep the block in an upright position when released from the load by the lifting of the frame B. The block E' is also provided with a pair of rolls *e² e²*, that support the block when the frame B is lifted and when the connecting-block is being moved along the beam.

The frame of the head-block E consists of the center portion *e³*, in which the rolls *e* and *e'* are mounted. In Figs. 2 and 3 I show the head-block with the front plates removed.

In the upper end of the frame *e³* is loosely mounted a movable block *e⁵*, provided with downward-extending teeth *e⁶ e⁶*, that register with the notches on the upper edge of the beam when the load is on the connecting-block. This block *e⁵*, however, has a vertical movement against the springs *e⁷ e⁷* sufficient to lift the knife-edges *e⁶* out of engagement with the beam. To cause the ends of the block *e⁵* to move up together, I provide guide-pins *e⁸ e⁸*, that loosely engage with the block. Extending out from the front and back of the block *e* are pivots *e⁹*, having knife-edges top and bottom, and suspended from these pivots are links F, having a pivoted engagement with the block E'. These links F thus form the connection between the upper and lower portion of the connecting-block. The construction and connection are such that when the frame B and block E' are lifted the links F are forced upward, carrying with them the block *e⁵*, lifting it out of engagement with the beam and having the head-block free to move along the beam. The connecting or price block is set to the desired po-

tion when the block e^5 is out of engagement with the beam by moving the upper part with the hand.

To provide for moving the block E' along the head-block, so that the link F will retain its vertical position, I provide the finger G , rising from the block E' and arranged to engage with a recess g in the head-block. The recess g is located between and on a line with the rolls $e' e'$. When the block E' is lifted, it causes the links F to lift the block e^5 out of engagement with the notches in the price-beam, leaving the head-block free to be moved along the beam. The same movement causes the point of the finger G to engage with the recess g of the head-block midway between the two rolls on the under side of the beam, thereby uniting the head-block E and the lower block E' , so as to cause them to move together.

What I claim is—

1. In computing-scales, of the class described, the combination of the price-beam and connecting-block relatively movable and a part with which the connecting-block cooperates at its lower extremity, said connecting-block consisting of the lower member, the upper frame, the links, and the movable block provided with means for engaging the beam, said links arranged to lift the movable block, substantially as described.

2. In computing-scales of the class described, the connecting-block consisting of the lower member, the frame, the movable member arranged to engage the beam and links connecting the lower member and the movable member and arranged to support the load from the lower member in weighing and to lift the movable member out of engagement with the beam to put the block in condition to be moved, substantially as described.

3. In scale construction, the head-block and beam relatively movable and a part with which the connecting-block cooperates at its lower extremity, said head-block including in its construction a frame having a slidable engagement with the beam and a movable member located above the frame and beam and arranged to be drawn into engagement with the beam, by the weight of the load and the links engaged with said movable member and arranged to lift the same, substantially as described.

4. In scale construction, the combination of the price-beam provided with notches upon its upper edge and a head-block consisting of a frame having a slidable engagement with the beam, the movable member above the frame provided with centering-points, and the links having pivotal engagement with the movable member whereby the centering-points of said

movable member are forced into engagement at the weighing-point with the beam when the load is thrown upon the links, substantially as described.

5. In scale construction, the beam and head-block relatively movable, said head-block provided with a pair of rollers above the beam and a pair of rollers below the beam, the links and an element below the head-block capable of vertical movement and provided with an upstanding finger arranged to engage with the head-block between the lower pair of rolls, substantially as described.

6. In scale construction, the beam, the connecting-block and the standing frame B , said connecting-block consisting of the head-block having two points of contact on the under side of the beam, the links and a member having a slidable engagement with the frame B provided with an upstanding finger arranged to engage the head-block between the two points of contact with the beam, substantially as described.

7. In scale construction the beam and head-block relatively movable said head-block having two points of contact on the under side of the beam the links and a lower member provided with an upstanding finger arranged to engage the head-block between the two points of contact with the beam, substantially as described.

8. In scale construction, the combination of the price-beam, the head-block, the links, the frame B and a movable member on the upper edge of the frame provided with a finger arranged to engage with the head-block to cause said movable member and head-block to be moved together one by the other, substantially as described.

9. The head-block provided with a movable block arranged to engage the beam at two points links suspended from said movable block to support the load and for lifting said block independent of the frame of the head-block to clear all points of engagement with the beam, substantially as described.

10. The head-block provided with a movable block arranged to engage the beam at two points, links suspended from said movable block to support the load and lift the block, and means for guiding the movable block to cause it to clear all points of engagement with the beam, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

FRANCIS C. OSBORN.

Witnesses:

S. E. THOMAS,
C. W. FISK.