

(No Model.)

F. F. MEYER.
PLATFORM SCALE.

No. 546,673.

Patented Sept. 24, 1895.

Fig. 1.

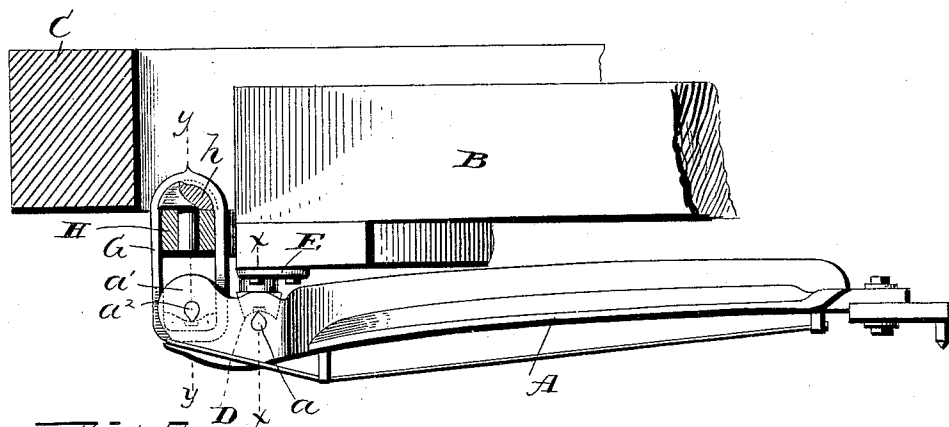


Fig. 2.

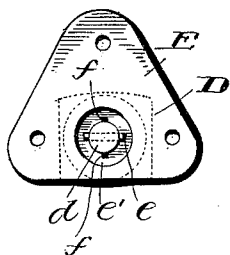


Fig. 4.

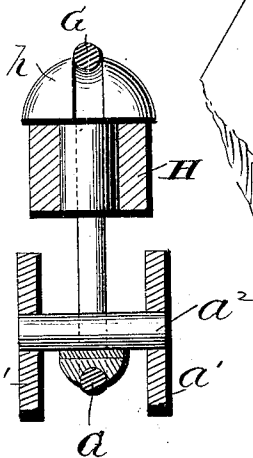


Fig. 3.

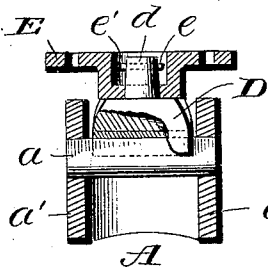
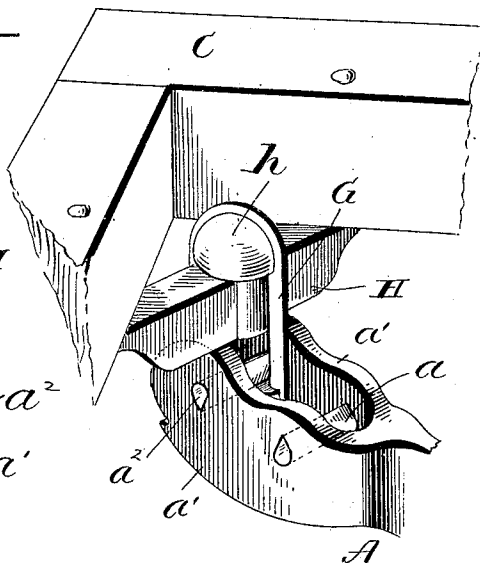


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK F. MEYER, OF NEWARK, NEW JERSEY.

PLATFORM-SCALE.

SPECIFICATION forming part of Letters Patent No. 546,673, dated September 24, 1895.

Application filed August 17, 1893. Serial No. 483,403. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK F. MEYER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, 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 same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to platform-scales, and more especially to those that are designed for weighing large objects, and it has for its object the improvement of the pivotal supports or bearings of the scales, so as to make them less liable to get out of order, and thus prolong their accuracy and add to their durability. The object is attained by the construction and combination of parts hereinafter specified, and illustrated in the annexed drawings, in which—

Figure 1 is a view partly in section and partly in side elevation of one of the scale-levers and portions of the fixed and the movable or platform frame; Fig. 2, a detail plan view of the platform-bearing; Fig. 3, a section on line *xx* of Fig. 1; Fig. 4, a section on line *yy* of Fig. 1, and Fig. 5 a detail perspective view.

Platform-scales as heretofore constructed have had two serious defects in the construction of the pivot mechanism. In the case of the pivotal connection between the platform and the levers the bearing-plates, provided on the former to engage the knife-edge of the pivots of the levers, have been rigidly attached to the platform, so that movement of the latter in a horizontal plane would necessarily move such plates relative to the pivots, and thus not only wear off the knife-edge thereof, but also destroy the parallelism between the bearing-plates and the pivots. In the case of the connection between the levers and the fixed part of the scale structure the construction has been such that horizontal play or motion of the levers has not fully been provided for, so that parts would break, as a result of the strain to which they were subjected, and the part usually broken would be the pivot in consequence of the manner of its support. The defects noted I have es-

pecially sought to obviate; but, as will appear, the invention will be found to possess other advantages.

I have deemed it unnecessary to show more than one scale-lever A, and but portions of the platform-frame B and the fixed frame C, both frames, as usual, being rectangular and the former within the latter.

Near its outer or heel end the lever A has a knife-edge pivot *a* of usual construction, which is engaged by the bearing of the platform. This bearing comprises a block D, having its under or pivot-engaging surface made concave and provided on its upper side with a round stud or pintle *d*, and a plate E, bolted to the under side of the frame B and provided with an opening to receive and journal the pintle *d*, so as to permit independent horizontal motion of the two parts of the bearing.

It will be seen that by the construction described the unavoidable horizontal motion of the platform will not cause any variation in the relative positions of the pivot and the block D, as the destructive rocking of the rigid bearing, for which the latter is substituted, is wholly obviated by the pivoting or swiveling of such block.

The block D is prevented from dropping out of engagement with the journaling-plate E by a pin *e*, that passes through and projects on opposite sides of the pintle *d*, to engage the bottom of a cavity or recess *e'* in the upper side of the plate E. For connecting and disconnecting the block and plate notches *f f* are provided in the edge of the pintle-opening in the plate to permit the passage of the projecting ends of the pin *e* into the cavity *e'*. These notches are so situated that the pins will be moved out of alignment with them when the block is in proper engagement with the pivot *a*.

It will be observed that the sides of the lever are carried up sufficiently above the pivot *a* to engage the block D on opposite sides. This arrangement insures the preservation of the relative position of the block and pivot. Without this provision there is danger of the block being moved lengthwise over the pivot by a horizontal movement of the platform, and remaining in the position to which it is moved if the platform should fail to return.

This is thus prevented, as the engagement with the lever causes the parts to move together, and results in the restoration of the platform to its original position.

- 5 The heel of the lever A is slotted or bifurcated to form two separate arms $a'a'$, and at its extreme end there is a pivot a^2 , extending from one arm to the other. The under knife-edge of this pivot, between the arms $a'a'$,
 10 engages the lower end of a suspending link G, whose upper end passes over a bar II, extending obliquely from one bar of the frame C to the adjoining one. The link does not engage the bar directly, but rests upon the
 15 head of a block or piece h , that is pivoted or journaled in an opening in the bar II.

- It will be seen that any horizontal oscillation or motion of the lever will result in no twisting or straining of the pivot a^2 , since the
 20 pivotal support of the link will instantly respond to such motion. In this connection the employment of but one link between the pivot a^2 and the cross-bar II is of importance, as there is thus only one part to respond to
 25 the movement of the lever. A further element of safety to the pivot a^2 resides in its being attached to the lever at both its ends, and is engaged by the link between its ends. There can thus be no twisting and breaking
 30 of the pivot, such as occurs when this arrangement is reversed, and what is known as a "parallel" is used to suspend the lever by. Besides this, actual test has demonstrated that

a pivot thus supported at both ends will sustain much more weight than the other construction referred to. Preferably, a wearing block will be placed in the lower end of the link to engage the pivot a^2 ; but this may be omitted and the link directly engage the pivot.

The slotting or splitting of the heel of the lever is of advantage in permitting dirt or refuse to pass through and thus avoid clogging of the bearings.

I wish it understood that I do not limit myself to the precise construction of parts, as variations may be made in particulars which will not involve a departure from my invention.

I claim—

In a platform scale, the lever having its inner end made bifurcated and having the two pivotal bearings passed through this end, the block D provided with the pintle d , and the recessed plate E through which the pintle passes and in which it has a turning movement, combined with the suspending link G provided with a bearing for the end pivot, the bar II, and the head or block h , placed upon the bar, substantially as shown.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

FREDERICK F. MEYER.

Witnesses:

FRANKLIN L. MEYER,
 BERNHARD HELD.