

(No Model.)

2 Sheets—Sheet 1.

H. M. MERRILL.  
PLATFORM BALANCE.

No. 483,937.

Patented Oct. 4, 1892.

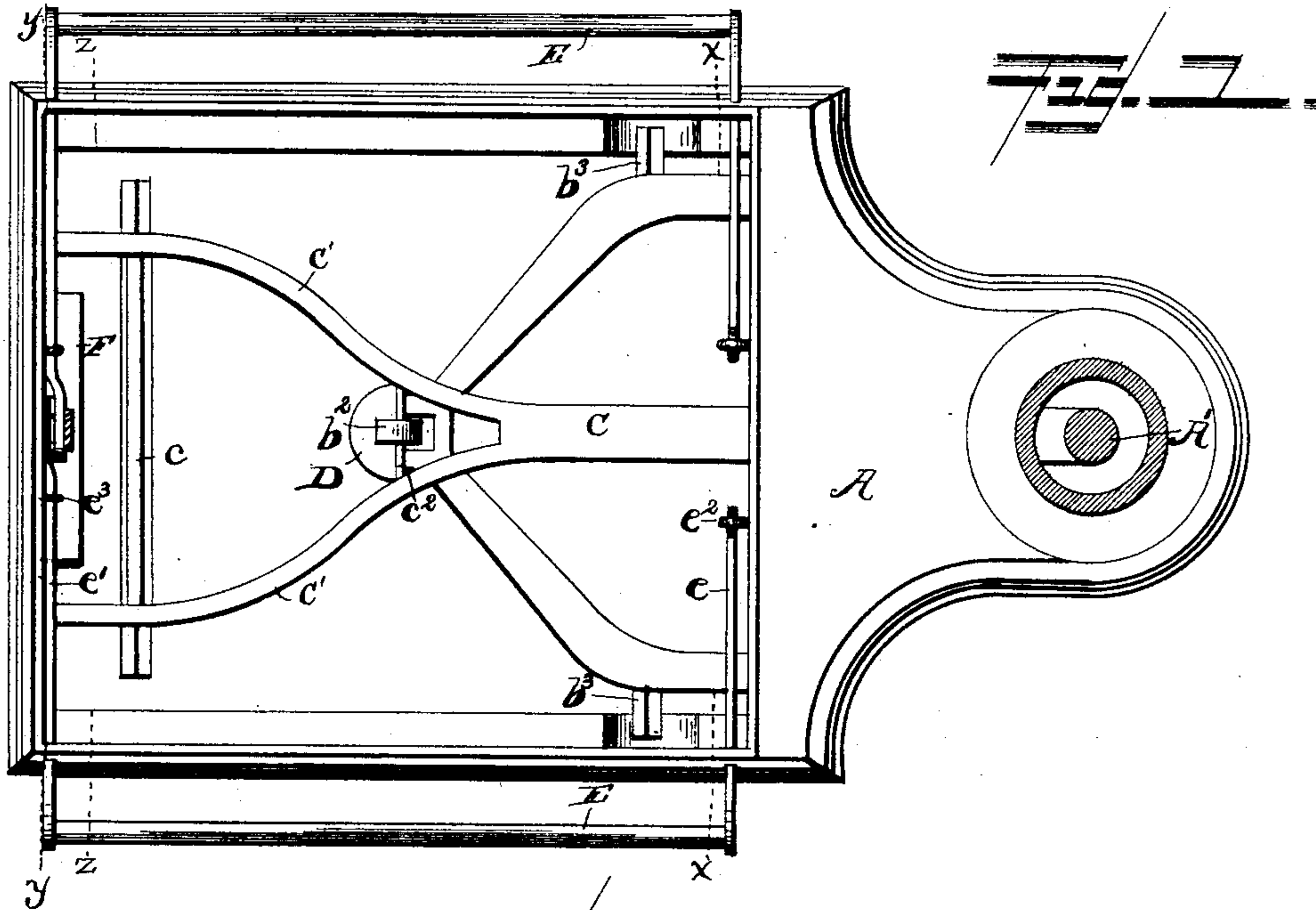


Fig. 2.

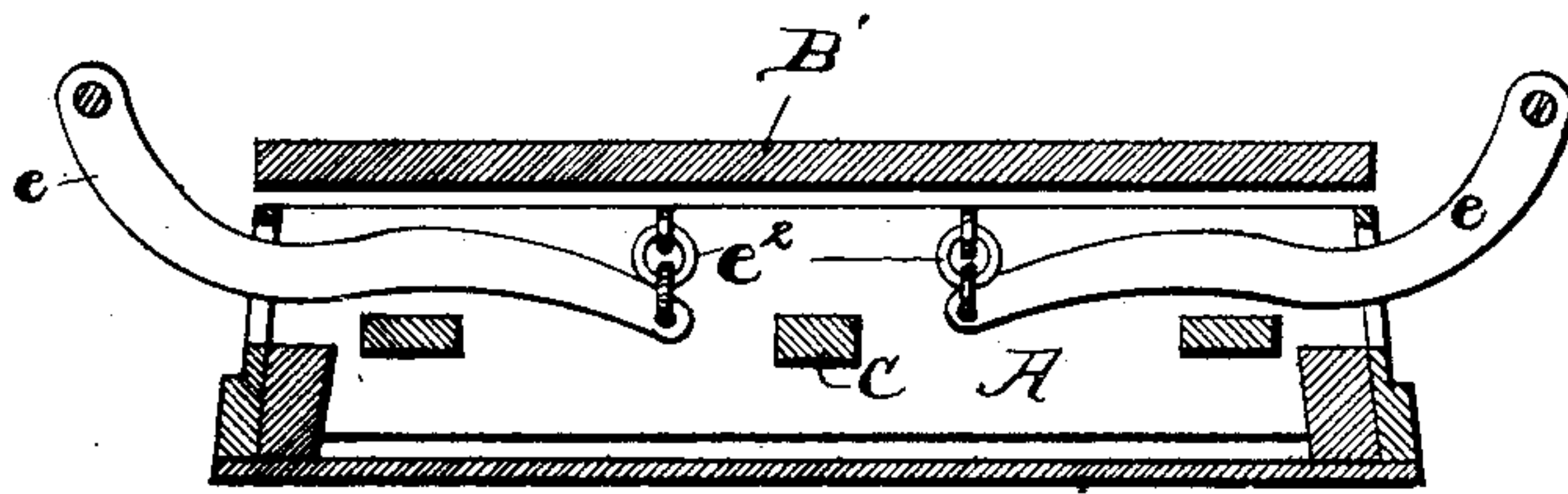
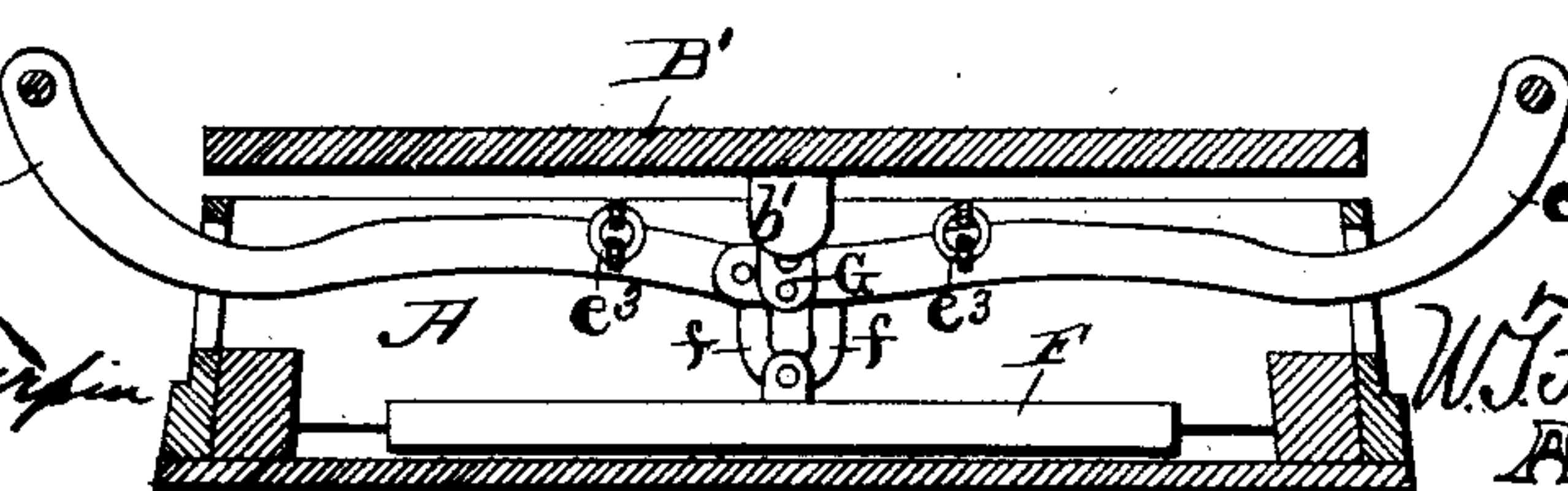


Fig. 3.

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Witnesses.

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Thomas E. Purkin



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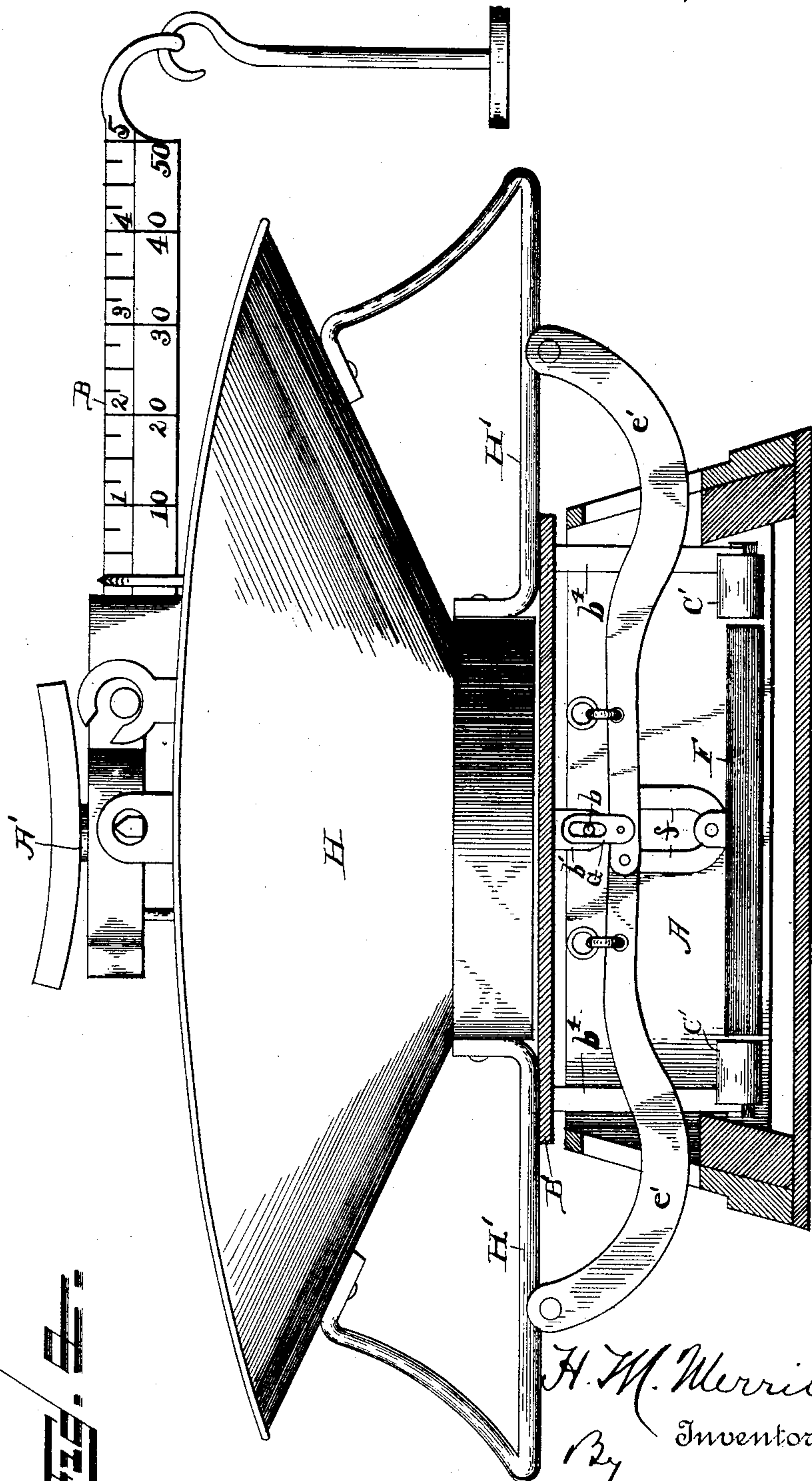
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2 Sheets—Sheet 2.

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Witnesses  
C. J. Frye  
Thomas C. Turpin

H. M. Merrill  
Inventor  
By W. J. Fitzgerald  
Attorneys



# UNITED STATES PATENT OFFICE.

HARVIE M. MERRILL, OF MARSHALL, MICHIGAN.

## PLATFORM-BALANCE.

SPECIFICATION forming part of Letters Patent No. 483,937, dated October 4, 1892.

Application filed September 19, 1891. Serial No. 406,178. (No model.)

*To all whom it may concern:*

Be it known that I, HARVIE M. MERRILL, a citizen of the United States, residing at Marshall, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Scales; and I do hereby 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 appertains to make and use the same.

My invention has relation to improvements in scales, and more particularly to that class known as "platform-scales," its object being to provide means for automatically counterbalancing the weight of a scoop or other receptacle, so as to obviate the objectionable necessity of changing the balance when anything is to be weighed requiring a scoop or other receptacle to hold it.

The invention will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a horizontal section of a scale embodying my invention, taken in a plane above the main frame, with the platform removed. Fig. 2 is a transverse section taken in the plane indicated by the line  $xx$  of Fig. 1, with the parts in their normal position. Fig. 3 is a transverse section taken in the plane indicated by the line  $zz$  of Fig. 1, with the parts in their normal position; and Fig. 4 is an enlarged transverse section taken in the plane indicated by the line  $yy$  on Fig. 1, looking toward the front, with the parts in the position they occupy when a scoop is in position upon the scale.

In the said drawings similar letters designate corresponding parts throughout the several views, referring to which—

A indicates the main frame of a platform-scale, which may be of the ordinary or any approved construction, and A' indicates a standard rising from the forward end of the frame A. This standard A' serves as a fulcrum for the beam-lever B, which is provided with the ordinary or any approved graduations, as illustrated.

Suitably fulcrumed at their rear ends upon suitable bearings are the branches C' of the bifurcated lever C, which is suitably connected at its forward end with the inner or weighted

end of the beam-lever B. The branches C' of the bifurcated lever C are connected adjacent to their fulcrum-points by a transverse bar  $c$ , of a triangular form in cross-section, which bar extends laterally outward from each of said branches and is designed for a purpose presently disclosed.

Connected by a link  $b^2$  or the like to a cross-bar  $c^2$ , bridging the branches C' of the lever C adjacent to the body thereof, is the body of the bifurcated lever D, the branches of which are fulcrumed at their forward ends and are provided at intermediate points in their lengths with lateral arms  $b^3$ , which are preferably of a triangular form in cross-section.

B' indicates the scale-platform, which is provided at or adjacent to its corners with depending legs  $b^4$ , which preferably have their lower ends notched to engage the transverse bar  $c$  of the lever branches C' and the lateral arms  $b^3$  of the lever D.

The parts of the scale thus far described form no part of my invention, and I make no claim to the same; nor do I desire to confine myself to applying my invention to such scales.

Connected at their inner ends to suitable fulcrums, as  $e^2$ , within the frame A, and preferably beneath or adjacent to the forward end of the platform B', are the transversely-disposed levers  $e$ , which take through vertical slots formed in the side walls of said frame A and are preferably curved upwardly, so that their upper ends will normally rest in a horizontal plane above that of the platform B'. Connected at an intermediate point in their lengths to suitable fulcrums, as  $e^3$ , within the frame A, and preferably beneath or adjacent to the rear end of the platform B', are the transversely-disposed levers  $e'$ , which take through vertical slots formed in the side walls of the frame A, and normally rest in the same position as the levers  $e$ . Connecting the outer portions of the corresponding levers  $e e'$ , upon opposite sides of the frame A, are the longitudinally-disposed bars E, which are designed in practice to support the bracket-arms H' and the scoop H, supported thereby, as better shown in Fig. 4 of the drawings.

F indicates the weight which is designed and adapted to automatically counterbalance



the weight of the scoop H or other receptacle employed for holding the material to be weighed. This weight F, which is of a proper proportional weight to the scoop H, is connected by links, as *f*, with the levers *e'*, at or adjacent to the inner ends thereof, for a purpose presently disclosed.

Connected to or formed integral with an ear or branch *b'*, depending from the platform B', is a stud or pin *b*, which takes through a vertical slot formed in a link or plate G, extending upwardly from one of the levers *e'*, through the medium of which link or plate the weight is normally hung from the platform B', as shown in Fig. 3 of the drawings.

Inasmuch as the scoop H is of a proper proportional weight to the weight F it will be readily perceived that when placed in position upon the scales, as shown in Fig. 4, said scoop will take the weight of the weight F off of the platform B', but will rest itself upon said platform, whereby it will be perceived that it will compensate for the said weight F, so as not to affect the balance.

Although I have specifically described the construction and relative arrangement of the several elements of my improved scale, yet I do not desire to be confined to the same, as such changes may be made as fairly fall within the scope of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a weighing-scale, substantially as described, the combination, with the platform, the weighted levers, and a link connecting said levers and the platform, of a scoop adapted to operate the weighted levers, so as to take their weight off the platform and compensate therefor, substantially as and for the purpose set forth.

2. In a weighing-scale, substantially as described, the combination, with the platform having the pin *b* and the weighted levers, of

the slotted link or plate connecting the weighted levers and the pin *b*, substantially as and for the purpose set forth.

3. In a weighing-scale, substantially as described, the combination, with the platform, of the weighted levers *e'*, the levers *e*, and the longitudinal bars connecting the levers *e* *e'* and adapted to be engaged by a scoop or receptacle, substantially as and for the purpose set forth.

4. In a weighing-scale, substantially as described, the combination, with the platform having the pin *b*, the levers *e'*, and a slotted link or plate connecting one of said levers and the pin *b*, of the weight F and links connecting the weight and the levers *e'*, substantially as and for the purpose set forth.

5. In a weighing-scale, substantially as described, the combination, with the platform having the pin *b*, of the levers *e'*, a slotted link or plate connecting one of said levers and the pin *b*, the weight F, links connecting said weight and the levers *e'*, the levers *e*, and the bars E, connecting the levers *e* and *e'*, substantially as and for the purpose set forth.

6. In a weighing-scale, substantially as described, the combination, with the platform, the weighted levers *e'*, a link connecting said levers to the platform, the levers *e*, and the bars E, connecting the levers *e* *e'*, of a scoop or receptacle and brackets connected thereto and adapted to engage the bars E, substantially as and for the purpose set forth.

7. As an improved article of manufacture, a scoop or receptacle having the bracket-arms H', substantially as and for the purpose set forth.

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

HARVIE M. MERRILL.

Witnesses:

JOHN C. WELLES,  
G. H. SHUMWAY.