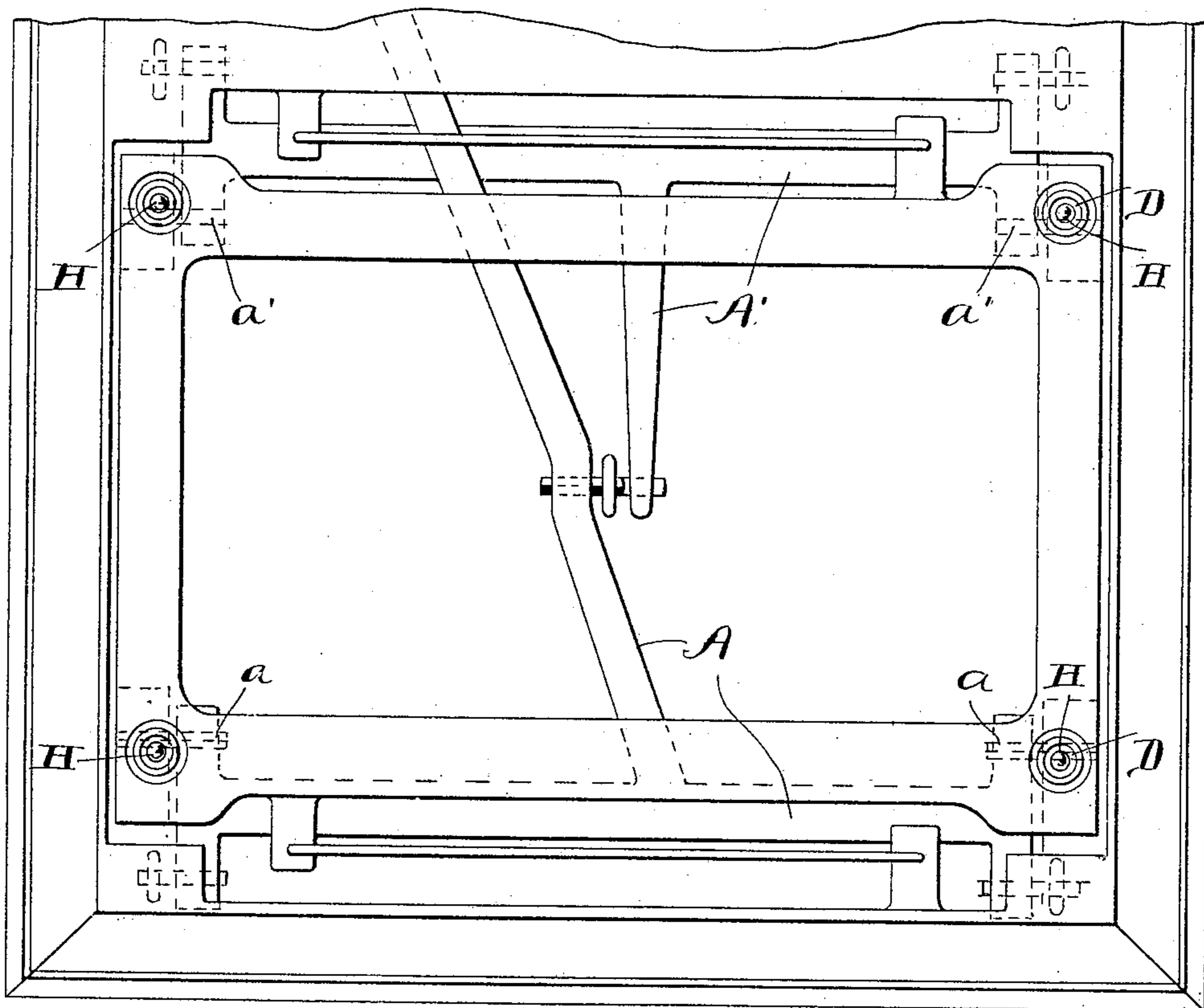


(No Model.)

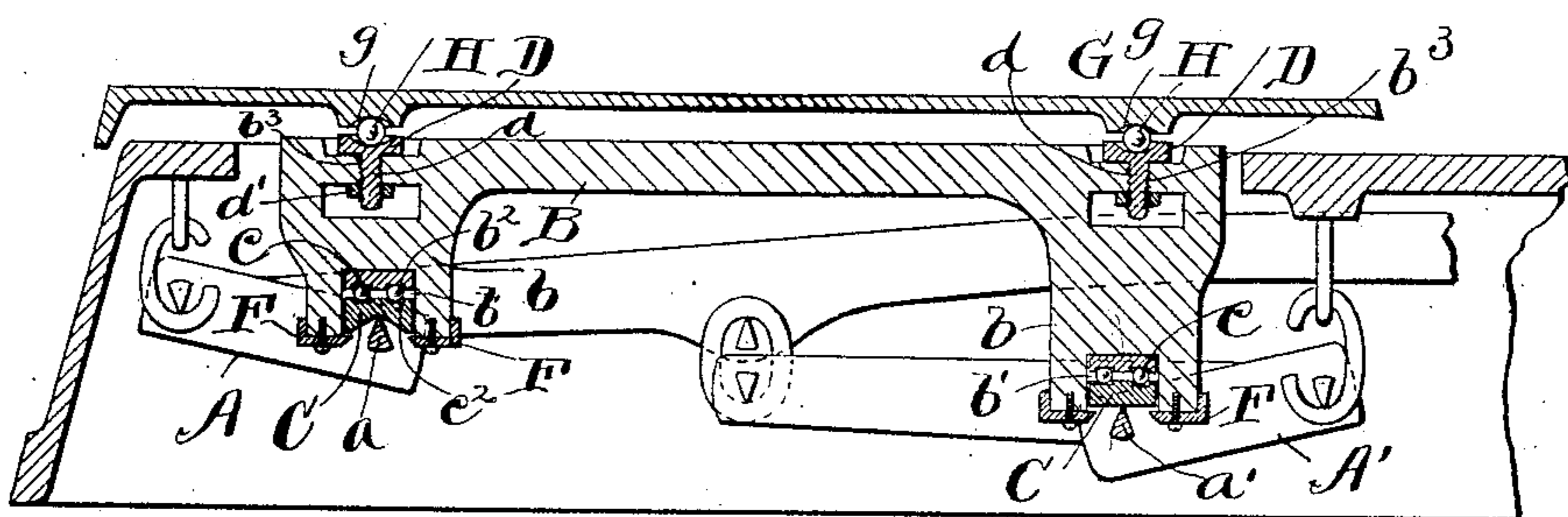
W. H. SANDERSON.  
PLATFORM SCALE.

No. 601,881.

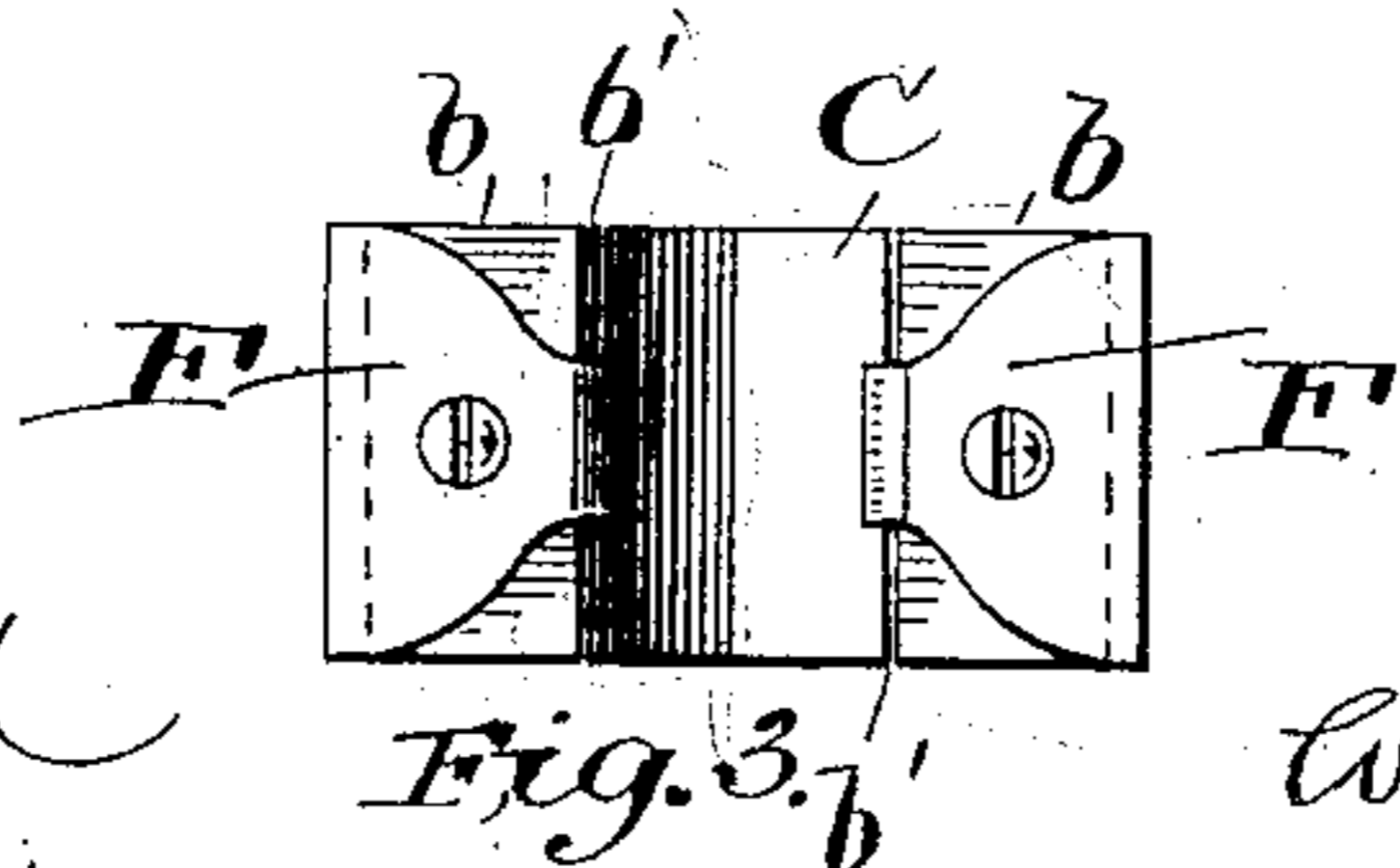
Patented Apr. 5, 1898.



*Fig. 1.*



*Fig. 2.*



Witnesses,  
E. B. Gilchrist  
H. M. Hutchison

Inventor  
William H. Sanderson,  
By his Attorneys,  
Thurston & Bates.

# UNITED STATES PATENT OFFICE.

WILLIAM H. SANDERSON, OF CLEVELAND, OHIO, ASSIGNOR TO THE  
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## PLATFORM-SCALE.

SPECIFICATION forming part of Letters Patent No. 601,881, dated April 5, 1898.

Application filed May 24, 1897. Serial No. 637,906. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. SANDERSON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Platform - 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.

The invention relates to certain improvements in the construction of scale-platforms, the objects being to maintain the self-adjusting platform bearing-blocks in operative position, to guide said blocks onto the knife-edges of the platform-levers in assembling the platform members, and to properly position the platform and to hold it in proper relation to the subplatform.

The invention consists in the construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of a subplatform constructed in accordance with my invention, the platform-levers, and a part of the base. Fig. 2 is a sectional end view of the same parts and the platform, which is supported upon the subplatform; and Fig. 3 is a bottom view of one of the legs of the subplatform and the associated parts.

Referring to the parts by letters, A A' represent the platform-levers, and  $a a'$  the knife-edges carried thereby, which support the platform.

The subplatform B has four depending bifurcated legs  $b$ . An automatically-adjustable bearing-block C is placed somewhat loosely in each furcation  $b'$ , whereby it may have a limited horizontal movement between the sides of the furcation. Between each block and the end of the furcation a row of balls  $c$  is placed, the row being transverse to the furcation. In the top of each block and the end of the furcation are depressions  $c^2$  and  $b^2$ , respectively, into which the balls project and by which the balls are held in line substantially, while permitting the block to move to a limited extent horizontally in all directions. The blocks may also rock, as upon a pivot passing through the points of contact between the

balls and block. When the parts are assembled, the blocks rest upon the knife-edges, the balls rest upon the blocks, and the subplatform rests upon the balls.

The plates F are secured one to the bottom of each fork of the bifurcated legs. The inner ends of these plates project over the edges of the blocks C, and these inner ends are beveled, as shown, so as to guide the knife-edges  $a'$  into engagement with the blocks when the parts are being assembled. These plates also prevent the blocks from falling out of the furcations  $b'$  and also from moving far enough downward to permit the balls to escape from the depressions  $b^2 c^2$ . The blocks cannot, therefore, be moved endwise out of the furcations. In so far as this part of the invention is concerned it is immaterial whether the blocks C are carried by a subplatform or by the platform itself. It is, however, for reasons which are well understood in this art, desirable to employ a subplatform and a platform which is supported thereon. These two parts are shown in the drawings, and simple means are also shown for leveling the platform and for maintaining substantially the same relative positions of the platform and subplatform while permitting a limited but substantially frictionless horizontal vibration of the platform. These means are part of my invention and are as follows: At the corners of the subplatform and in the best construction, as shown, above the bearing-blocks are the vertically-adjustable ball-cups D. These ball-cups, as shown, are spherically concave depressions in the tops of the heads of screws or bolts  $d$ , which are adjustably secured to the subplatform. These screws screw through the subplatform, their lower ends entering lateral recesses  $b^3$  in the upper part of the legs  $b$ . Each of these recesses is open from one side, whereby a wrench may be introduced to operate the jam-nut  $d'$  on the lower end of the screw.

On the under side of the platform G are similarly-arranged ball-cups  $g$ . A ball H is placed between each pair of cups—that is to say, it rests in the cup D and the cup  $g$  rests upon the ball. By adjusting from one to three of the cups up or down the platform may be leveled and caused to bear evenly on all of

the balls H. The platform, supported as described, may move slightly in all directions and that without much friction and without transmitting any considerable strain to the knife-edges *a a'*. The platform, however, automatically returns to its normal position relative to the subplatform.

Having described my invention, I claim—

1. In a platform-scale, the combination of a platform having bifurcated legs, bearing-blocks loosely fitted in the furcations, a row of balls interposed between each block and the end of the corresponding furcation, plates F having beveled ends, which plates are secured to the lower ends of the legs and extend under the edges of the blocks, the inner ends of said plates being beveled, with the platform-levers, and knife-edges carried by said levers and adapted to support said bearing-blocks, substantially as specified.

2. In a platform-scale, the combination of a platform having bifurcated legs, bearing-blocks loosely fitted in the furcations, the upper surface of each bearing-block and the surface forming the upper end of each furcation having depressions arranged in a row transverse to the furcations, a plurality of balls above each bearing-block in said depressions, the plates F secured to the lower ends of the legs and extending under the edges of the blocks and being at such distance therefrom as to prevent such a downward movement of the bearing-blocks as will permit the balls to escape from said depressions, substantially as specified.

3. In a platform-scale, the combination of a subplatform and a platform, with a set of ball-cups on the lower face of the platform, another set of ball-cups on the upper face of the subplatform some of said ball-cups being vertically adjustable, and a ball interposed between each pair of cups, substantially as specified.

4. In a platform-scale, the combination of a subplatform, a plurality of vertically-adjustable ball-cups secured thereto, with the platform having corresponding cups on its under side, and a ball between each pair of cups, substantially as specified.

5. In a platform-scale, the combination of a subplatform, a plurality of adjustable screws which screw vertically downward into said subplatform, said screws having cup-shaped heads, with the platform having corresponding cups on its under side, and a ball between each pair of cups, substantially as specified.

6. In a platform-scale, the combination of the platform-levers and knife-edges carried thereby, the subplatform, bearing-blocks

adapted to engage with said knife-edges, the upper face of the bearing-blocks and the proximate face of the subplatform being provided with correlated grooves arranged transversely to the knife-edges, balls in said grooves between the bearing-blocks and subplatform, means connecting the bearing-blocks and subplatform, which means permit the block to rock upon said balls, but prevent the block from moving far enough away from the subplatform to permit the escape of the balls from said grooves, the platform having ball-cups on its under surface, and the subplatform having correlated ball-cups on its upper surface, and a ball confined between each pair of said ball-cups, substantially as specified.

7. In a platform-scale, the combination of a subplatform having bifurcated legs and having lateral recesses above the furcations, adjustable bearing-blocks in said furcations, a plurality of threaded pins which pass vertically through the subplatform into said recesses, said pins having cup-shaped upper ends, a nut on said pins in said recesses, with a platform having corresponding cups on its under side, and a ball between each pair of cups, substantially as specified.

8. In a platform-scale, the combination of a subplatform having bifurcated legs, bearing-blocks loosely fitted in the furcations, a row of balls between each block and the end of the corresponding furcation, plates F secured to the lower ends of said legs and extending under the blocks whereby the blocks are prevented from falling out of said furcations, vertically-adjustable cups secured to the subplatform, over said blocks, with a platform having corresponding cups on its under side, and balls between the platform and subplatform in each pair of cups, substantially as specified.

9. In a platform-scale, the combination of a subplatform and a platform, with a set of ball-cups on the lower face of the platform, one near each corner thereof, a set of ball-cups correspondingly disposed on the upper face of the subplatform, at least one of said last-named ball-cups being formed in the upper end of a support which is adjustable in the said platform, and a ball interposed between each pair of cups, substantially as specified.

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

WILLIAM H. SANDERSON.

Witnesses:

CHARLES A. HOYT,  
E. L. THURSTON.