

S. J. AUSTIN.
PLATFORM SCALE.

(Application filed Mar. 31, 1902.)

(No Model.)

Fig. I.

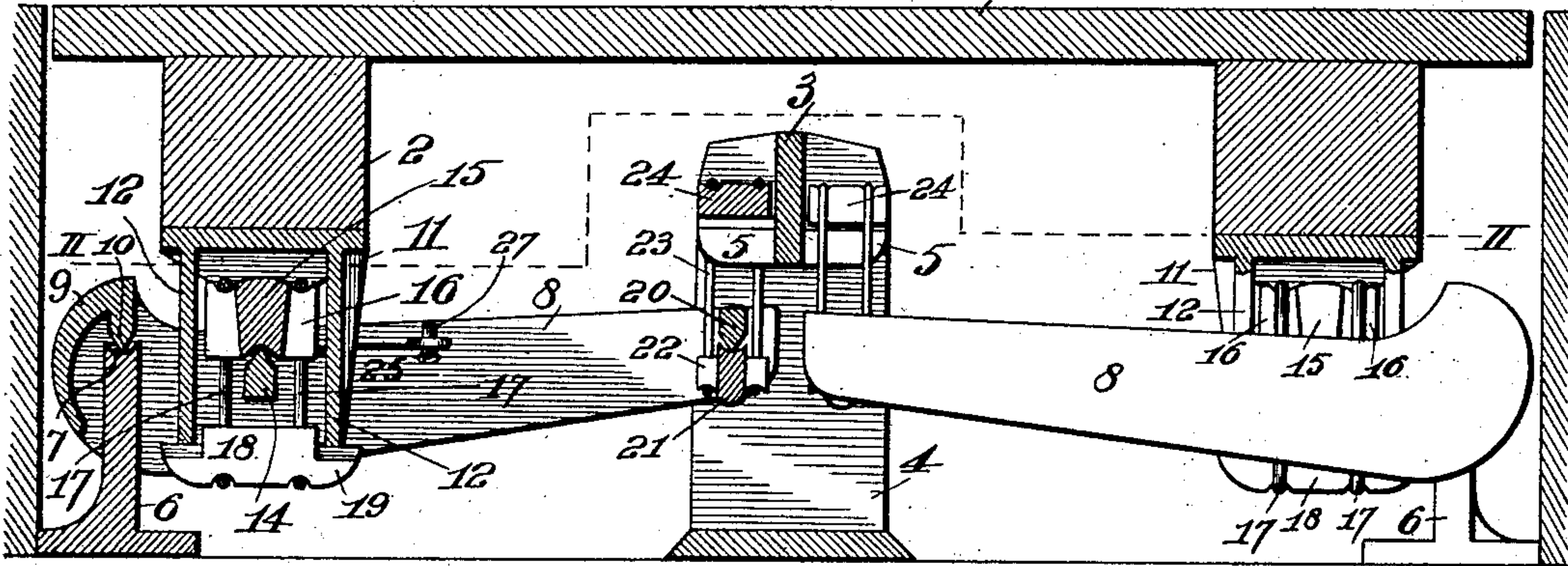


Fig. II.

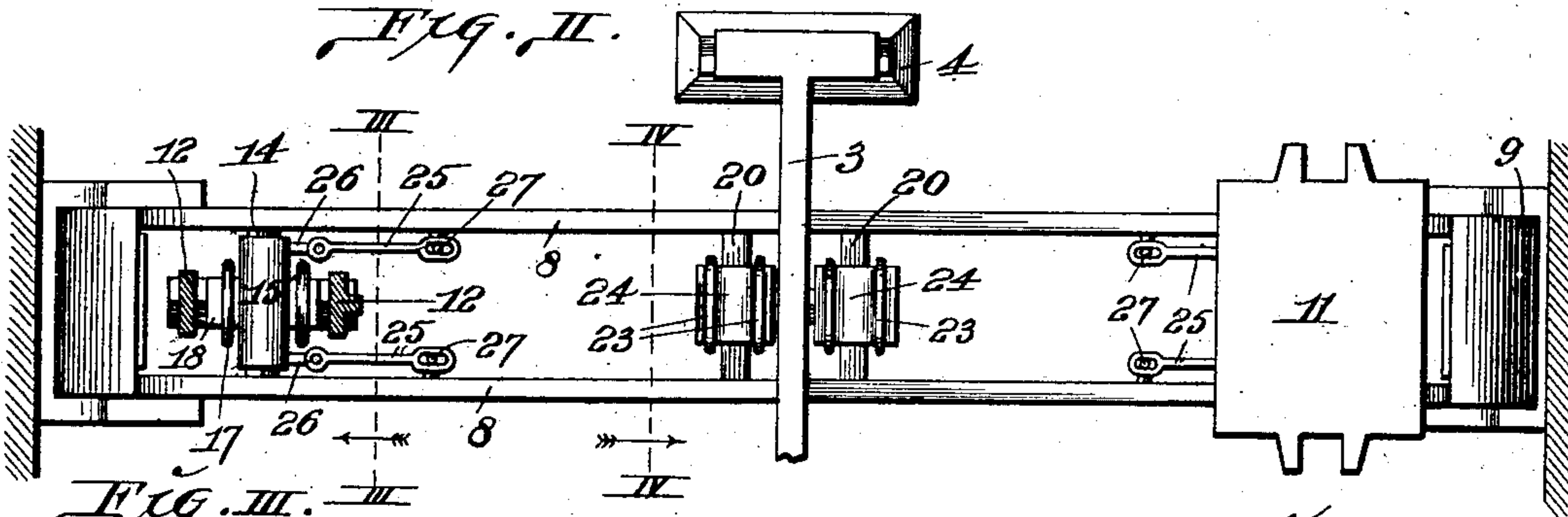


Fig. III.

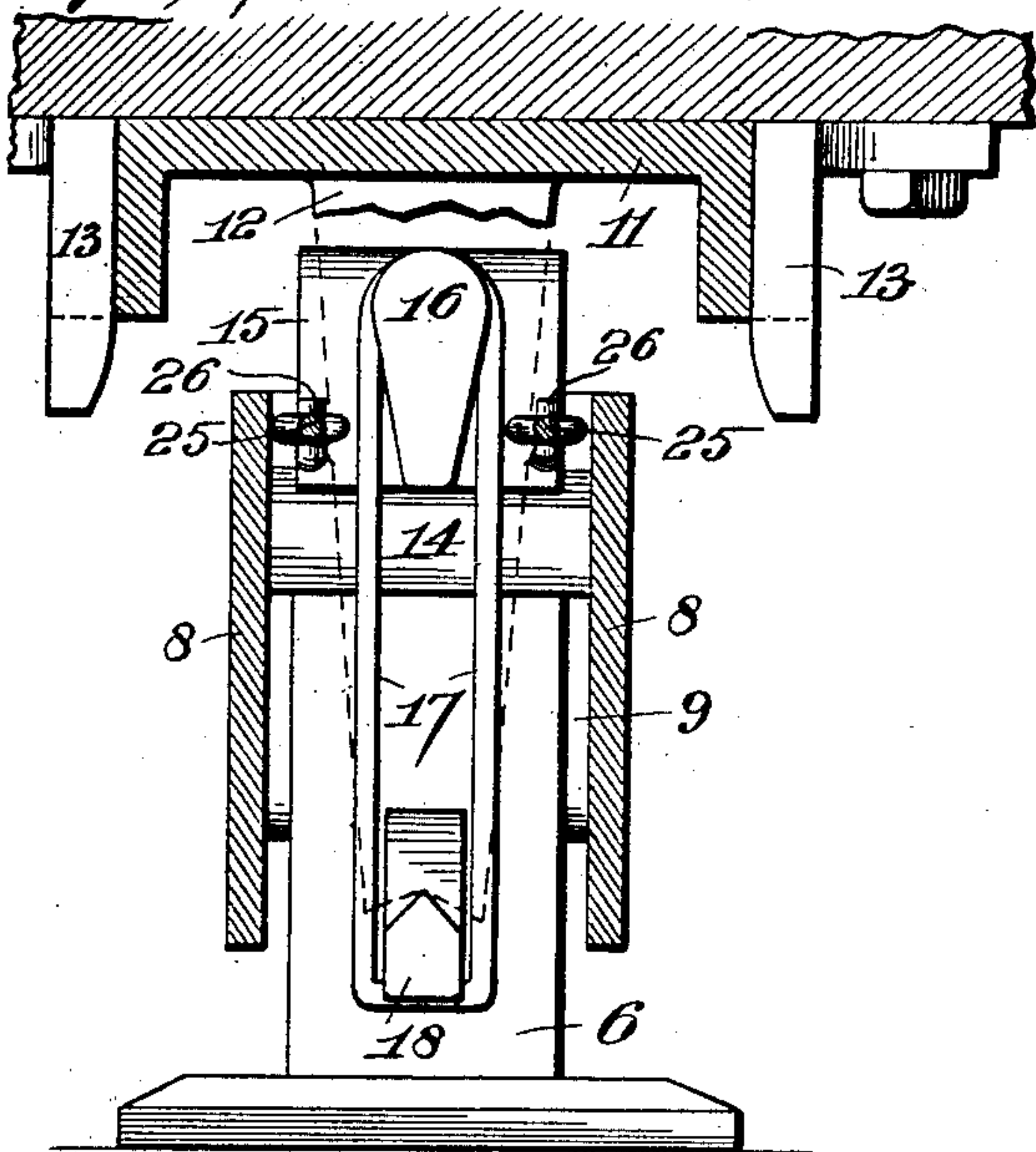
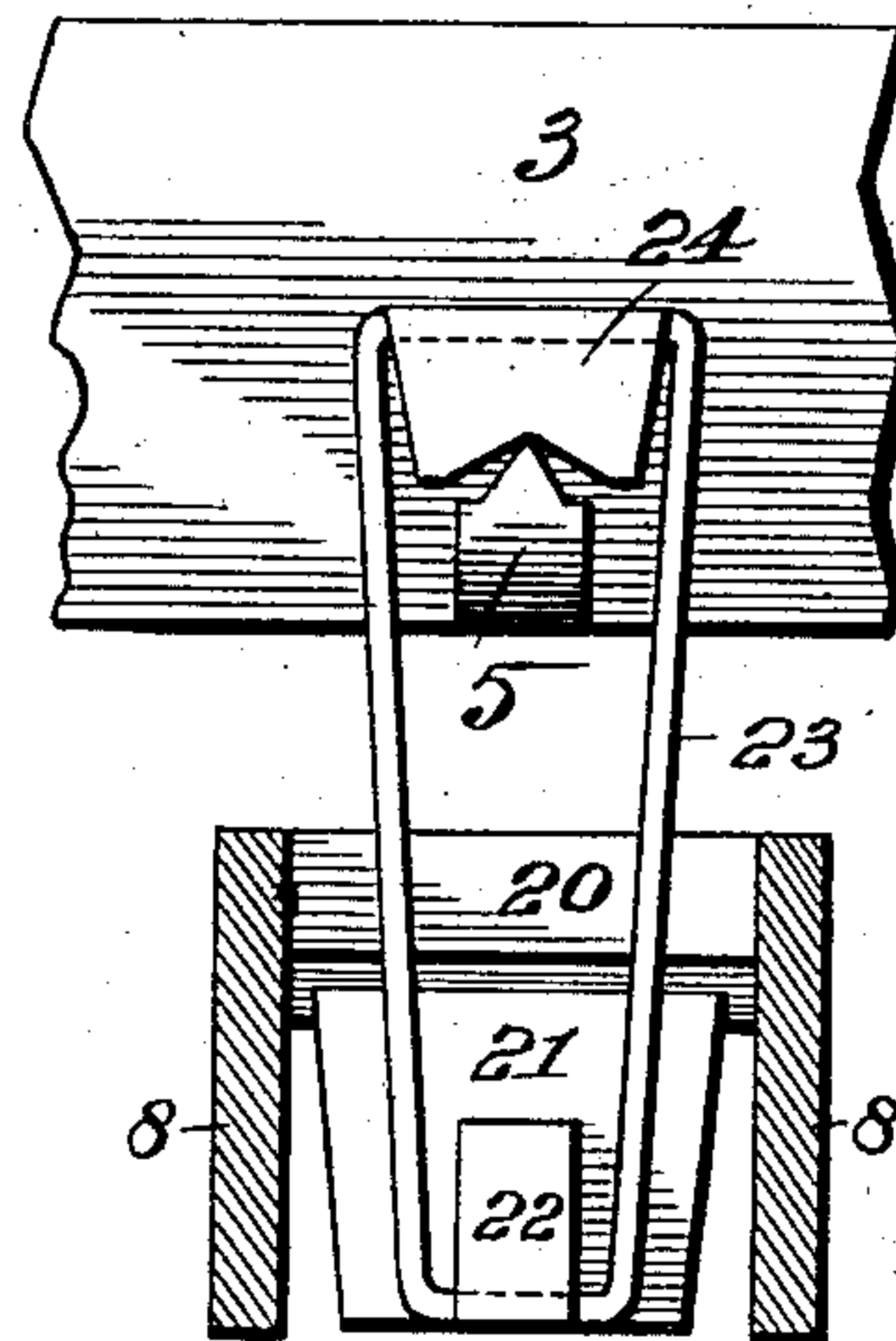


Fig. IV.



attest:
W. Smith
E. H. Knight

Inventor:—
S. J. Austin:
By Wright & Bond atty's.

UNITED STATES PATENT OFFICE.

STEPHEN J. AUSTIN, OF TERRE HAUTE, INDIANA.

PLATFORM-SCALE.

SPECIFICATION forming part of Letters Patent No. 714,555, dated November 25, 1902.

Application filed March 31, 1902. Serial No. 100,763. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN J. AUSTIN, a citizen of the United States, residing in Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Platform-Scales, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to the construction of the main levers of a platform-scale and the bearings associated with said levers, the object of the invention being to provide a new style of antifriction-bearing introduced between the platform of a scale and the knife-edges of the main levers to prevent wear of these knife-edges from the motion of the platform.

My invention is applied particularly to railway-track scales and wagon-scales.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a cross-section of a platform-scale, showing my main or cross levers and the bearings associated therewith at one side in vertical section and at the opposite side in elevation. Fig. II is a view partly in horizontal section, taken on line II II, Fig. I, and partly in plan, with the scale-platform removed. Fig. III is an enlarged vertical section taken on line III III, Fig. II. Fig. IV is an enlarged detail view of the bearings at the inner end of one of the cross-levers, one of the bearing-levers being shown in cross-section, taken on line IV IV, Fig. II.

1 designates the platform of the scale, having the usual longitudinal timbers 2.

3 designates one of the series of longitudinal levers mounted beneath the platform 1. The lever 3 that is shown has a knife-edge bearing on a standard 4. Projecting laterally from the lever 3 are knife-edge arms 5.

6 designates posts situated at the sides of the pit beneath the platform 1 and provided at their upper ends with concave sockets 7. (See Fig. I.)

8 designates the main or cross levers that have bearing-support at their outer ends in the concave sockets of the posts 6. These cross-levers are essentially of box form to provide for the application and working of the bearings associated therewith in my scale, which must necessarily be positioned between a pair of lever-arms, such as are provided by the box form of lever herein shown. Each cross-lever 8 has at its outer end a curving head 9, that unites the two arms of the lever and affords strength and stability to the lever at the point named. With the head of each lever is an integral downwardly-extending knife-edge 10, that rests in the coinciding socket of the post 6, on which the lever is fulcrumed.

11 designates pedestals seated beneath the platform-timbers 2 and having downwardly-projecting legs 12. Each pedestal 11 is loosely seated between a pair of holding-guides 13, secured to the platform-timbers 2, (see Fig. III,) whereby the pedestal may remain seated on the bearing-block in the event of the platform-timbers springing up by any means or foundation settling at any point. Situated between the pairs of arms of each cross-lever 8 and integral therewith is a transversely-positioned knife-edge 14.

15 designates saddle bearing-blocks mounted upon the knife-edges 14.

17 designates suspension-links hung upon the arms 16 of the saddle-blocks.

18 designates suspended bearing-blocks hung in the suspension-links 17 and having knife-edge arms 19, upon which the legs 12 of the pedestals 11 are supported for their bearing.

From the foregoing it will be seen that the platform is freely supported by the levers 8 in such manner as to provide for the movement of the platform with a very much less degree of friction and wear upon the knife-edge 14 than in the usual style of construction, adding greatly to the accuracy of the lever under hard service.

20 designates transverse knife-edges positioned between the arms of the box-levers 8 at their inner ends and integral with the arms of said levers. Positioned beneath the knife-edges 20 are suspension bearing-blocks 21, that receive the bearing of said knife-edges and are provided with arms 22, that receive the support of suspension-links 23, hung upon saddle bearing-blocks 24, mounted upon the knife-edge arms 5, that project from the sides

of the levers 3. These suspension bearing-blocks 21 and saddle bearing-blocks 24 permit freedom of movement of the inner ends of the lever 8, inasmuch as they are positioned and have their bearings at right angles to each other, so that they will permit the vertical swing of the levers, as well as lateral movement of the inner ends of the levers, to compensate for any unevenness of strain thrown upon the platform of the scale incident to the placing of a load thereupon. In order to provide for the definite retention of the saddle bearing-blocks 15 upon their bearing-supports, I connect them to the levers 8 by means of links 25, that are preferably loosely applied to pins 26, carried by the saddle bearing-blocks, and pins 27, projecting from the inside faces of the arms of the levers 8. By the use of these connecting-rods it is possible to utilize a bearing-block having but slight, if any, concavity for the reception of the knife-edge of the bearing member on which the block is mounted, inasmuch as the connecting-rods will sustain the block in place on said member irrespective of the form of its bearing contact.

While I have referred to the bearing members 15 and 14 as saddle-blocks and knife-edges, I wish it understood that I do not limit myself to the use of the specific construction shown and described in this connection, inasmuch as other forms of bearings might be utilized in their stead to obtain the same independence and freedom of movement of these parts of my scale.

I claim as my invention—

1. The combination in a scale, of a divided cross-lever, a fulcrum-support for said lever, a pivot carried between the two members of said cross-lever, a saddle-bearing member mounted on said pivot, a suspended bearing-block located beneath said saddle member, a pair of freely-swinging links, one at each side of said pivot supported by said saddle member between the two members of the cross-lever, and in which said suspended bearing-block is hung, and a platform-supporting member mounted upon said suspended bearing-block, between and above the two members of the cross-lever, substantially as described.

2. The combination in a scale, of a box-shaped lever, a fulcrum-support for said lever, a pivot carried by said lever, a saddle-bearing mounted on said pivot, a suspended bearing-bar located beneath said saddle-bearing, a pair of freely-swinging links, one at each side of said pivot supported by said saddle-bearing, and in which said suspended bar is hung, and a platform-supporting member

mounted upon said suspended bearing-bar, substantially as described.

3. The combination in a scale, of a box-shaped lever, a fulcrum-support for said lever, a knife-edge carried by said lever, a saddle-bearing mounted on said knife-edge, a suspended bearing-bar hung from said saddle-bearing by means of a pair of links arranged transversely of said saddle-bearing and adapted to swing longitudinally of said bearing, in such a manner as not to rock said saddle-bearing, a platform-receiving pedestal mounted upon said suspended bearing-bar outside the links, the whole being constructed so that the motion of the platform is not communicated to the saddle-bearing or knife-edge on which it rests, substantially as described.

4. The combination in a scale, of cross-levers, fulcrums for said levers, pivots carried by said levers, saddle-bearings mounted on said pivots, means for preventing the shifting of said bearings, and means supporting the scale-platform on said saddle-bearings, substantially as described.

5. The combination, in a scale, of cross-levers, fulcrum-supports for said levers, pivots carried by said levers, saddle-bearings mounted on said pivots, connections between said cross-levers and said saddle-bearings adapted to prevent the shifting of said saddle-bearings, and means supporting the scale-platform on said saddle-bearings, substantially as described.

6. The combination in a scale, of divided or box-shaped levers, fulcrums for said levers, pivots carried by said levers, saddle-bearings mounted on said pivots, connections between said box-levers and said saddle-bearings adapted to prevent the shifting of said bearings, and means supporting the scale-platform on said saddle-bearings, substantially as described.

7. The combination with the longitudinal lever of a scale having knife-edge arms, of fulcrum-divided cross-levers, knife-edges carried between the members of said cross-levers and arranged transversely to said longitudinal lever knife-edges, saddle-blocks mounted on said longitudinal lever knife-edges, suspended bearing-blocks positioned beneath said bearing-lever knife-edges, and between the members of the divided cross-levers, and links by which said suspended bearing-blocks are hung from said saddle-blocks, substantially as described.

STEPHEN J. AUSTIN.

In presence of—

ROBT. SNIDER,
GEO. LIGHT.