

No. 720,728.

PATENTED FEB. 17, 1903.

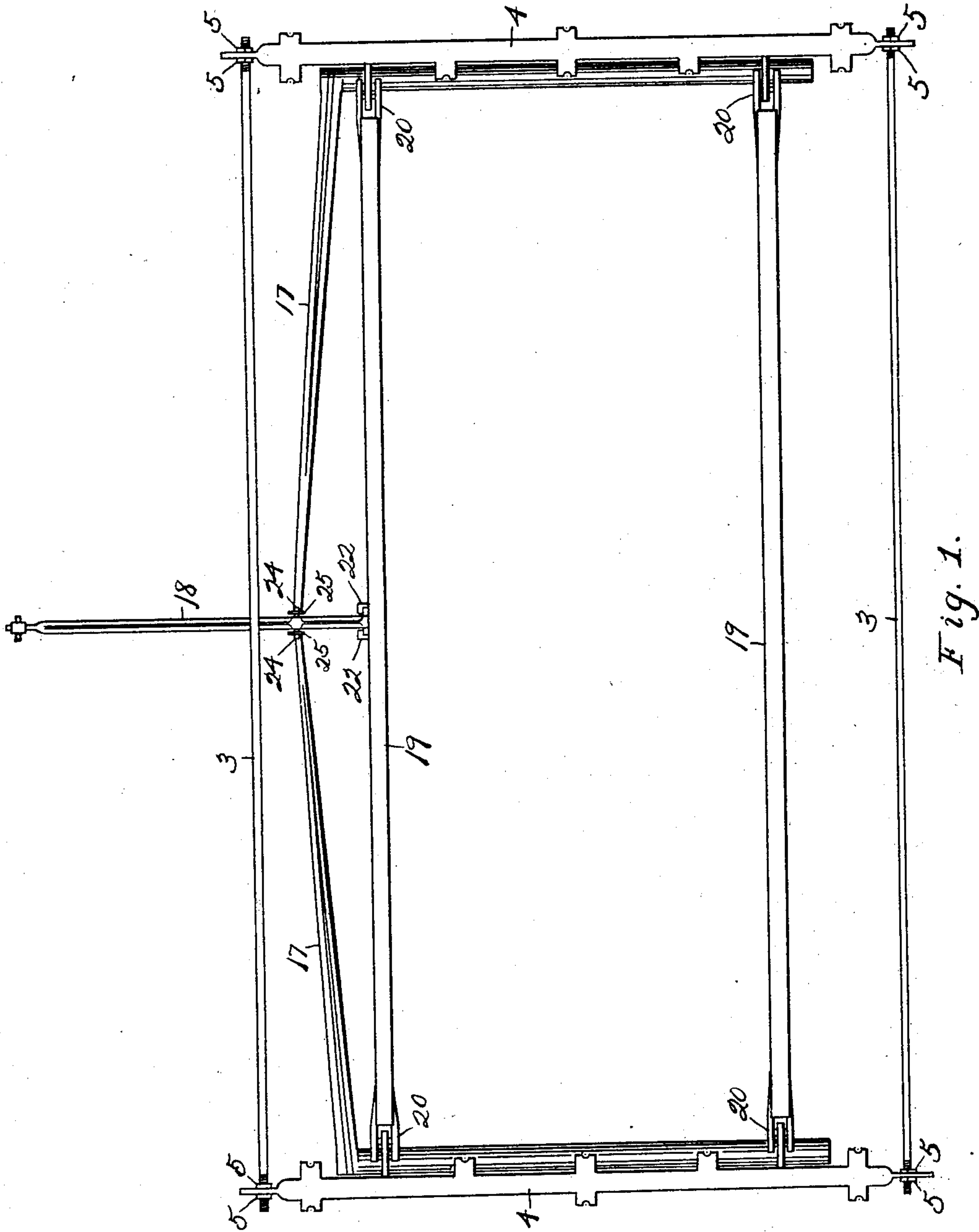
B. T. McDONALD, JR. & J. M. McDONALD.

WAGON SCALE.

APPLICATION FILED DEC. 13, 1901.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses,  
*K. M. Imboden,*  
*M. L. Lange*

Inventors,  
*B. T. Mc. Donald, Jr.*  
*J. M. Mc. Donald.*  
*By Higdon & Higdon,*  
*Attys.*

B. T. McDONALD, JR. &amp; J. M. McDONALD.

## WAGON SCALE.

APPLICATION FILED DEC. 13, 1901.

NO MODEL.

3 SHEETS—SHEET 2.

Fig. 2.

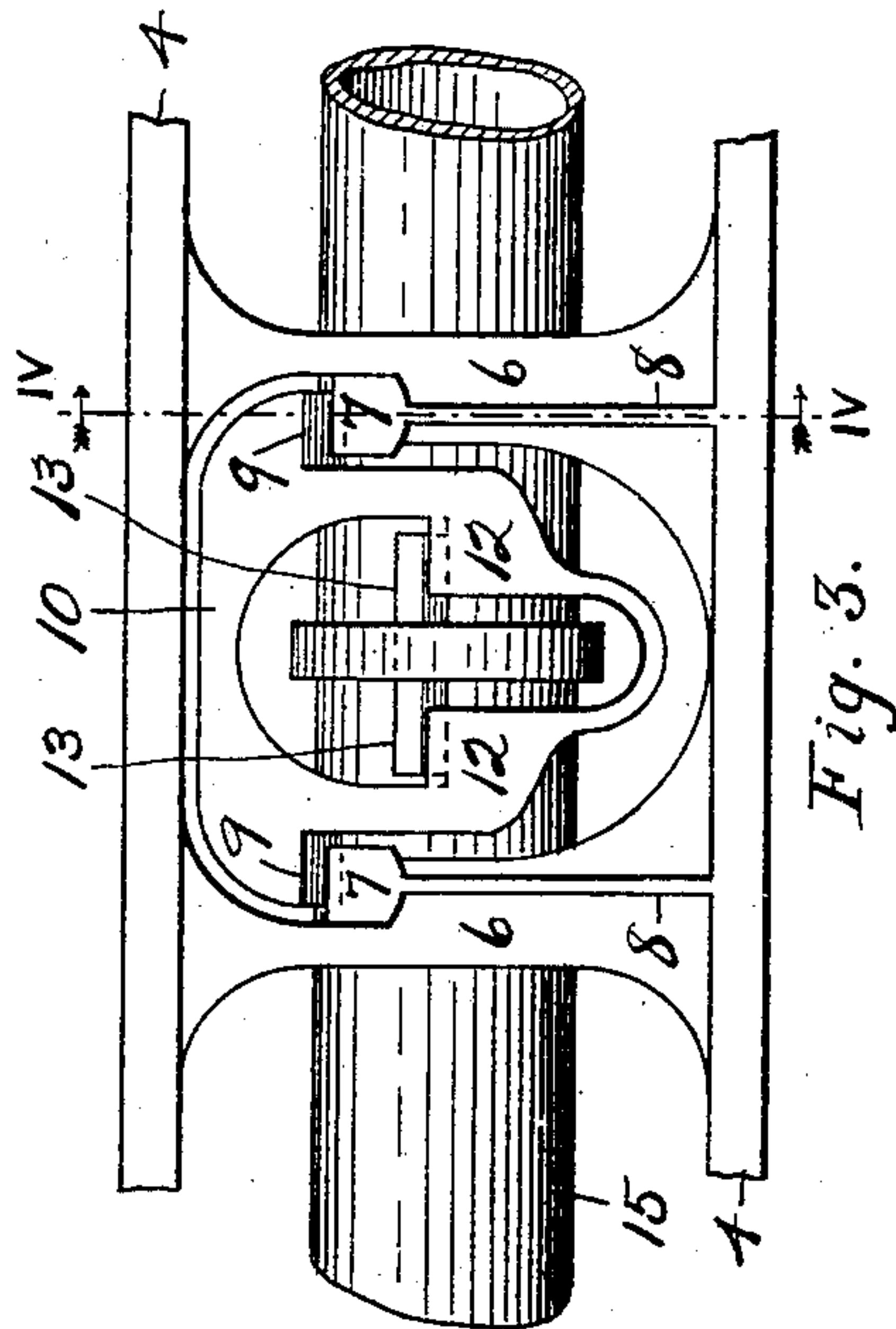
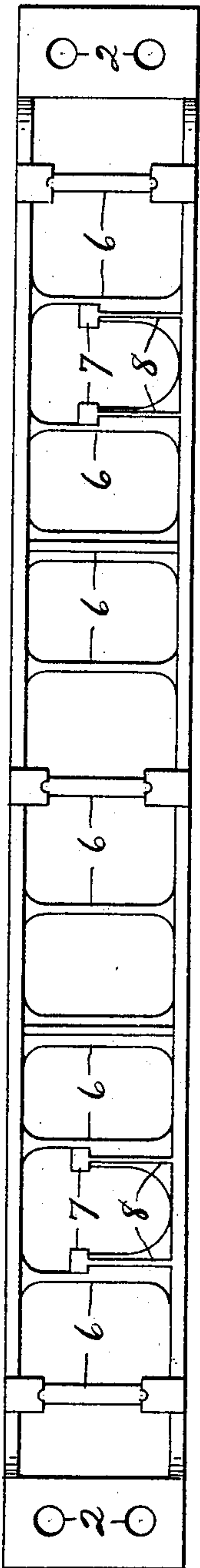


Fig. 4.

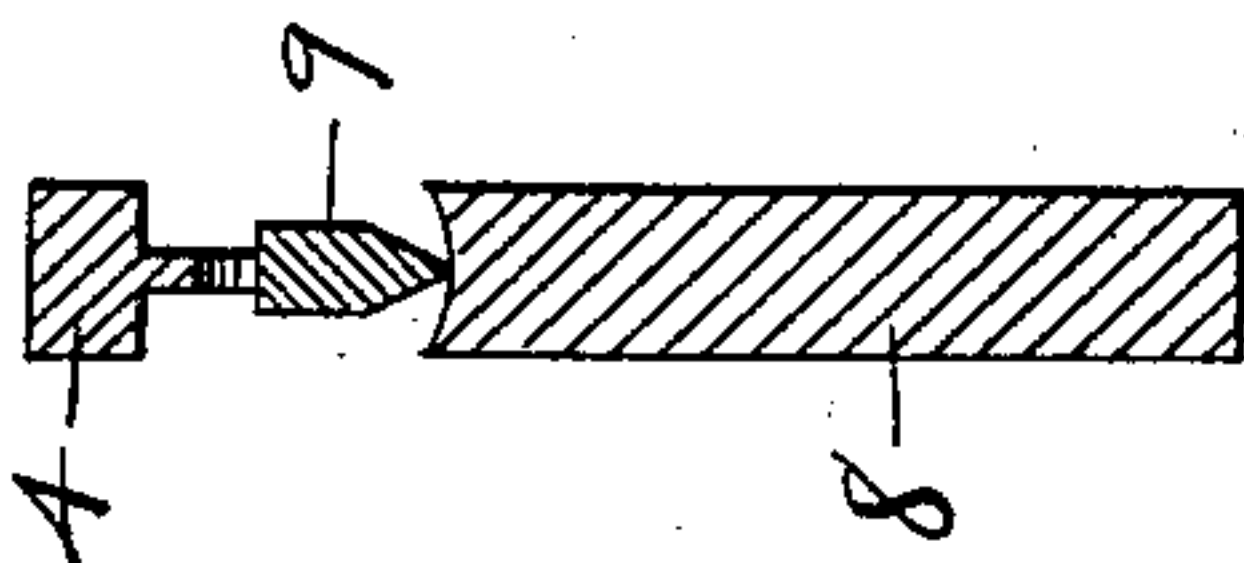
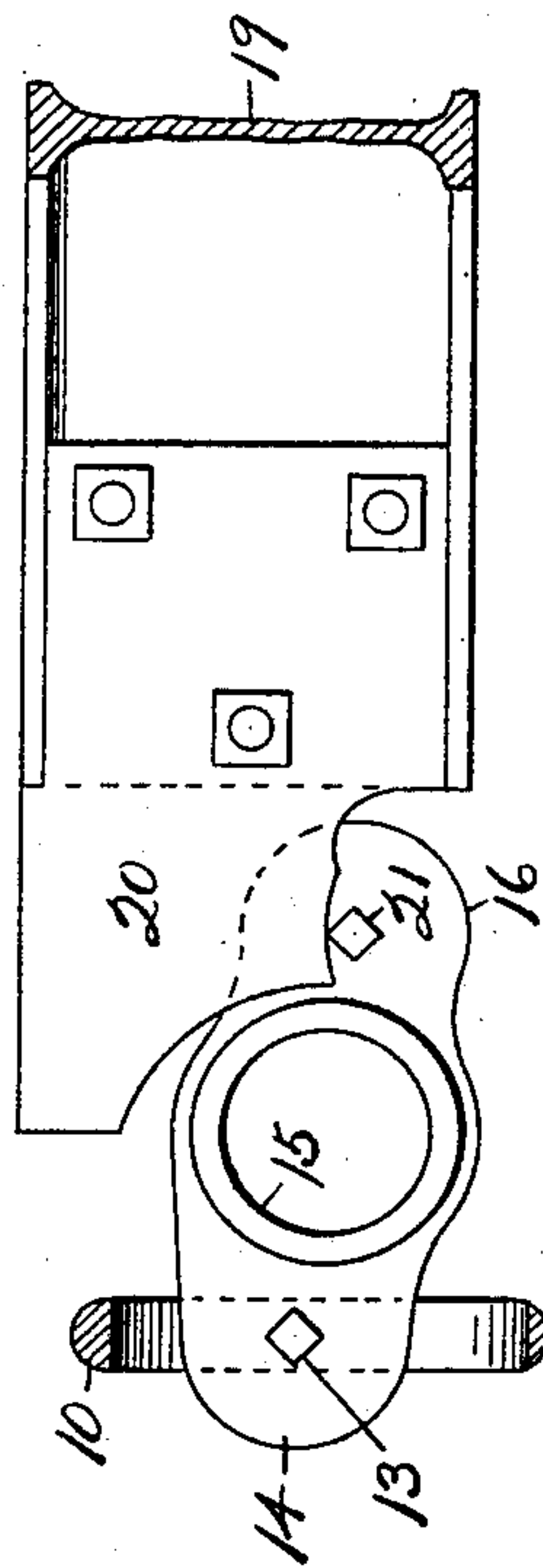


Fig. 5.



Witnesses,

*H. M. Imboden,*  
*W. L. Lange*

Inventors,

B. T. Mc. Donald, Jr.

J. M. Mc. Donald.

*By Higdon & Higdon,*  
*Attys.*

No. 720,728.

PATENTED FEB. 17, 1903.

B. T. McDONALD, JR. & J. M. McDONALD.

WAGON SCALE.

APPLICATION FILED DEC. 13, 1901.

NO MODEL.

3 SHEETS—SHEET 3.

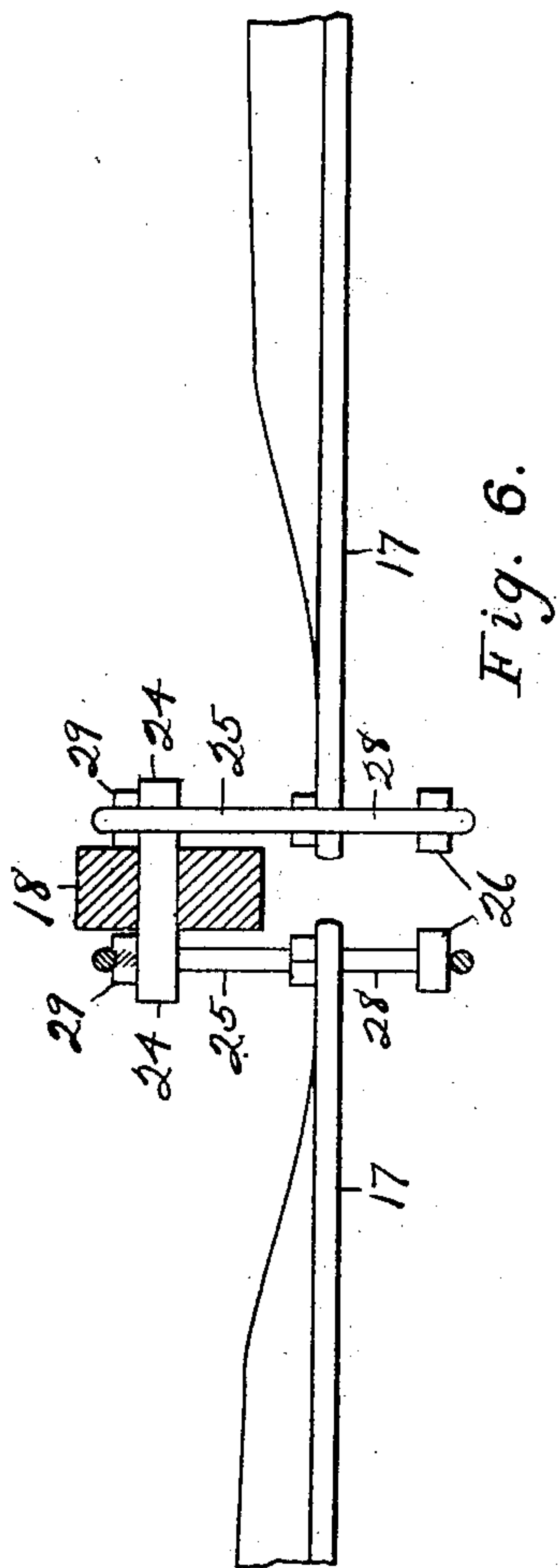


Fig. 6.

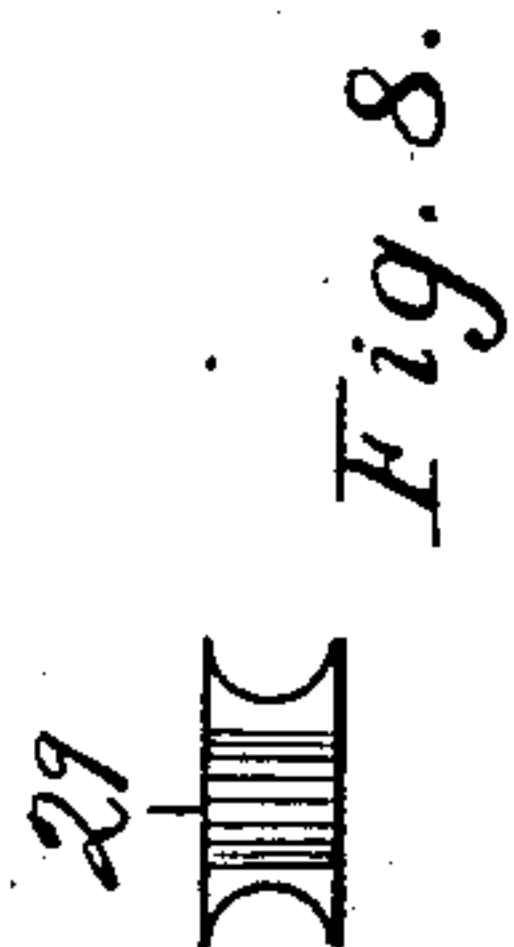


Fig. 8.

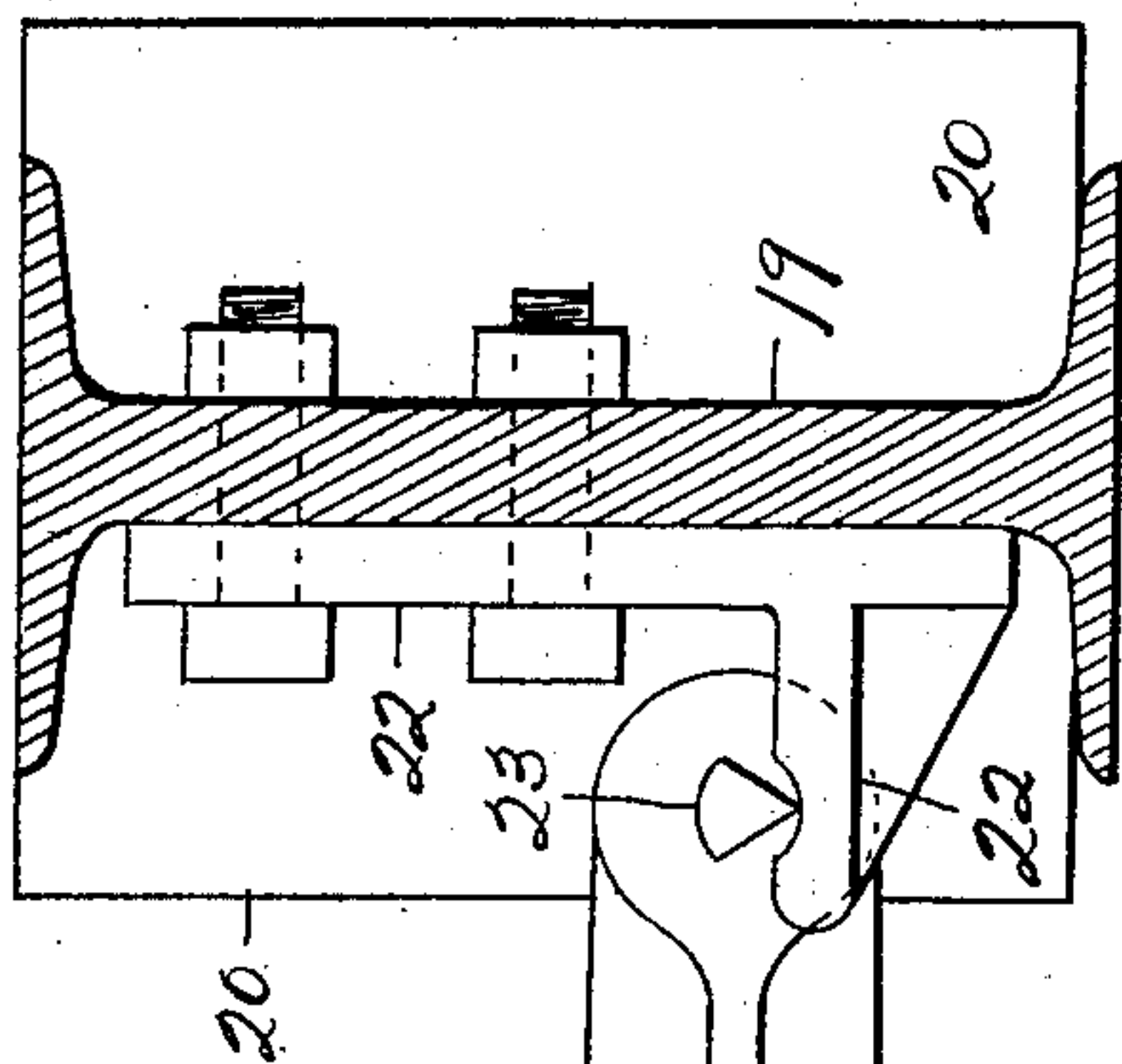


Fig. 7.

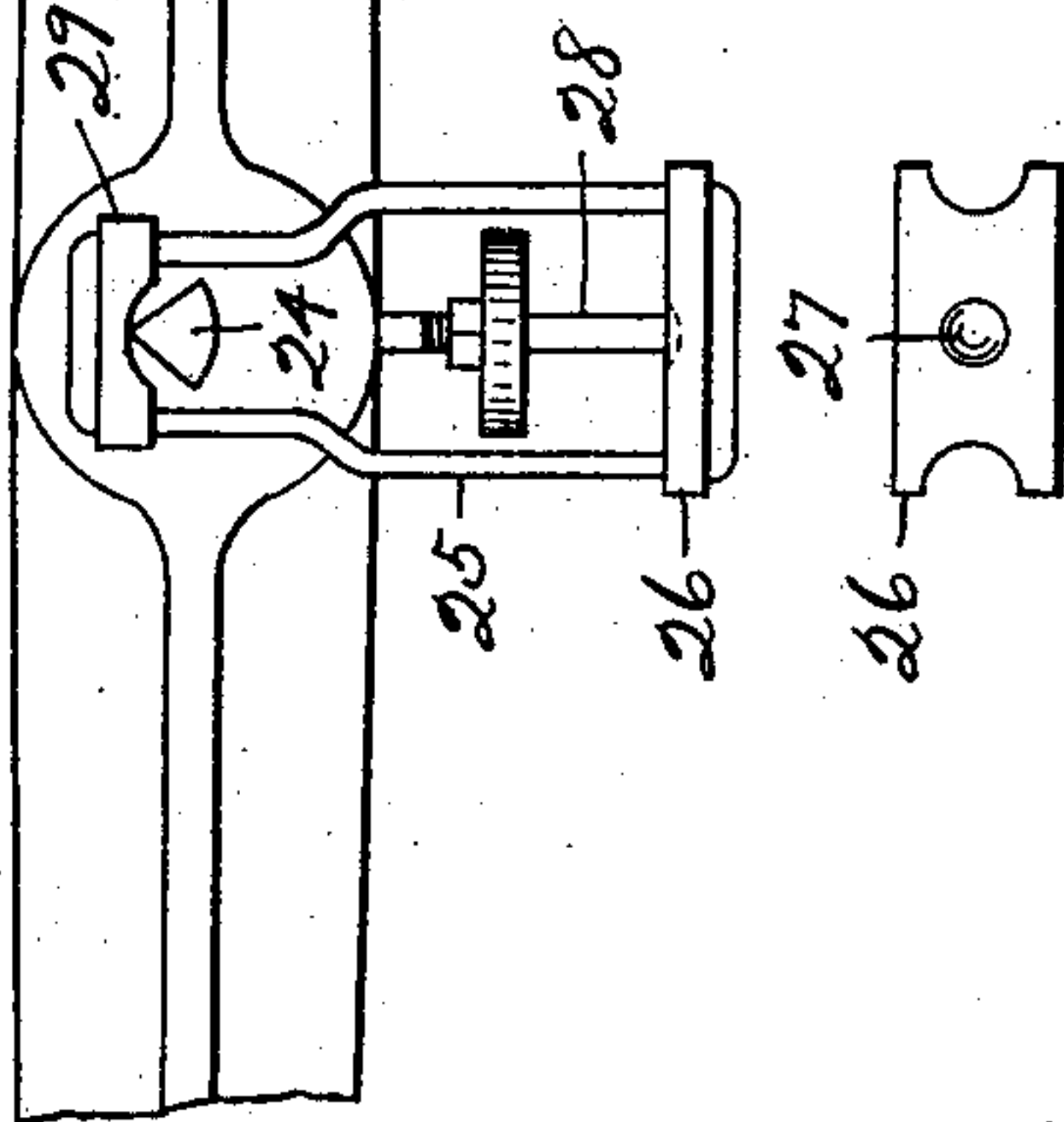


Fig. 9.

Witnesses,

*K. M. Imboden,*  
*W. L. Lange*

Inventors,

*B. T. Mc. Donald, Jr.*

*J. M. Mc. Donald.*

*By Higdon & Higdon,*  
*Att'ys.*



# UNITED STATES PATENT OFFICE.

BENJIMAN T. McDONALD, JR., AND JAMES M. McDONALD, OF PLEASANT-HILL, MISSOURI.

## WAGON-SCALE.

SPECIFICATION forming part of Letters Patent No. 720,728, dated February 17, 1903.

Application filed December 13, 1901. Serial No. 85,788. (No model.)

*To all whom it may concern:*

Be it known that we, BENJIMAN T. McDONALD, Jr., and JAMES M. McDONALD, citizens of the United States, residing at Pleasanthill, in the county of Cass and State of Missouri, have invented new and useful Improvements in Wagon-Scales, of which the following is a specification.

Our invention relates to pitless wagon-scales; and the objects of our invention are to produce a cheaper frame by substituting pipe for the cast-iron sides usually employed, to provide stronger supports for the hanger-stirrups, and to provide simple means for supporting the ends of the platform-beams directly upon the rock-shaft lugs instead of by indirect connections employed heretofore.

We attain the above-named objects by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of a scale embodying our invention, the platform being removed. Fig. 2 is an enlarged elevation of one of the ends of the scale-frames. Fig. 3 is a further enlarged view of one of our improved hanger-stirrups and its supports, showing also a portion of the rock-shaft supported by the hanger-stirrup. Fig. 4 is a vertical section taken on line IV IV of Fig. 3 looking in the direction of the arrows. Fig. 5 is an end elevation of one of the rock-shafts, the end of the platform-beam supported thereby, and the hanger-stirrup in section. Fig. 6 represents the inner ends of the rock-shaft arms and their connections with the cross-lever, shown in section. Fig. 7 represents the inner end of the cross-lever and its connection with one of the platform-beams and one of the rock-shaft arms, the view being at a right angle from that in Fig. 6. Figs. 8 and 9 are plan views of parts shown in Fig. 7 and will be referred to hereinafter.

Referring to Fig. 1, the frame of the scale comprises two end castings 4 4, connected together by pipes 3 3. The ends of said pipes pass through holes 2, Fig. 2, in the end castings 4 4 and are secured to the flattened ends of the end castings by nuts 5.

Each end casting 4 is constructed as shown in Fig. 2, in which 6 designates integral cross-webs for bracing the casting. Two of the

webs 6 are made heavier, as shown, and are provided with sockets 7 7, respectively, from which ribs 8 extend downwardly to provide solid support for said sockets. The top of each socket 7 is concaved, as shown in Fig. 4. Supported by the respective sockets 7 are the laterally-projecting knife-edge lugs 9 of a hanger-stirrup 10. Formed in the hanger-stirrup 10 are two lugs 12, having concave uppersurfaces, on which rest knife-edge bearings 13, secured in a lug 14, cast on a tubular rock-shaft 15. There being two hanger-stirrups 10 in each end casting 4, the rock-shaft 15 is provided with two lugs 14, supported by said hangers 10, respectively. At the opposite end of the scale is a similar rock-shaft 15, partially supported by hanger-stirrups 10, hung in the end casting 4.

Cast integral with one end of each rock-shaft 15 is a rocker-arm 17. These arms 17 extend toward each other, and their inner or adjacent ends are supported by the cross-lever 18, referred to hereinafter.

The platform-beams 19 for supporting the platform (not shown) are supported as follows: Bolted to each end of each beam 19 is a bifurcated bearing-block 20, shaped as shown in side elevation in Fig. 5. Opposite each lug 14 on rock-shaft 15 is cast a lug 16, in which is fitted a knife-edge bearing-piece 21, projecting from both sides of said lug 16. The bifurcated sides of the bearing-block 20 straddle the lug 16 and rest on the bearing-piece 21, as shown.

Bolted to the middle of the outer side of one of the platform-beams 19 is a bracket 22. (Shown enlarged in Fig. 7.) The function of bracket 22 is to support the inner end of the cross-lever 18, which is provided with knife-edge bearings 23, resting in concavities in the top of said bracket. The outer end of the cross-lever 18 is supported by a depending rod connected to a scale-beam. (Not shown.) Near its inner end the cross-lever 18 is provided with knife-edge bearings 24, from which are hung, respectively, two hanger-stirrups 25. In the bottom of each hanger-stirrup 25 is a bearing-block 26, having a depression 27 in its upper face. Fig. 9 is a plan view of one of these blocks. Secured in the end of each rocker-arm 17 is a depending stud-



bolt 28, the lower end of which rests in the depression 27 in one of the blocks 26. Bearing-blocks 29 are interposed between the knife-edge bearings 24 and the upper portions of hanger-stirrups 25. Fig. 8 is a bottom plan view of one of these blocks 29. The effect of increasing the weight upon the platform-beams 19 19 is to slightly rock the rock-shafts 15 15, which depress the inner ends of the rocker-arms 17, which pull down on the cross-lever 18, fulcrumed on the bracket 22, and thus the outer end of the cross-lever is depressed, it being connected to a scale-beam in the usual manner.

15 Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

20 1. In a wagon-scale frame, an end casting, a pair of upright webs forming parts of said casting, bearing-sockets projecting toward each other from said respective webs, and a hanger-stirrup having laterally-projecting bearing-lugs adapted to rest in or upon said bearing-sockets, substantially as described.

2. In a wagon-scale, a frame including two end castings, a pair of hanger-stirrups hung in each of said castings, a rock-shaft adjacent and parallel to each of said castings, lugs 14 on said rock-shafts, said lugs being supported by said hanger-stirrups, lugs 16 on said rock-shafts, a pair of platform-beams arranged at right angles with said rock-shafts, bifurcated bearing-blocks secured to the ends of said beams, bearing-pieces secured in said lugs 16 and supporting said bearing-blocks, a rocker-arm secured to each said rock-shaft, a cross-lever connected to one of said platform-beams, and connections between the ends of said rocker-arms and said cross-lever intermediate of the length of said cross-lever, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

BENJIMAN T. McDONALD, JR.

JAMES M. McDONALD.

Witnesses:

J. JOSCH,

B. T. McDONALD, Sr.