

No. 637,536.

Patented Nov. 21, 1899.

C. M. THOMPSON.
SIDE BEARING FOR ROLLING STOCK.

(Application filed Sept. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

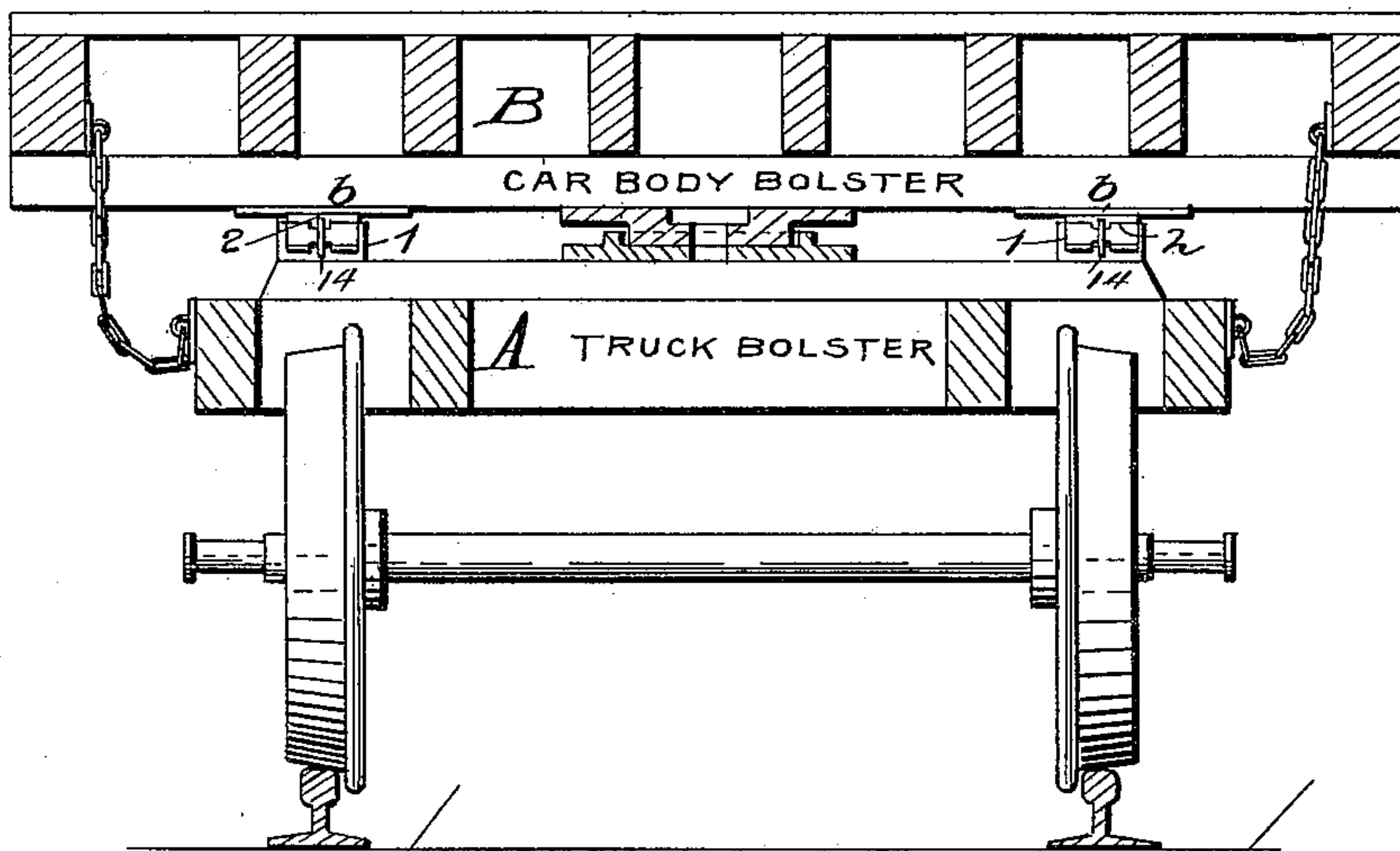


Fig. 2.

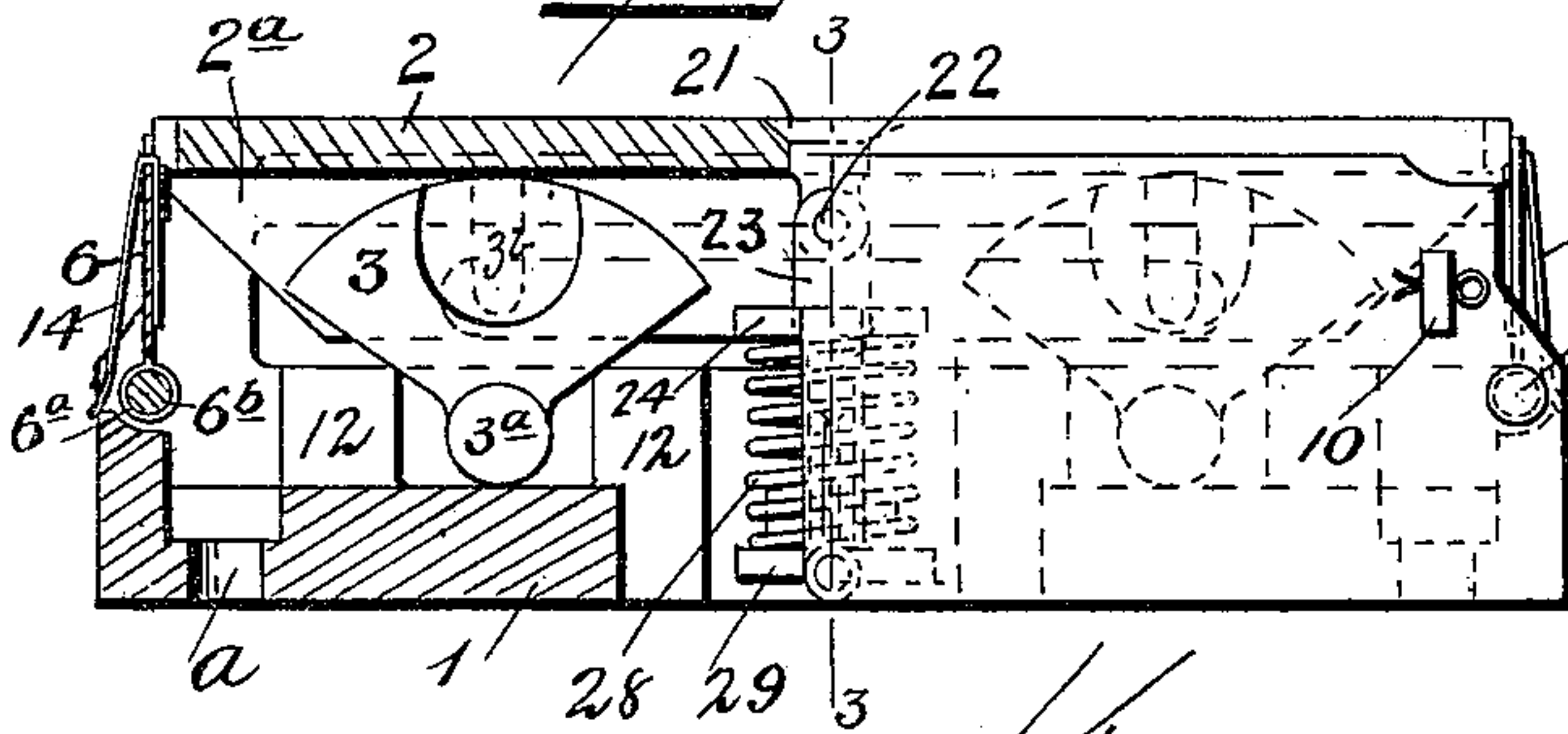


Fig. 3.

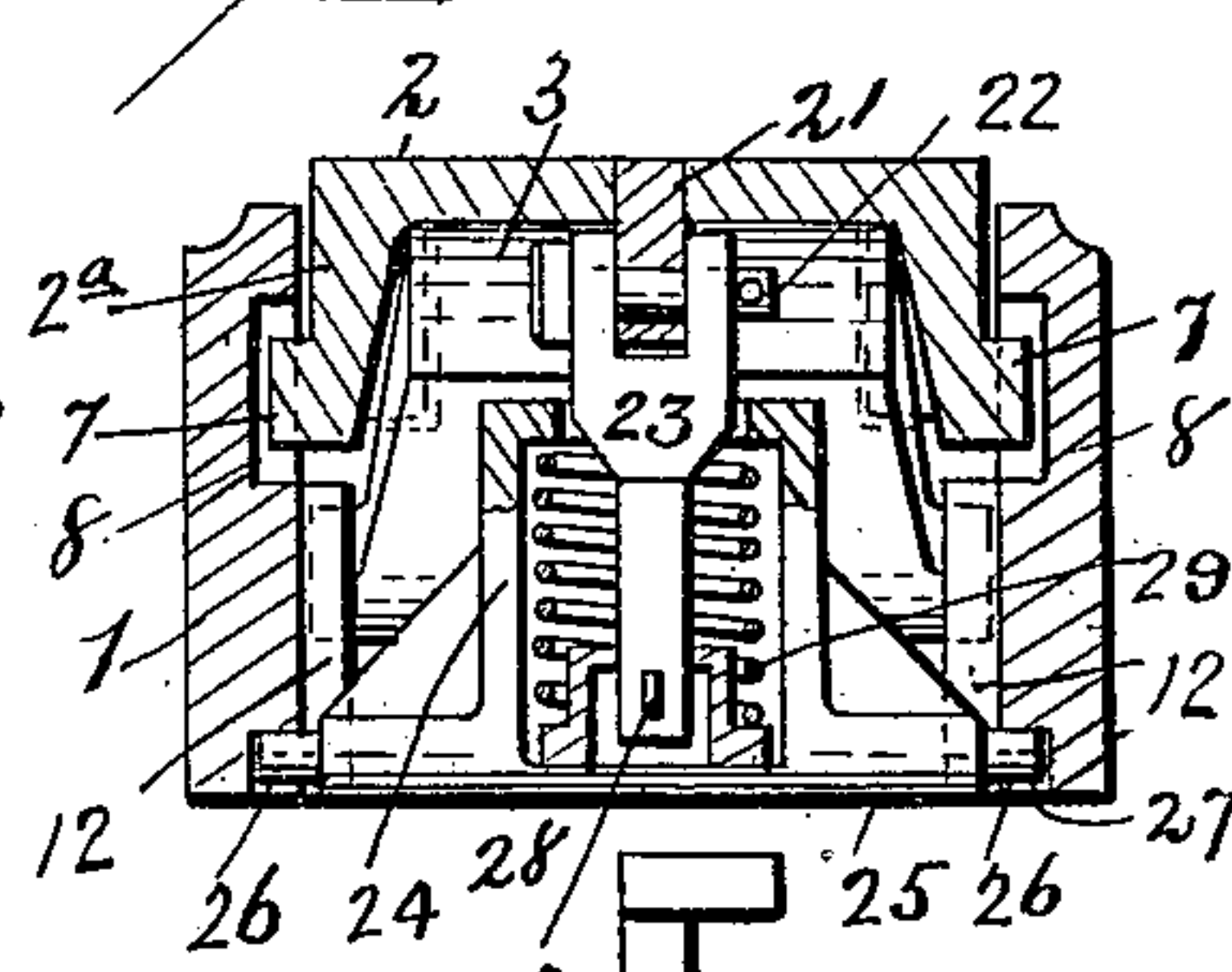


Fig. 4.

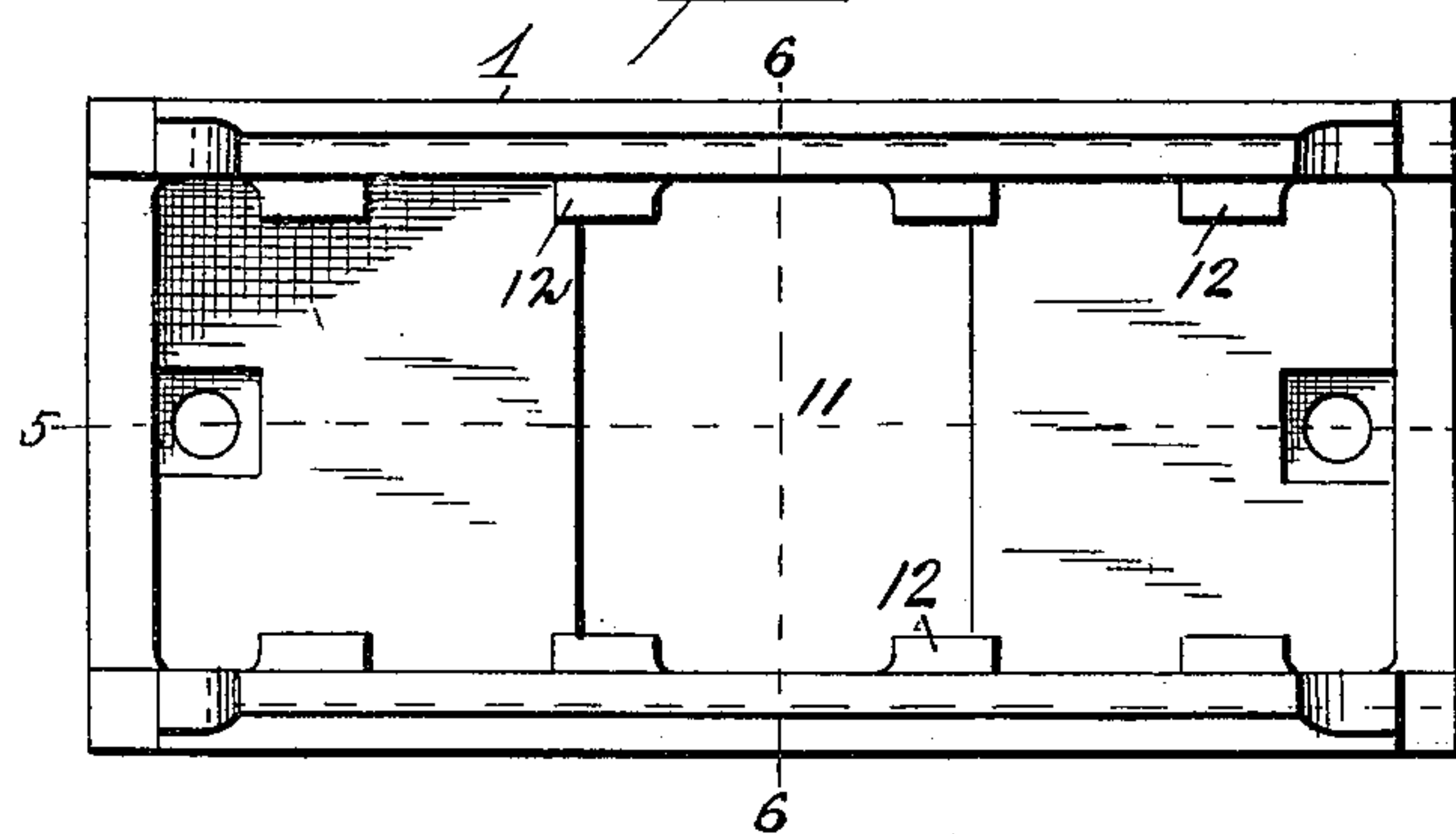
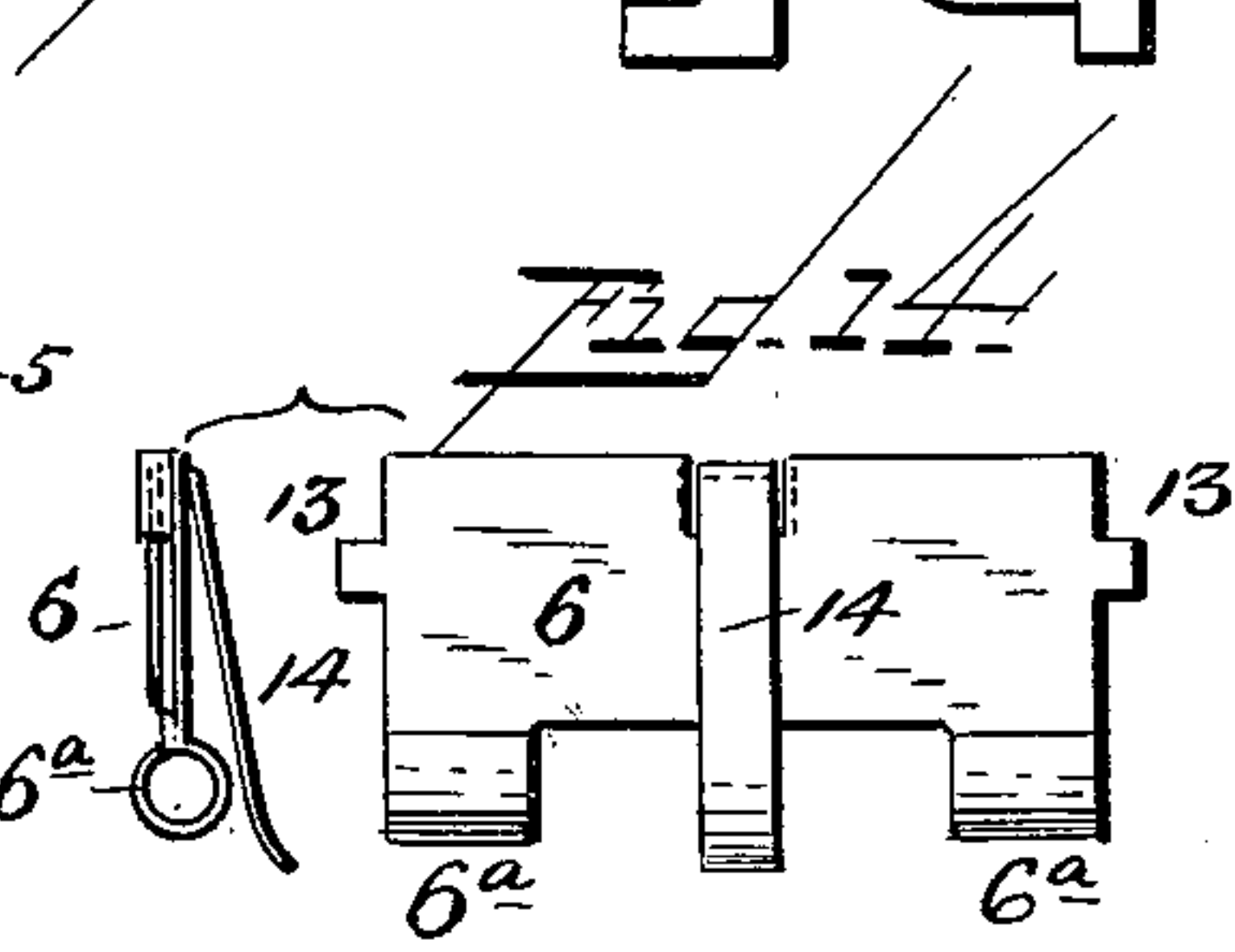


Fig. 5.



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No. 637,536.

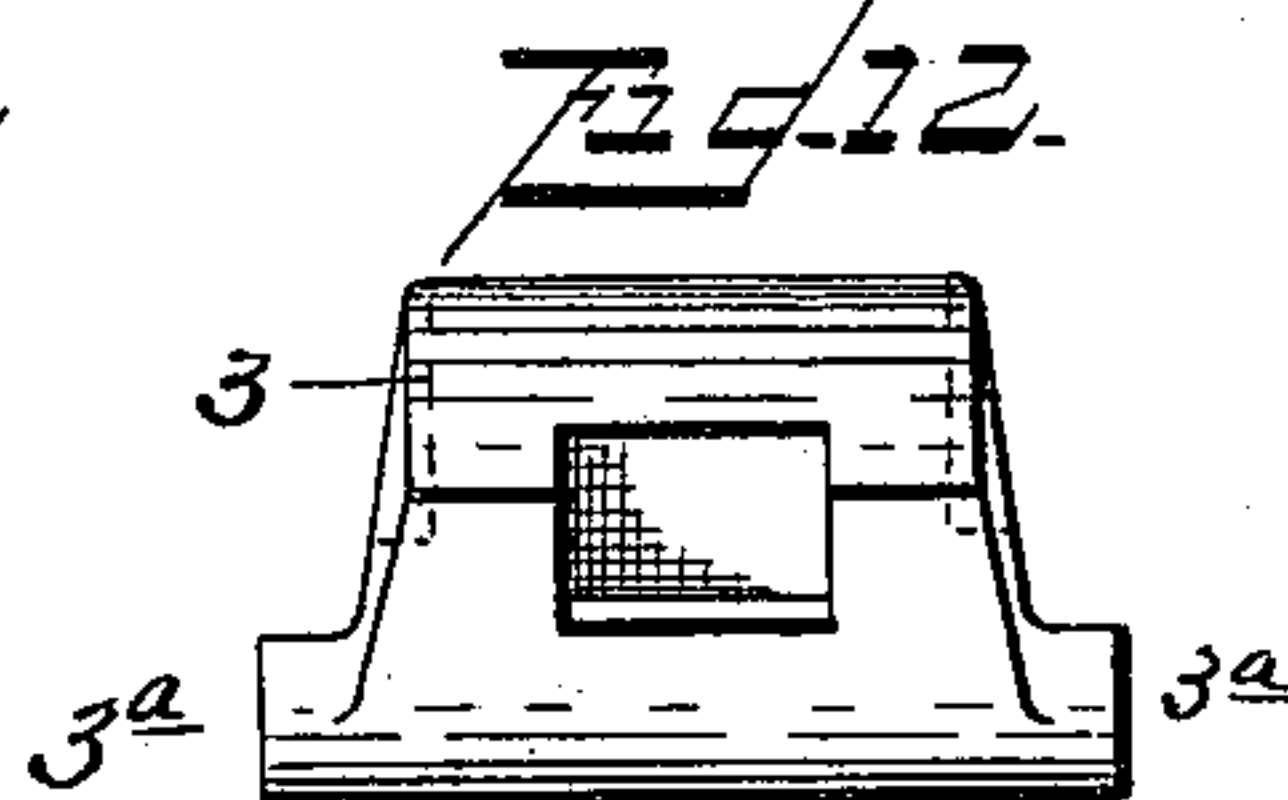
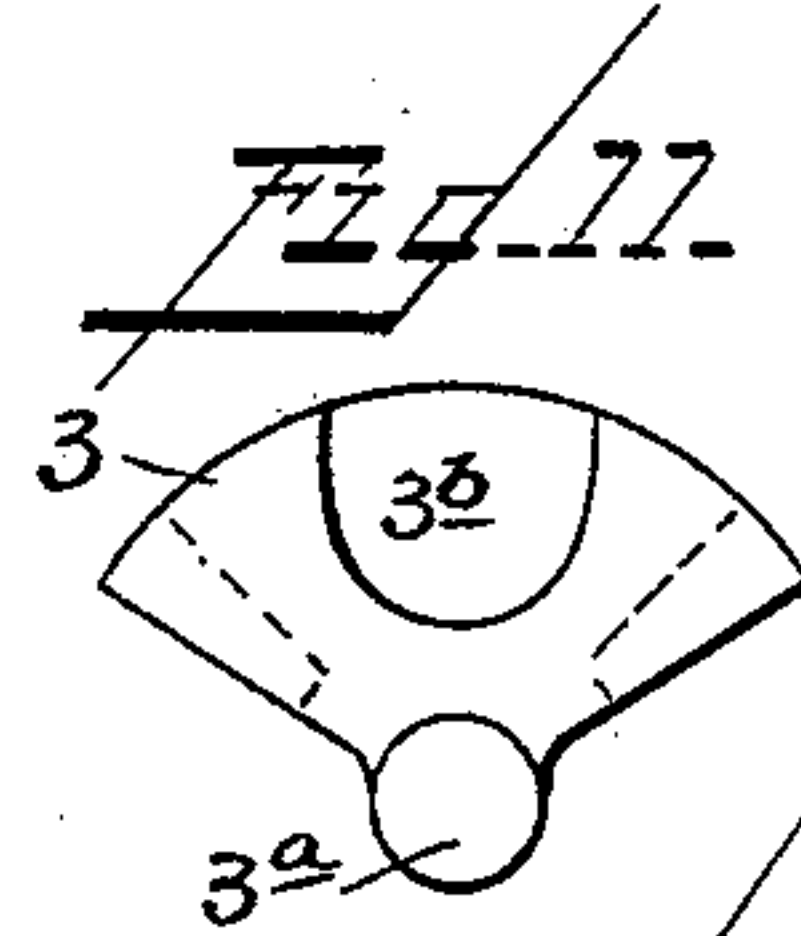
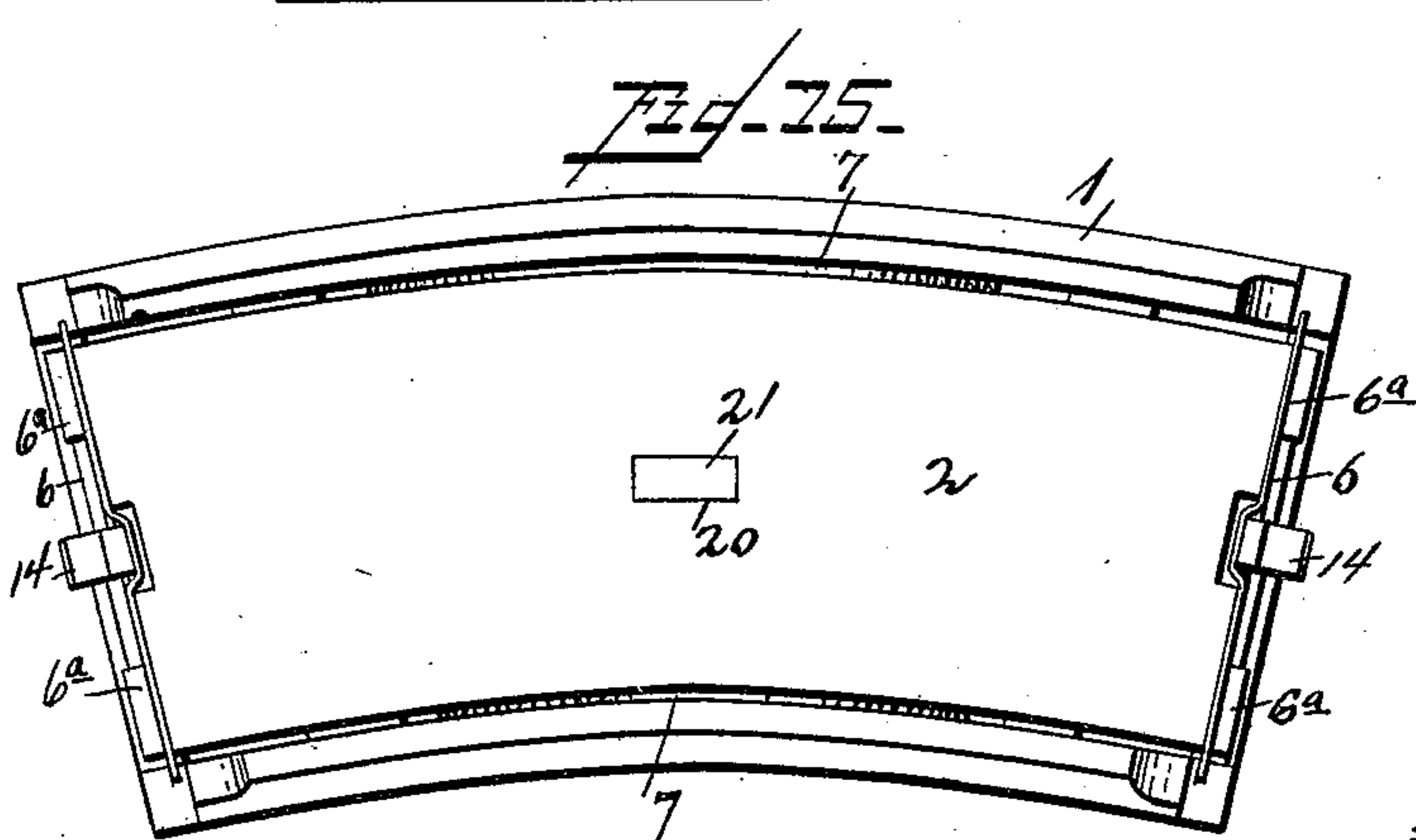
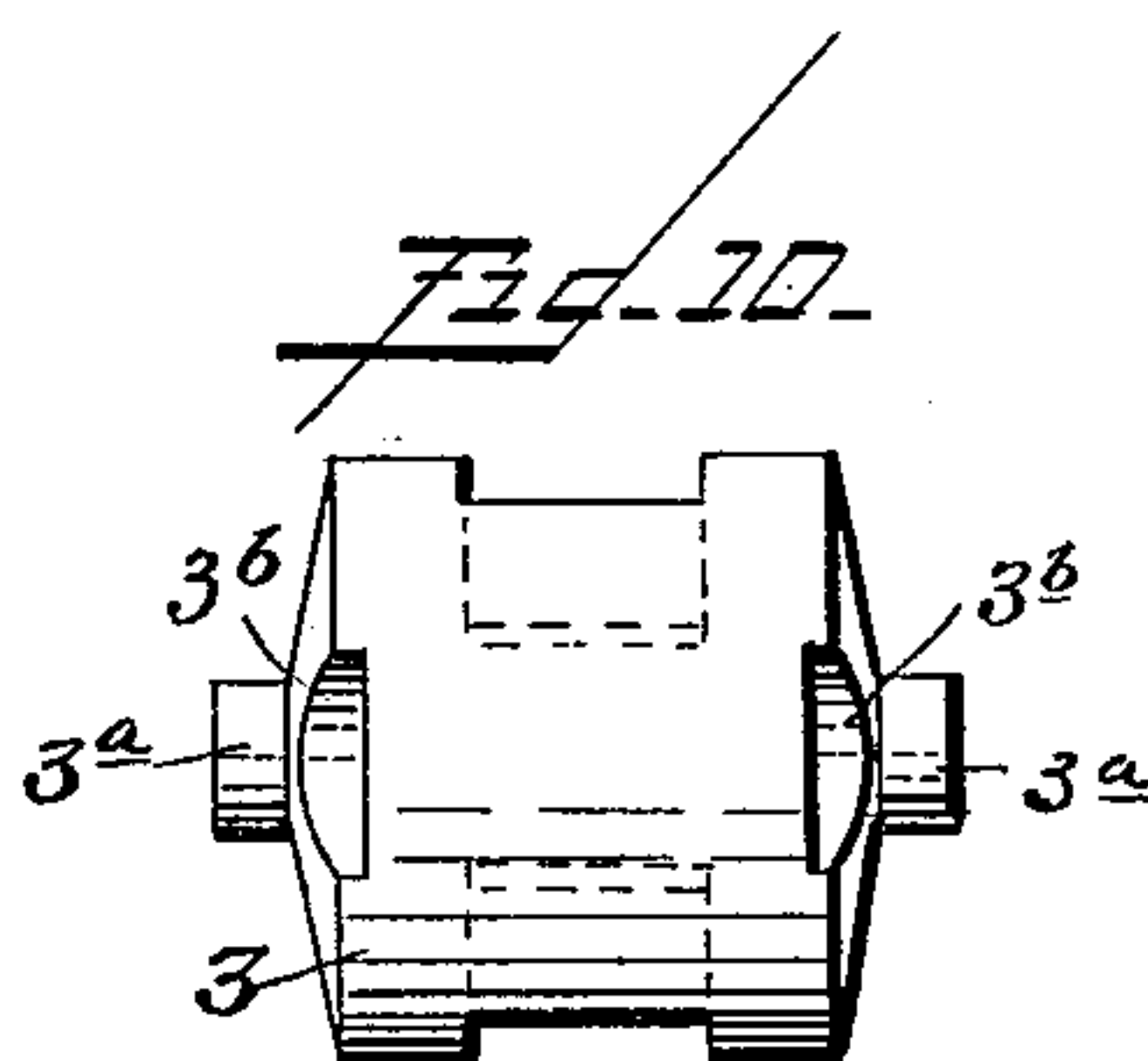
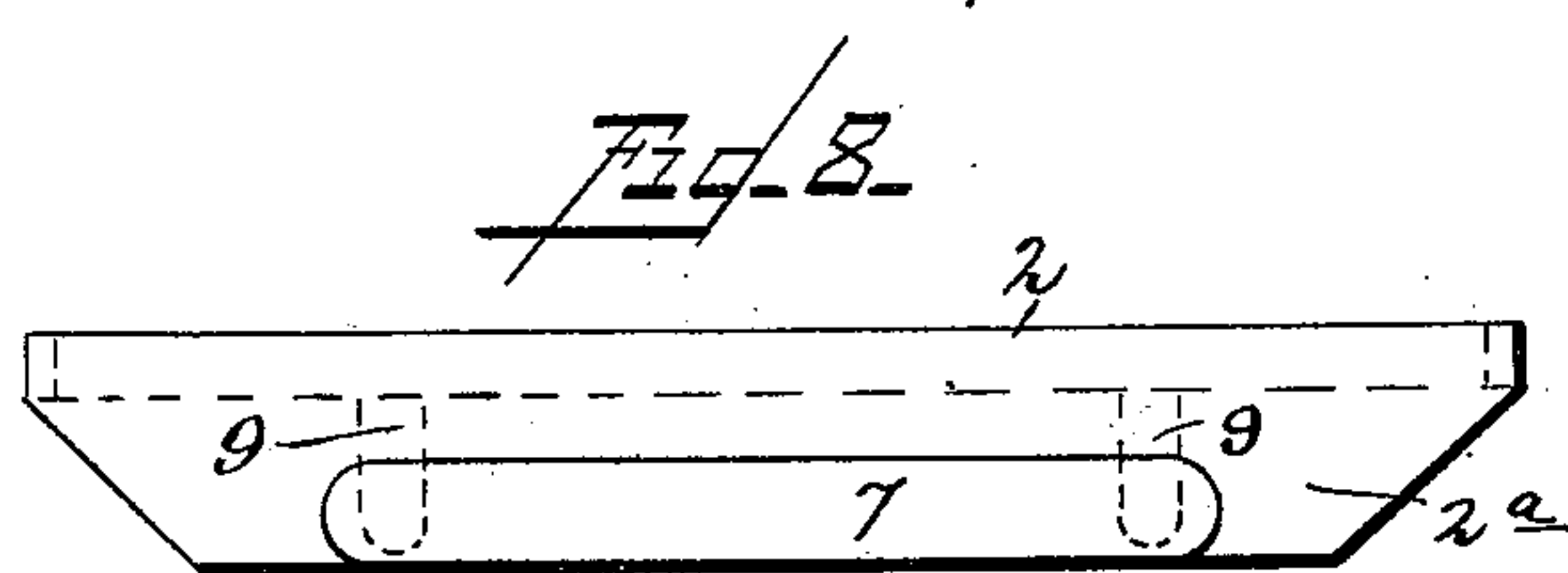
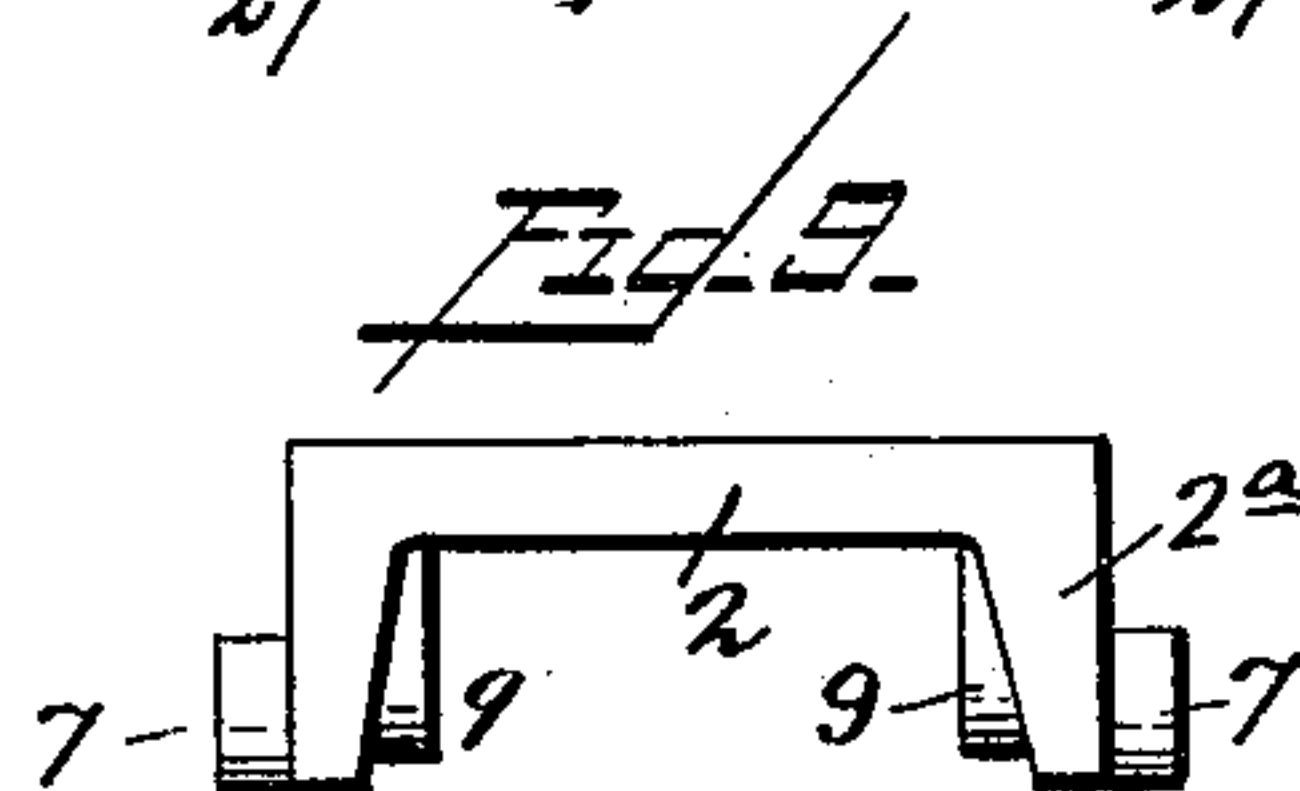
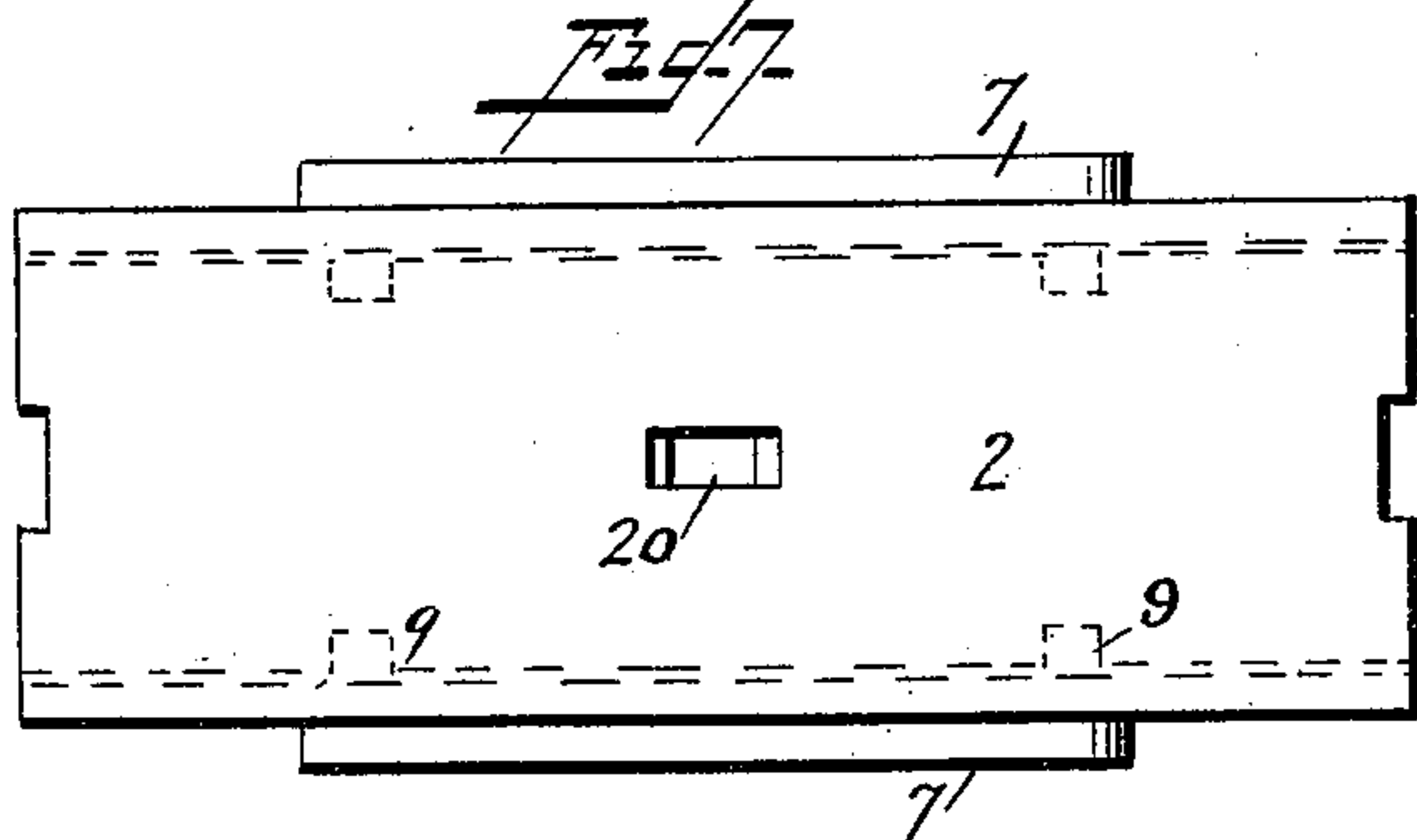
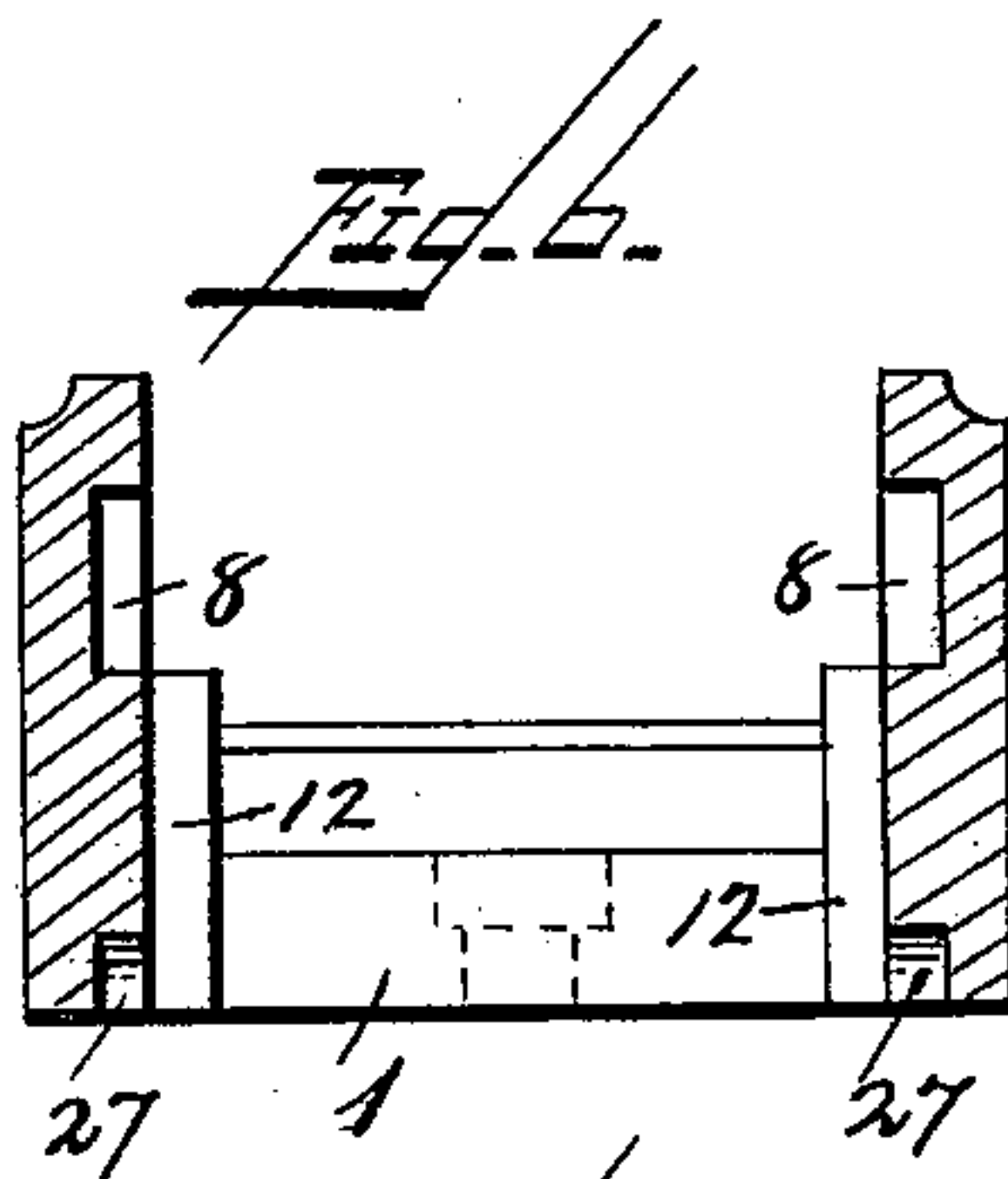
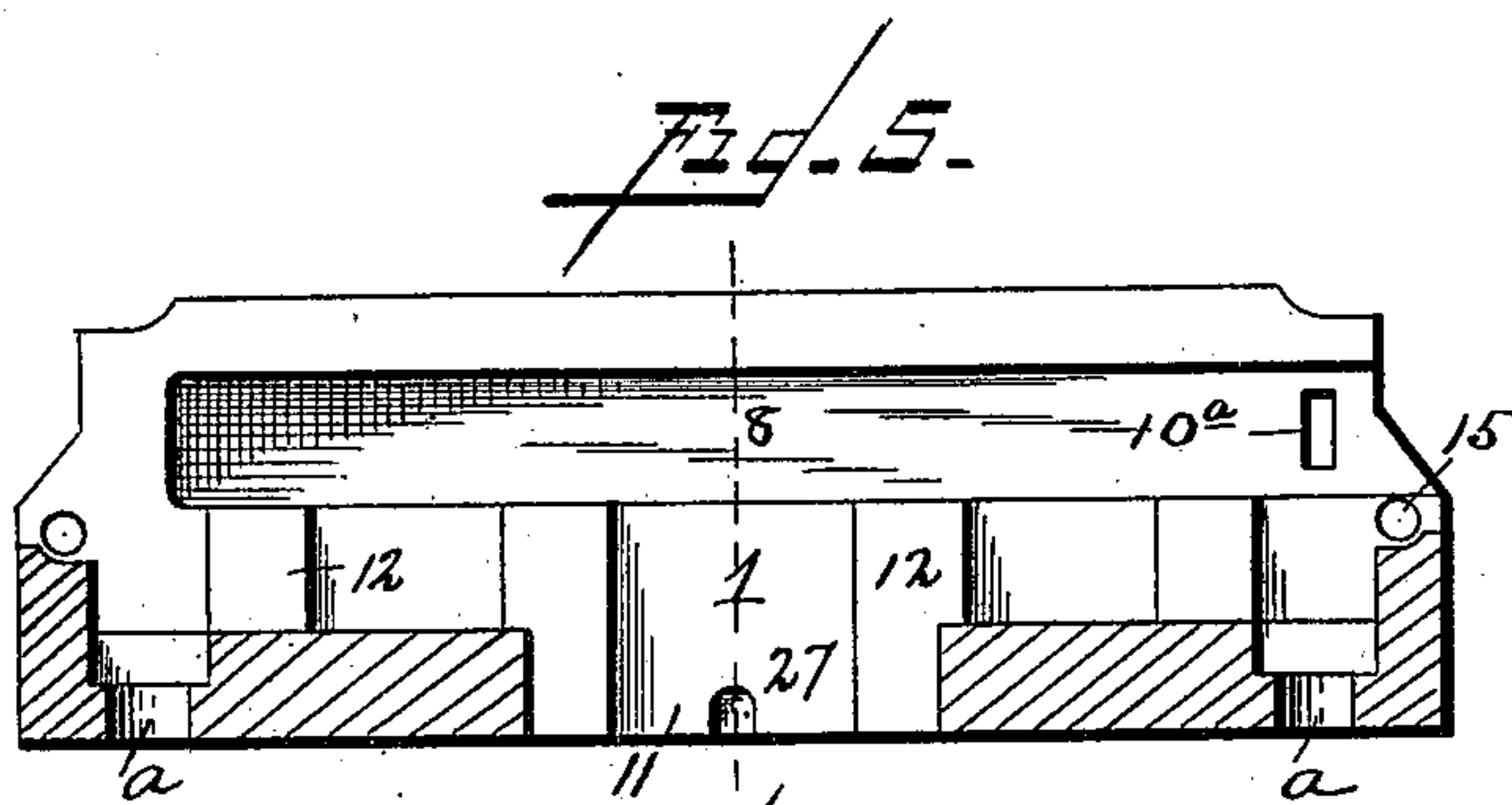
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UNITED STATES PATENT OFFICE.

CHANNING M. THOMPSON, OF NEWARK, OHIO.

SIDE BEARING FOR ROLLING-STOCK.

SPECIFICATION forming part of Letters Patent No. 637,536, dated November 21, 1899.

Application filed September 23, 1899. Serial No. 731,404. (No model.)

To all whom it may concern:

Be it known that I, CHANNING M. THOMPSON, a citizen of the United States, residing at Newark, Licking county, Ohio, have invented certain new and useful Improvements in Side Bearings for Rolling-Stock, of which the following is a specification.

My invention relates to side bearings for use between the truck and body bolsters of freight-cars and other railway rolling-stock.

The objects of the invention are to provide a side bearing capable of sustaining a heavy weight and at the same time vibrate freely without friction to the motion of the truck when the car is going around curves, to so simplify the construction that the side bearing may be applied by unskilled labor, to provide the bearing with a reciprocating top which shall have no vertical motion on its rockers, to provide means for maintaining this reciprocating top in its central or normal position, to provide shields for closing the ends of the casing or bottom member, and finally to provide a side bearing of few parts and durable construction, whereby it is rendered cheap to manufacture, easy to repair, and not liable to get out of order. These objects I accomplish by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a cross-sectional view through a car, showing the manner of applying my side bearing. Fig. 2 is a side elevation of my improved side bearing, the left half being in section. Fig. 3 is a cross-section on line 3 3, Fig. 2. Fig. 4 is a plan of the shell or casing. Fig. 5 is a longitudinal section thereof on line 5 5. Fig. 6 is a transverse section on line 6 6, Fig. 4. Fig. 7 is a plan of the reciprocating top plate removed. Figs. 8 and 9 are respectively side and end elevations thereof. Figs. 10, 11, and 12 are plan, end, and side views of one of the rockers. Fig. 13 is a detail view showing the key for holding the reciprocating slide in its guideways. Fig. 14 shows one of the shields in end and side elevation, and Fig. 15 is a plan of a side bearing which has a curved form instead of being oblong or rectangular.

1 designates the casing or bottom member, and 2 is the top, which reciprocates in the casing, the latter being open at its top and ends, as shown in Figs. 1 and 2.

The bottom of the casing 1 is provided at it ends with bolt-holes *a*, through which to pass the bolts which secure the bearing to the bolster A, Fig. 1, and the reciprocating top 2 projects above the casing 1 to engage the wear-plate *b* on the lower side of the car-body bolster B.

The reciprocating top 2 is provided with depending longitudinal side flanges 2^a, along the outer sides of which extend guide-ribs 7 7, which reciprocate in the longitudinal recesses or guideways 8 8, formed in the inner sides of the casing 1. These recesses or guideways 8 8 are closed at one end and open at the other, as shown in Figs. 2 and 5, so that the top 2 may be slipped into position, after which the open end of one (or both) recess 8 is closed by the key 10, which is passed through a keyway 10^a intersecting the recess and held therein by a split pin, as shown in Fig. 2.

Below each longitudinal recess 8 are formed four lugs 12 and a central bottom opening 11. 3 3 are rockers on the convex upper edges of which the top 2 rests and is supported so as to reciprocate, and the lower edges of these rockers are curved concentrically with their upper edges and rest on the upper flat face of the casing-bottom, as shown in Fig. 2. These rockers are further provided with extensions 3^a at opposite sides of their lower ends, which extensions rock between opposed pairs of lugs 12, which serve to hold the rockers from displacement.

To insure the rocking of the rockers 3, so that no sliding thereon of the top 2 will take place, they are provided in their opposite ends above the extensions 3^a with recesses 3^b, into which project the lugs 9 9, formed on the inner faces of the flanges 2^a.

6 6 designate the end shields, preferably struck up from sheet metal and formed at their lower edges with knuckles 6^a, through which and apertures 15 in the sides of the casing 1 are passed the pintles 6^b, on which the shields hinge. The shields yield to the end-wise action of the reciprocating top 1 by reason of the plate-springs 14, which press their upper ends inwardly against the ends of said top. The springs 14 are bent upon themselves, one member extending down through a loop formed in the upper edge of each shield

and then riveted to the shield and the other or free end extending down and bearing on the end of the casing. The inward movement of the shields is limited by end lugs or ears 13 13, which engage the ends of the side portions of the casing or shell 1. These spring-pressed shields tend to return the top plate 2 to its normal or central position; but this is accomplished mainly by the spring mechanism now to be described.

The center of the top plate 2 is provided with a flaring or countersunk aperture 20, in which is placed a lug 21, having a head shaped to fit the aperture flush with the upper face of the top, and the lower end of this lug is provided with an aperture which receives the pivot 22 of the connecting link or arm 23, which is forked at its upper end to straddle the lug.

24 is an open rectangular frame or pocket having an aperture in its top cross-piece, through which the link or arm 23 extends, and this frame or pocket has side extensions 25 at opposite sides of its lower end, terminating in pivots or trunnions 26, which enter recesses 27, formed in the lower edge of the casing 1. (See Figs. 3 and 5.)

28 is a compression-spring surrounding the link or arm and bearing at its upper end against the top cross-piece of the frame or pocket 24, the lower end of said spring being engaged by a follower 29, held on the lower end of the pivoted link or arm 23 by a pin 30. (See Fig. 3.) As the top 2 moves in either direction the link and its follower will compress the spring, and as the load is removed the spring expands, and thus returns the reciprocating top to its normal position.

This side bearing will be formed so as to be readily applied to any and all truck-bolsters without requiring changes in their construction, and the bearing may be made either rectangular, as in Figs. 2 to 9, or it may be curved, as shown in Fig. 15, which differs merely in contour from the bearing above described.

The bearing is assembled as follows: The rockers 3 are inserted with their recesses 3^b turned toward the open ends of the grooves 8, and the top 2 is then inserted so that its ribs 7 will enter the grooves or ways 8 till they engage the closed ends thereof, and the lugs 9 will have entered the rocker-recesses 3^b. The key 10 is now inserted to hold the top in place. The shields 6 may now be applied. Then the lug 21 is inserted and the link 23 pivoted thereto. The frame or pocket is inserted through opening 11 and the spring placed in position, after which the follower 29 is secured on the link, as shown.

The ribs 7 7 being shorter than the recesses or ways 8 8, provision is made for the proper amount of movement for the reciprocating top, and the lugs 9 will insure the operation of the rockers. The lugs 12 12 on the inside of the casing or shell keep the rockers in

proper position to receive the load and vibrate under the top. The shields will prevent the admission of foreign matter, which might otherwise accumulate and interfere with the working of the rockers. No lubrication or attention is required, as the rockers are not pivoted to the top or to the casing.

As the top is perfectly free to move with the motion of the truck when the cars are rounding curves, there will be no tendency to derailment of the cars, and as the bearing is designed for supporting heavy loads it will relieve the car-body bolster from sagging, deflection, and consequent breakage.

As the upper and lower edges of the rockers are concentric, they will not in rocking raise the top plate in the slightest.

What I claim is—

1. A side bearing comprising a bottom shell or casing, a reciprocating top, and a pair of non-contacting rockers mounted in the shell or casing at opposite sides of its middle and supporting the said top on their upper faces.

2. A side bearing comprising, a bottom shell or casing, a reciprocating top, lug-and-recess connections between the two to allow the proper movement of the top in the casing or shell, and a pair of non-contacting rockers mounted in the shell or casing at opposite sides of its middle and supporting said top on their convex upper faces.

3. A side bearing comprising, a bottom shell or casing a reciprocating top guided therein, rockers mounted in the shell or casing and supporting the top plate on their convex upper faces, and positive connections between the top and the said rockers to insure the operation of the latter by said top.

4. A side bearing comprising, a bottom shell or casing having two pairs of lugs on each inner face, two rockers having extended lower ends between opposite pairs of lugs, and a reciprocating top guided in the shell or casing and supported on the upper convex faces of said rockers.

5. A side bearing comprising a shell or casing having internal opposed pairs of lugs and longitudinal grooves or recesses, two rockers having end recesses and extended lower ends between opposed pairs of lugs, and a reciprocating top supported on the rockers, having side ribs projecting into said longitudinal recesses and also provided with lugs engaging said recesses in the rockers.

6. A side bearing comprising, a shell or casing having longitudinal recesses on its inner sides, closed at one end and open at the other, a reciprocating top having longitudinal side ribs slid into said recesses from the open end thereof, a key for preventing the withdrawal of said top, and rockers mounted in the shell and supporting the said top on their convex upper edges.

7. A side bearing comprising, an open-ended bottom shell or casing, a reciprocating top supported and guided therein and yield-

ing shields closing the ends of the casing or shell.

8. A side bearing comprising, an open-ended bottom shell or casing, a reciprocating top supported and guided therein, hinged shields closing the ends of the shell and springs tending to hold the shields closed.

9. A side bearing comprising, an open-ended bottom shell or casing, a reciprocating top supported and guided therein, and shields having knuckles at their lower edges, pintles passed through said knuckles and through apertures in the shell, and plate-springs secured to the shields and bearing at their free lower ends against the ends of the shell or casing to hold the shields closed; said shields also having stop-lugs.

10. A side bearing comprising, a bottom shell or casing, a reciprocating top, non-contacting rockers within the bottom shell at opposite sides of its middle and supporting the top, and means for returning the top to its

normal central position after the removal of the load.

11. A side bearing comprising, a bottom shell or casing, a reciprocating top, rockers supporting the top and a spring located between the rockers and connected to the said top to return it to its normal central position.

12. A side bearing comprising, a bottom shell or casing, a reciprocating top, rockers supporting said top a pivoted link or arm depending from the center of the top and provided at its lower end with a follower, a frame or pocket pivotally connected at its lower end to the shell or casing, and a compression-spring between the follower and upper end of the frame or pocket.

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

CHANNING M. THOMPSON.

Witnesses:

D. L. TANZER,
G. H. FRANKLIN.