

J. WARD.
SWIVEL BLOCK MOUNTING.
APPLICATION FILED NOV. 2, 1907.

914,683.

Patented Mar. 9, 1909.
2 SHEETS—SHEET 1.

Fig. 2.

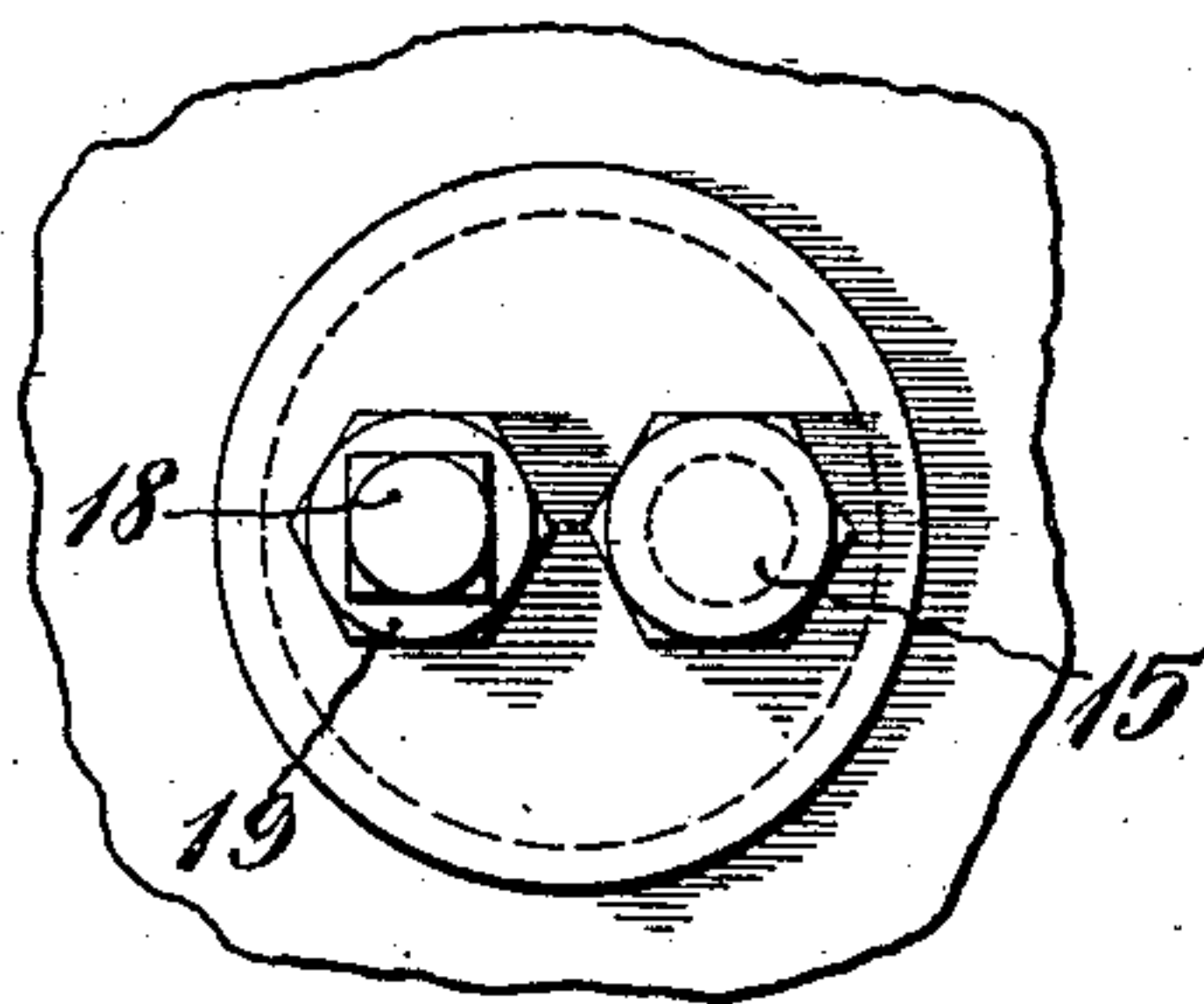


Fig. 6.

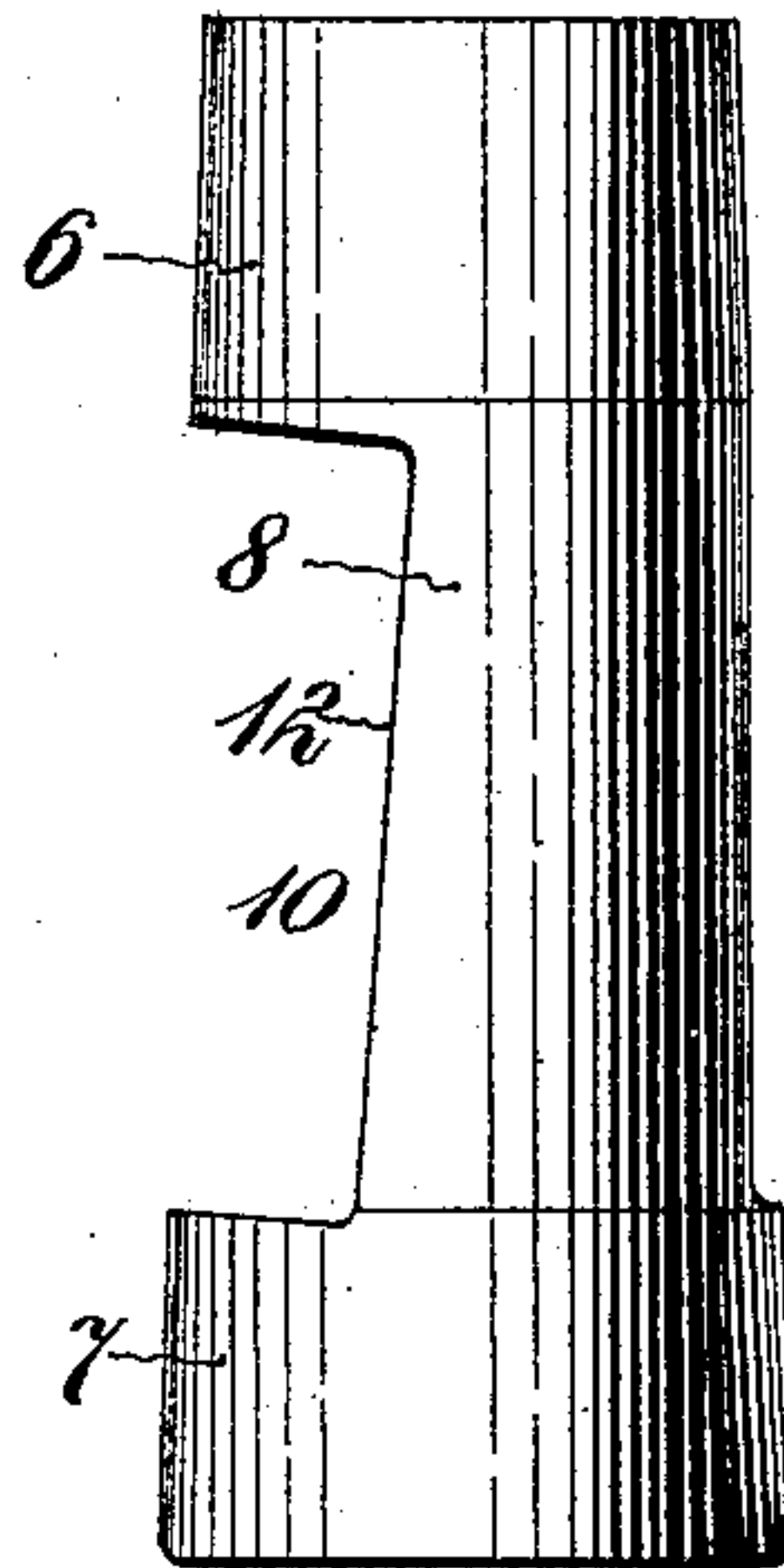


Fig. 4.

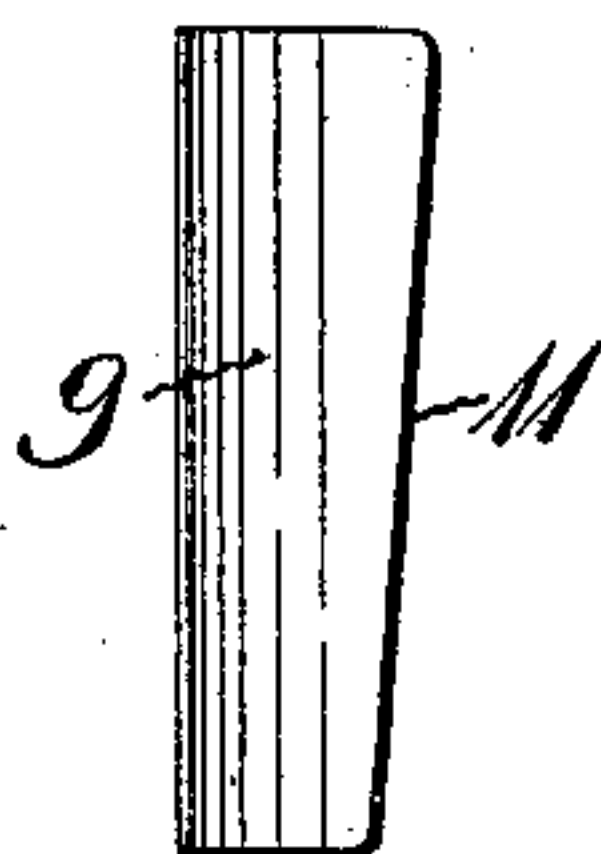


Fig. 1.

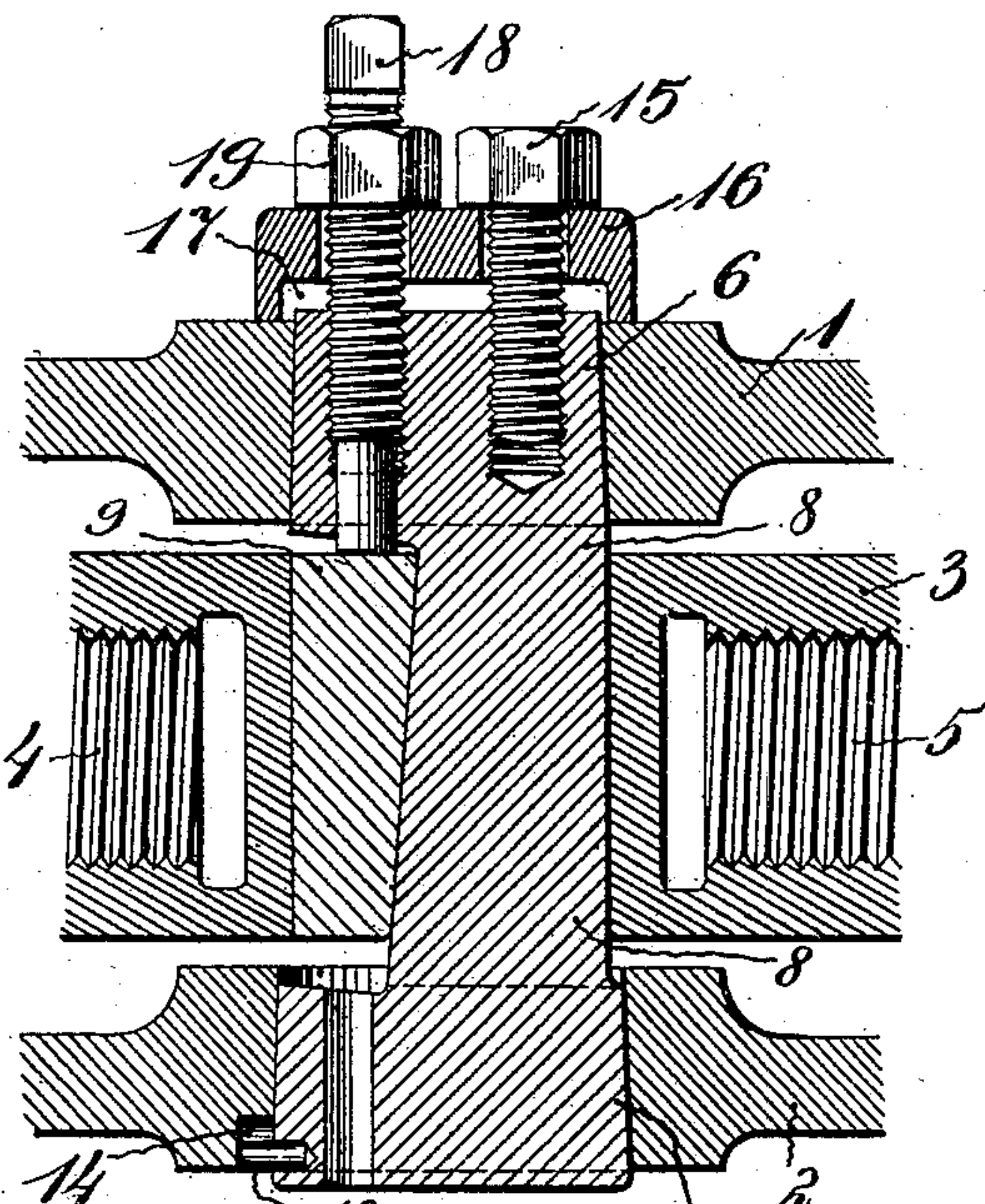


Fig. 8.

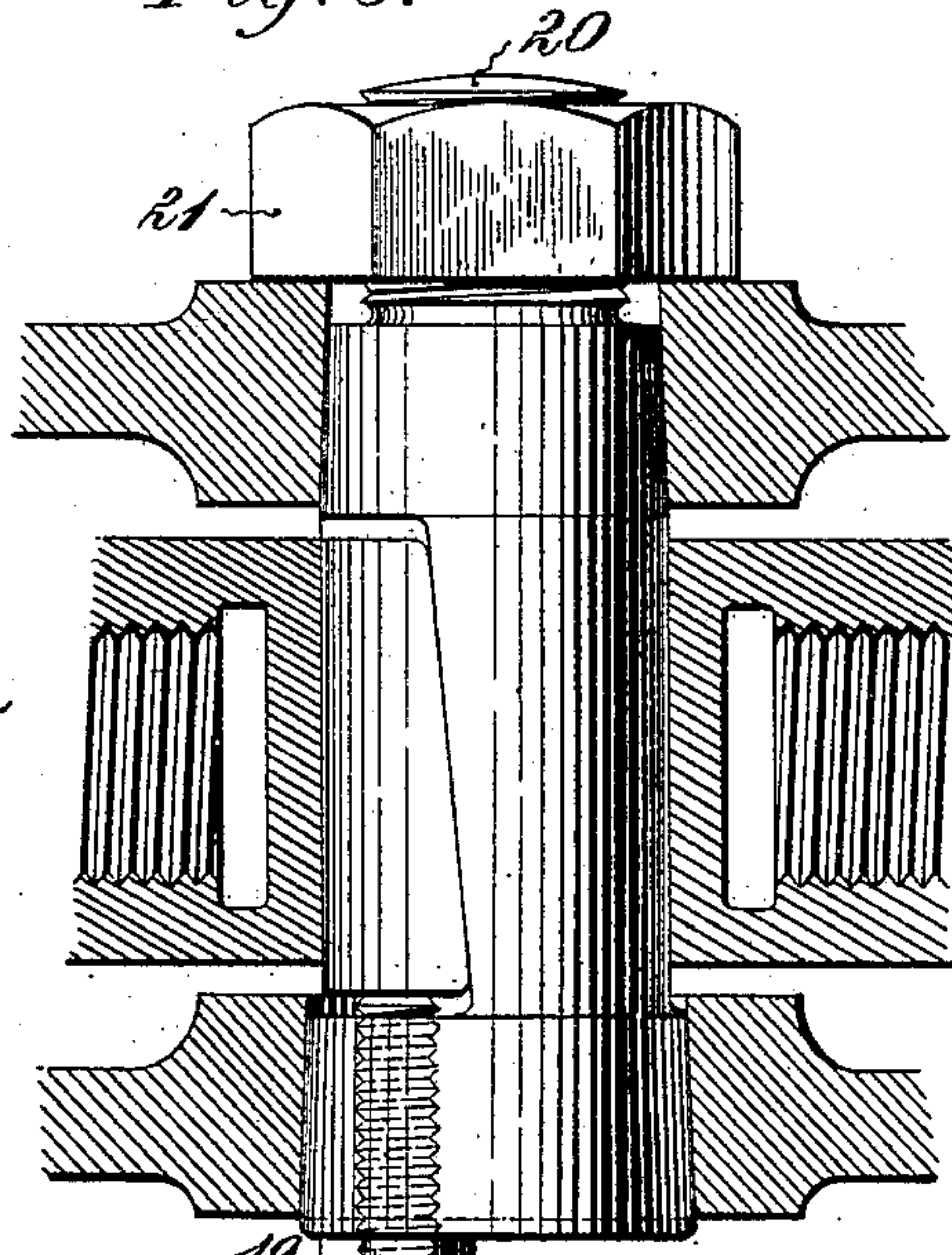


Fig. 3.

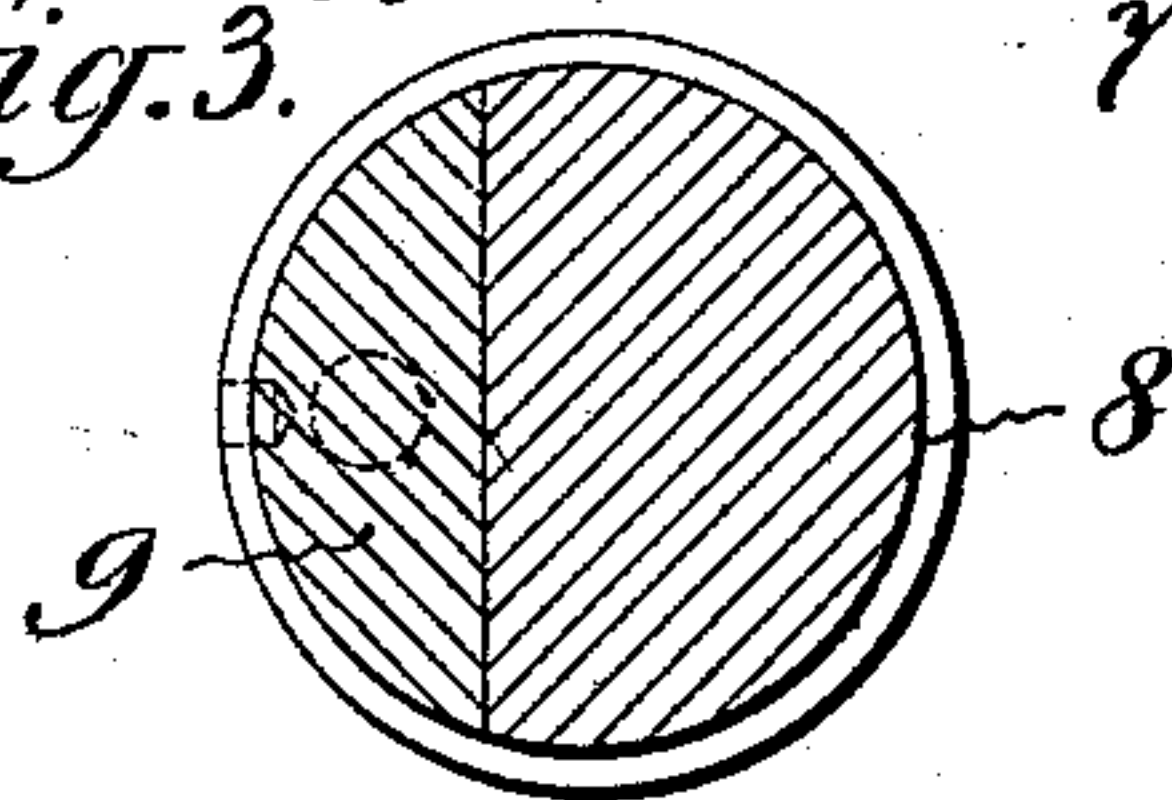


Fig. 5.

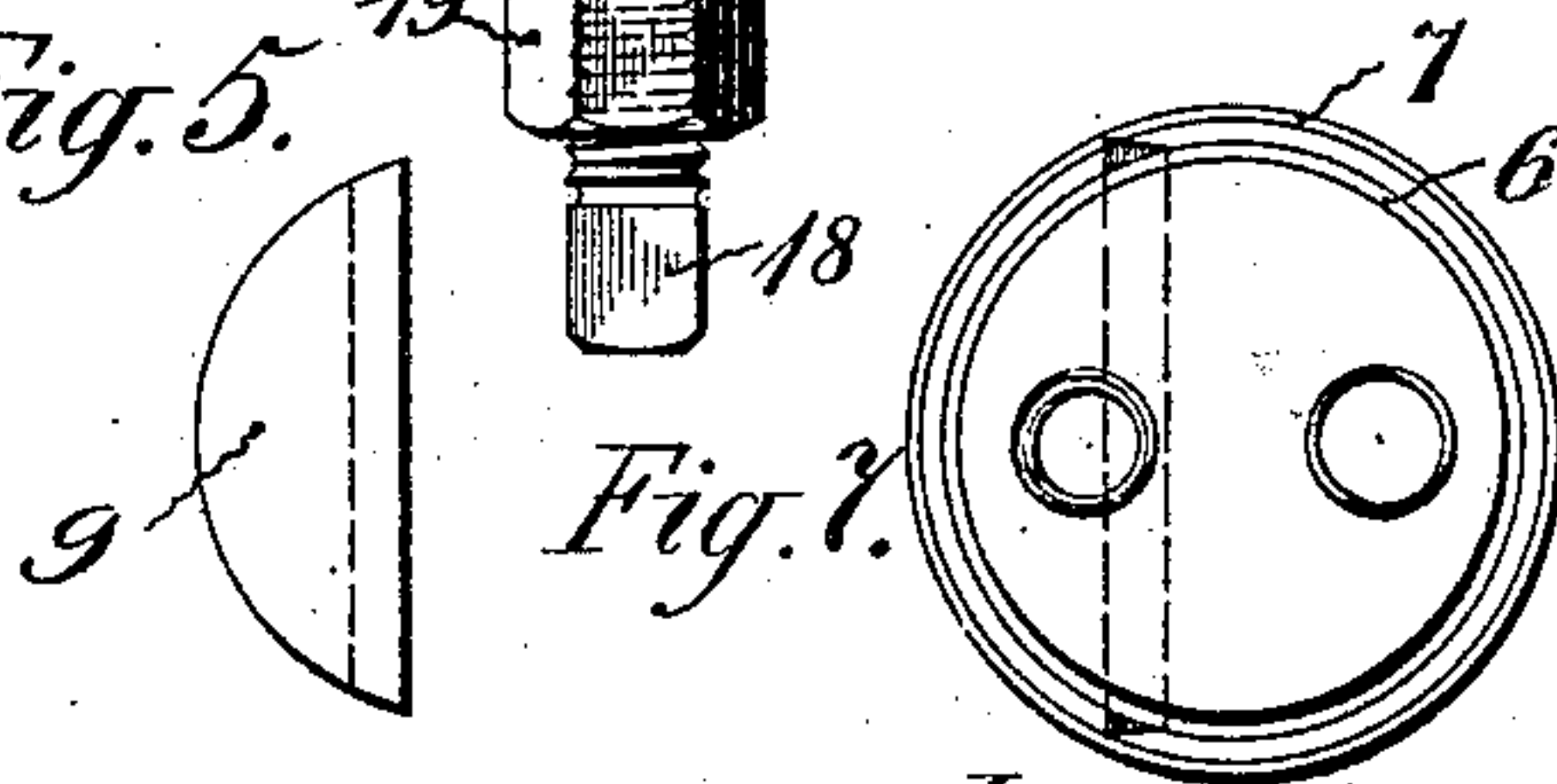


Fig. 7.

Witnesses.
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Fig. 9.

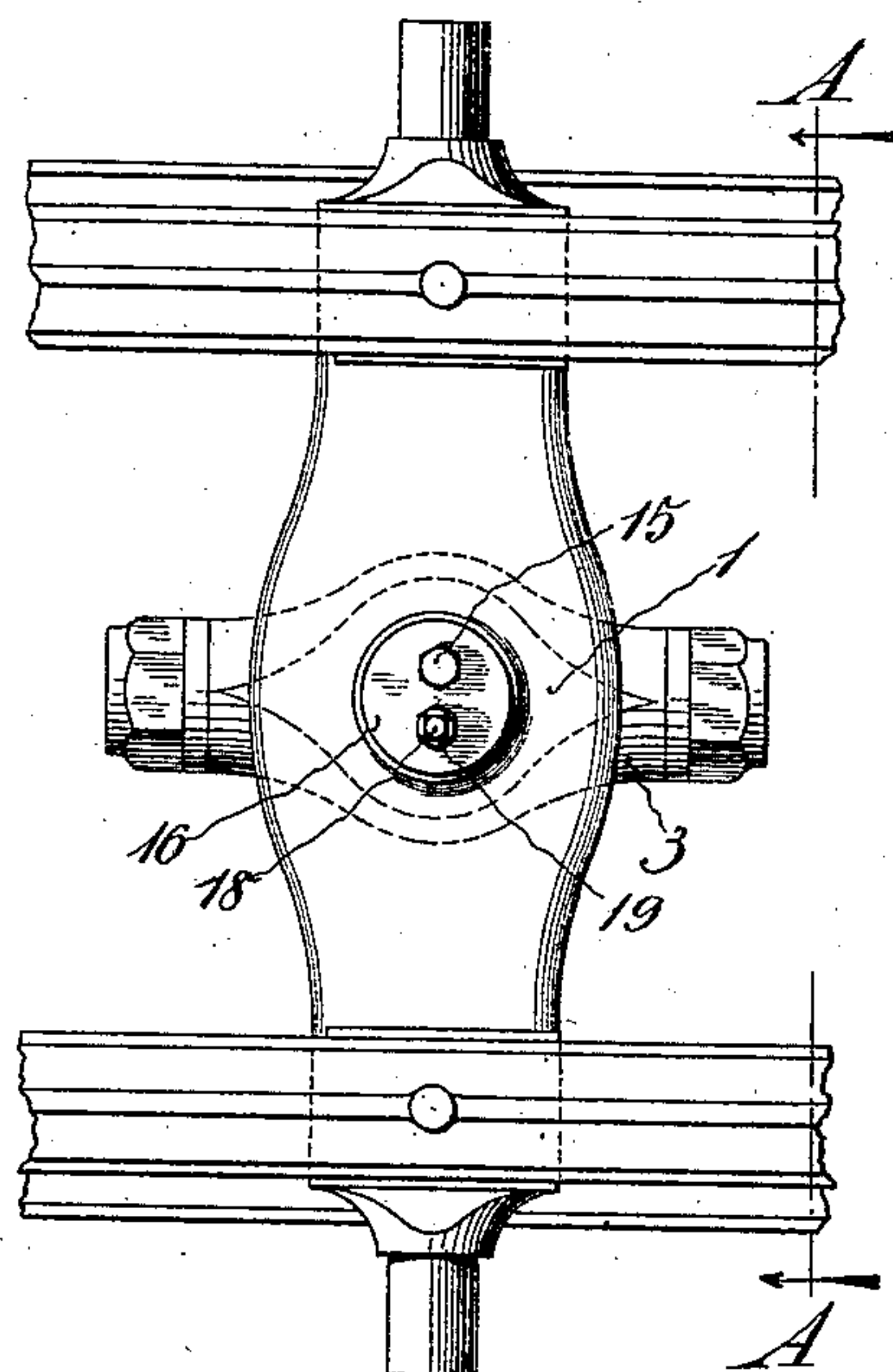


Fig. 10.

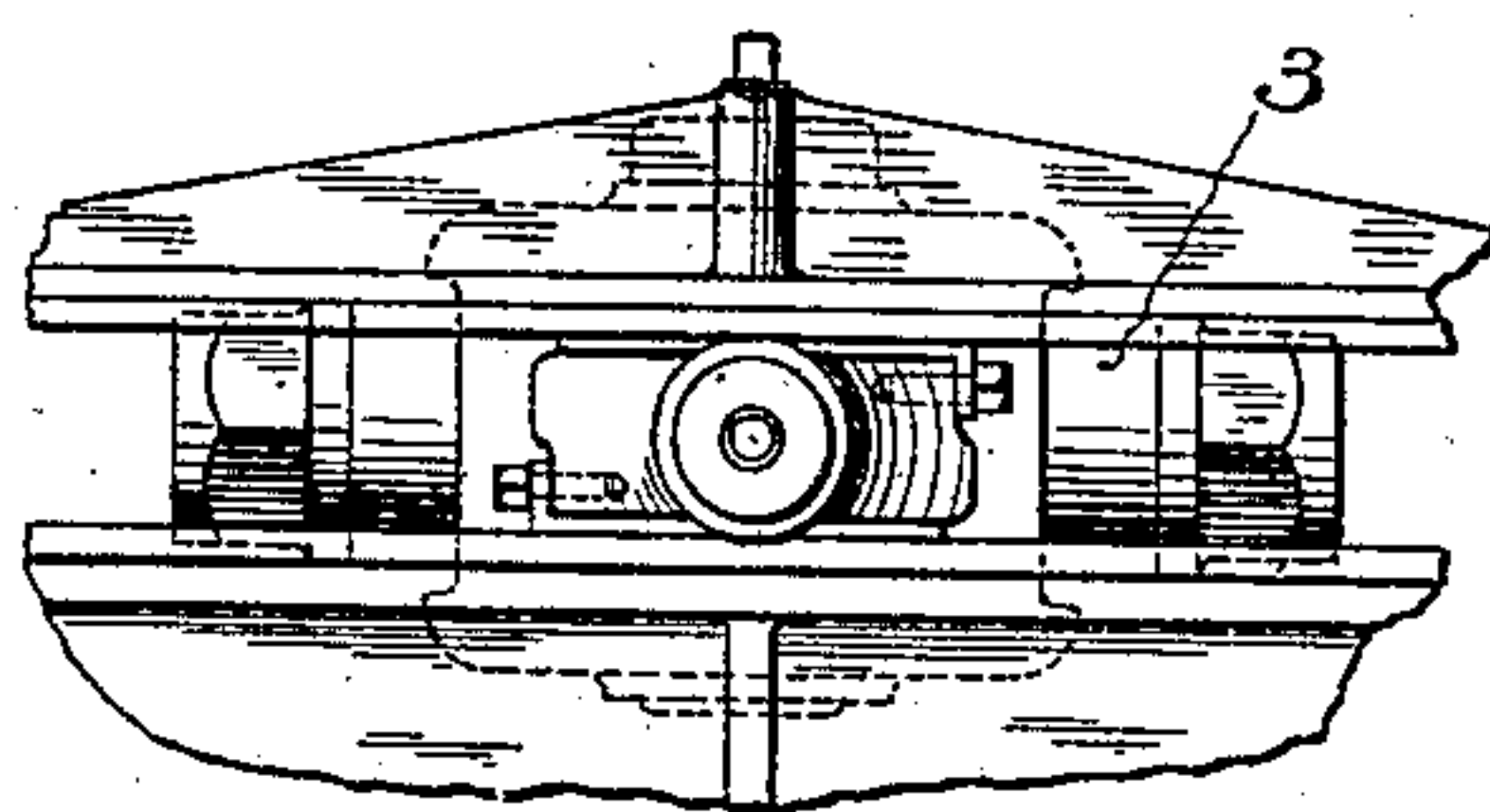
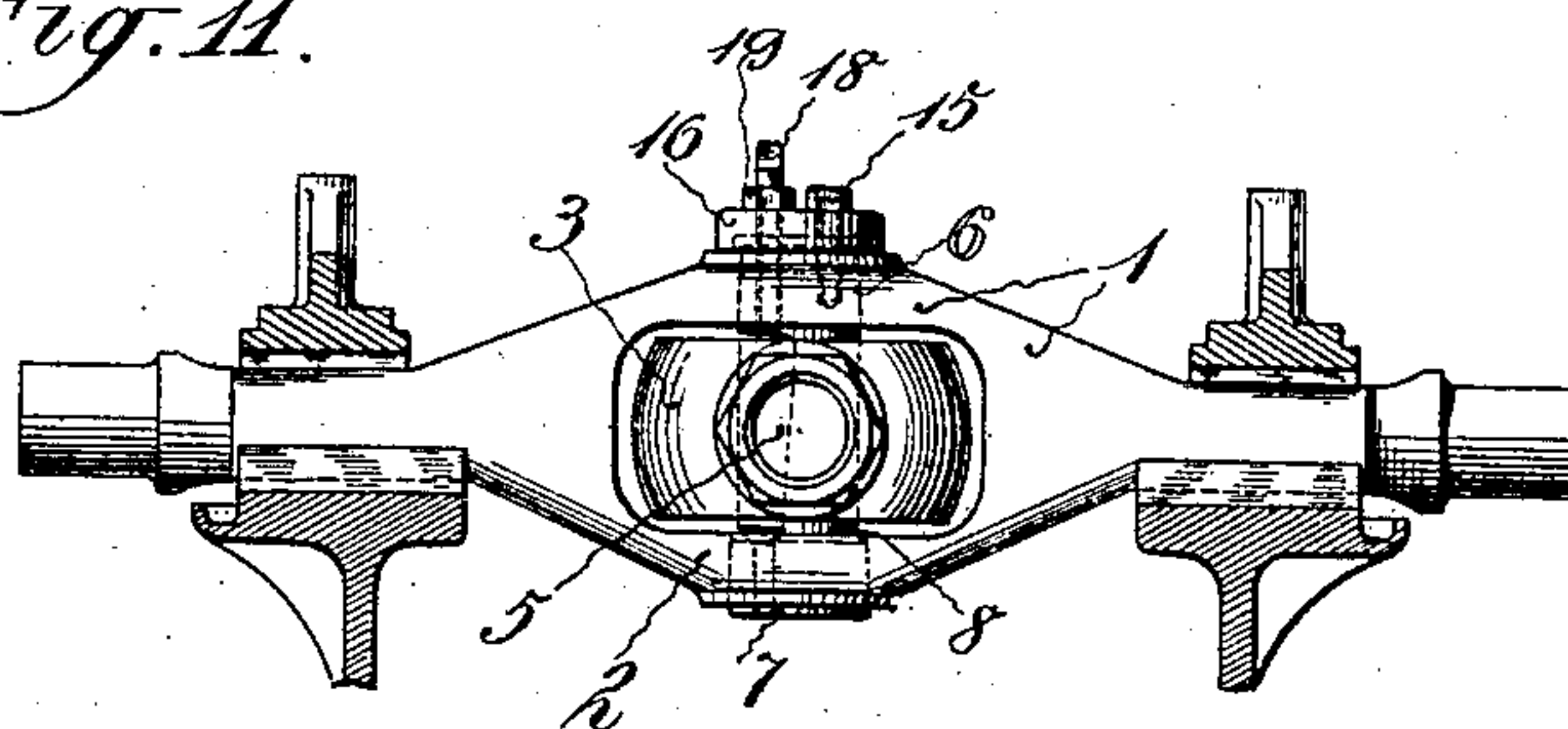


Fig. 11.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOSIAH WARD, OF OAK PARK, ILLINOIS, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

SWIVEL-BLOCK MOUNTING.

No. 914,683.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed November 2, 1907. Serial No. 400,346.

To all whom it may concern:

Be it known that I, JOSIAH WARD, a citizen of the United States, and resident of Oak Park, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Swivel-Block Mountings, of which the following is a specification.

My invention relates to certain improvements in swivel block mountings, such, for instance, as the devices for connecting the swivel block with the cross head of a fluid compressor, the object being to provide novel means for tightening the pin which connects the swivel block with the cross head both in the swivel block and in the cross head, said tightening means for the swivel block being independent of the tightening means for the cross head.

Practical embodiments of my invention are represented in the accompanying drawings, in which—

Figure 1 is a detail longitudinal central section through the cross head, the swivel block and the pin, Fig. 2 is a top plan view of the same, Fig. 3 is a cross section through the pin and its wedge, Fig. 4 is a side view of the wedge, Fig. 5 is an end view of the same, Fig. 6 is a side view of the pin, Fig. 7 is an end view of the same, Fig. 8 is a detail section partly in side elevation of a modified form of pin, Fig. 9 is a plan view of the cross head and swivel block complete, of the form shown in Figs. 1 to 7 inclusive, portions of the guide bars for the cross head being also shown; Fig. 10 is a side view and Fig. 11 is a section taken in the plane of the line A—A of Fig. 9, looking in the direction of the arrows.

In the form shown in Figs. 1 to 7, and 9 to 11 inclusive, the top and bottom portions at the middle of the cross head are denoted by 1 and 2, between which portions the swivel block 3 is located, which swivel block has screw threaded sockets 4 and 5 for engagement with the piston rods, not shown herein. The pin which extends through the swivel block and the top and bottom portions of the cross head has tapered end portions 6 and 7 and an intermediate cylindrical portion 8. The tapered portions 6 and 7 engage the top and bottom portions 1 and 2 of the cross head while the cylindrical portion 8 extends through the swivel block. A sliding wedge 9 is located in a recess 10 in the cylindrical portion of the pin, the outer wall of

the said wedge being of cylindrical form in cross section and the inclined wall 11 of said wedge being fitted to engage the inclined wall 12 of the recess 10. A stop 13 projects from the pin into a recess 14 in the cross head for holding the pin against rotary movement in the cross head. The means for tightening the pin in the cross head comprising a bolt 15 which screws into the smaller end of the pin and extends through an interposed washer 16 having a recess 17 in its inner face for receiving the end of the pin. As this bolt 15 is screwed inwardly, the pin is tightened in the upper and lower portions 1 and 2 of the cross head. The means which I have shown for tightening the pin within the swivel block comprises a screw bolt 18 which extends through the washer 16 and has a screw threaded engagement with the smaller end of the pin, the end of the said screw 18 extending into the recess 10 and pressing against the larger end of the wedge 9. As the bolt 18 is screwed inwardly, the pin will be tightened in the swivel block by the movement of the wedge. A lock nut 19 is provided on the screw bolt 18 for locking the screw bolt in its adjustment by engagement with the washer 16 and which also serves to assist in holding the pin in its position within the cross head.

In the form shown in Fig. 8, the smaller end of the pin is provided with a screw threaded extension 20 which is engaged by a nut 21 for tightening the pin in the cross head as the nut 21 is screwed inwardly. In this form the screw bolt 18 extends through the larger end of the pin into engagement with the large end of the wedge and the lock nut 19 engages the end of the pin for locking the bolt 18 in position.

In both of the forms hereinabove described, it will be seen that separate means are provided for tightening the pin in the cross head and for tightening the pin in the swivel block.

In the form shown in Figs. 1 to 7 inclusive, the two tightening means work in opposite directions while in the form shown in Fig. 8 the two tightening means work in the same direction.

It is evident that various changes in the construction, form and arrangement of the several parts might be made without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly

to the forms herein shown and described, but

What I claim is:—

1. In a device of the character described, a cross head, a swivel block, a pin extending through the cross head and swivel block, said pin having a recess therein, a sliding wedge located in said recess and a bolt having a screw threaded engagement with the pin, the inner end of the said bolt extending into position to engage the said wedge for tightening the pin in the swivel block.

2. In a device of the character described, a cross head, a swivel block, a pin extending through the cross head and swivel block, means for tightening the pin in the cross head and independent means for tightening the pin in the swivel block comprising a wedge and a screw bolt carried by the pin engaging the wedge.

3. In a device of the character described, a cross head, a swivel block, a pin having tapered walls in the cross head and cylindrical walls in the swivel block, said cylindrical portion having a recess therein, a wedge in said recess, means for tightening the pin in the cross head and independent means for tightening the pin in the swivel block comprising a screw bolt carried by the pin engaging said wedge.

4. In a device of the character described, a cross head, a swivel block, a pin having tapered walls in the cross head and cylindrical

walls in the swivel block, said cylindrical portion having a recess therein, a wedge in said recess, means for tightening the pin in the cross head comprising a screw bolt engaging one end of the pin and an interposed washer engaging the cross head, and means for tightening the pin in the swivel block comprising a screw bolt extending through the washer and the end of the pin into engagement with said wedge.

5. In a device of the character described, a cross head, a swivel block, a pin having tapered walls in the cross head and cylindrical walls in the swivel block, said cylindrical portion having a recess therein, a wedge in said recess, means for tightening the pin in the cross head comprising a screw bolt engaging one end of the pin and an interposed washer engaging the cross head, means for tightening the pin in the swivel block comprising a screw bolt extending through the washer and the end of the pin into engagement with said wedge, and a lock nut engaging the washer for holding said last-named screw bolt in position.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 26th day of October, 1907.

JOSIAH WARD.

Witnesses:

THOS. G. DUFFY,
C. W. MILCHER.