

No. 827,850.

PATENTED AUG. 7, 1906.

F. S. CLARKSON.

TRACK PULLEY.

APPLICATION FILED JAN. 17, 1906.

Fig. 1

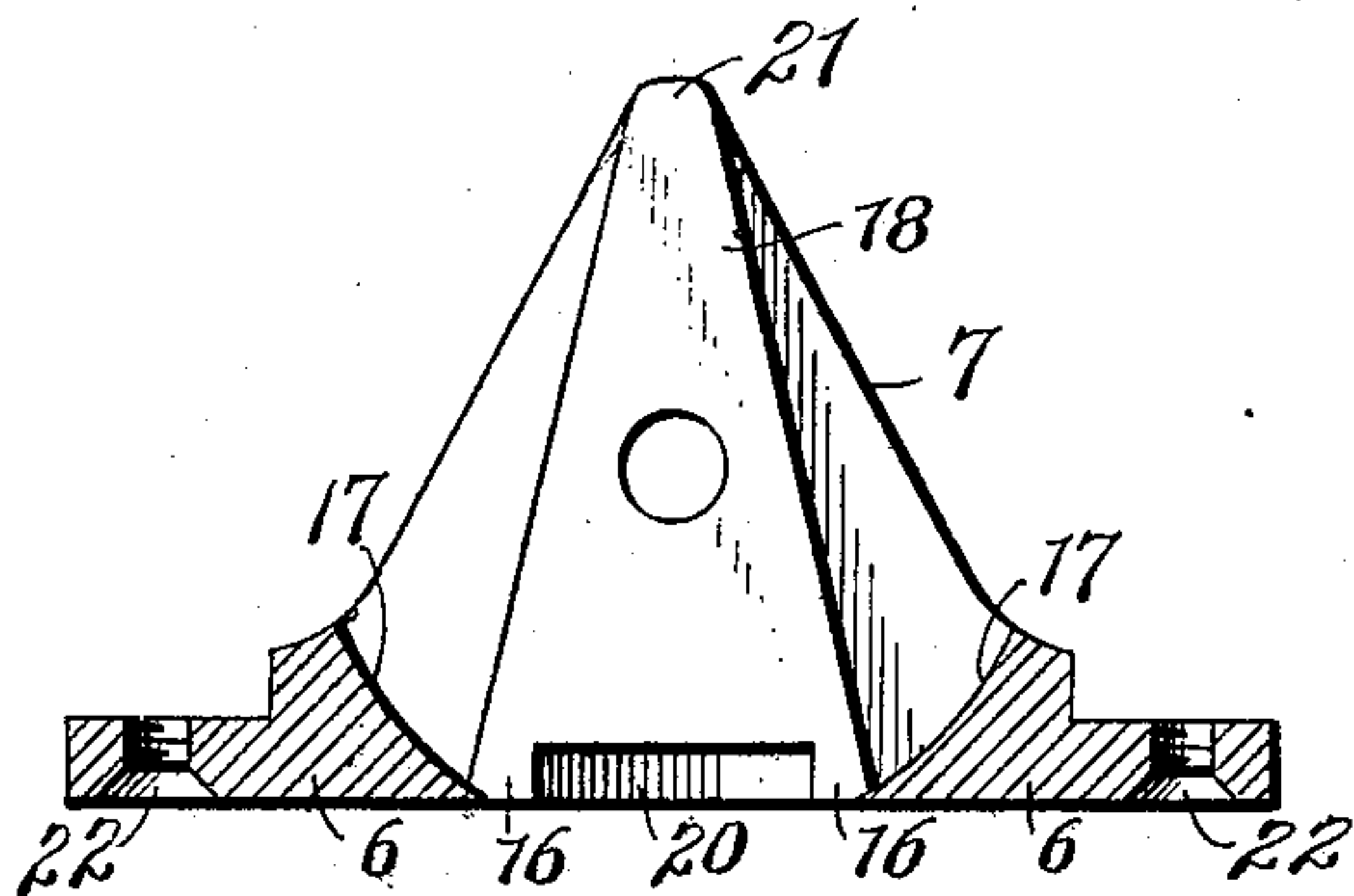


Fig. 2.

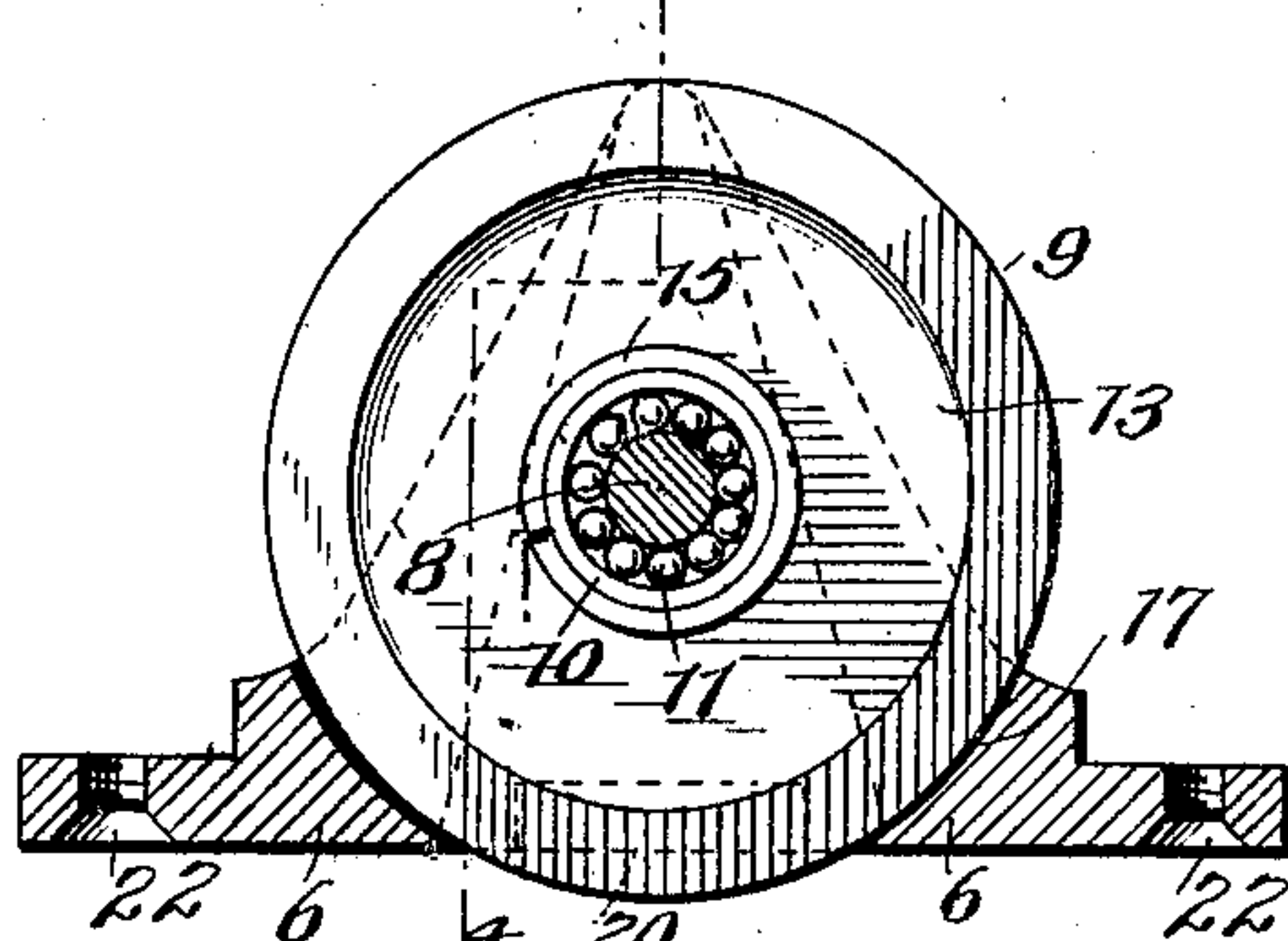


Fig. 3.

Fig. 4.

Fig. 5.

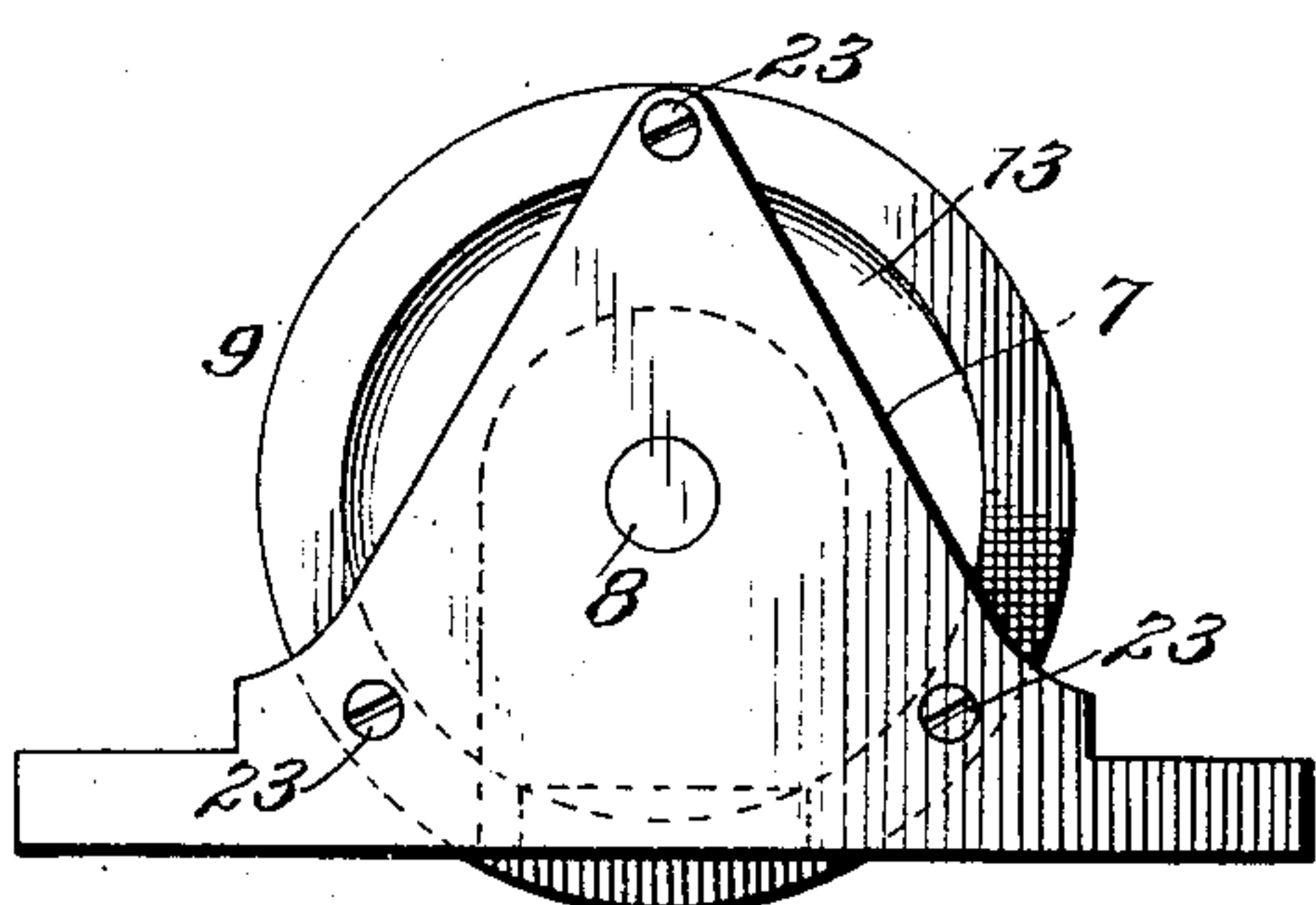
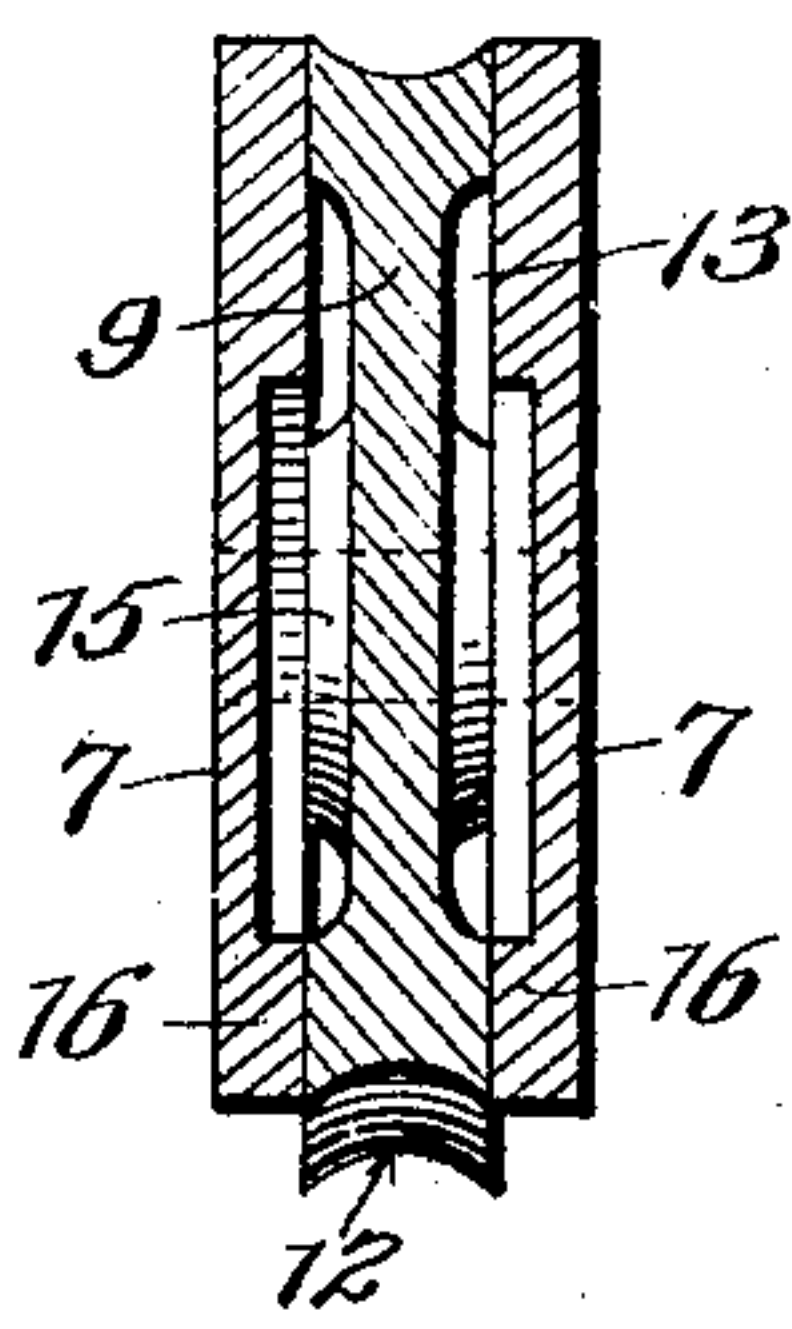
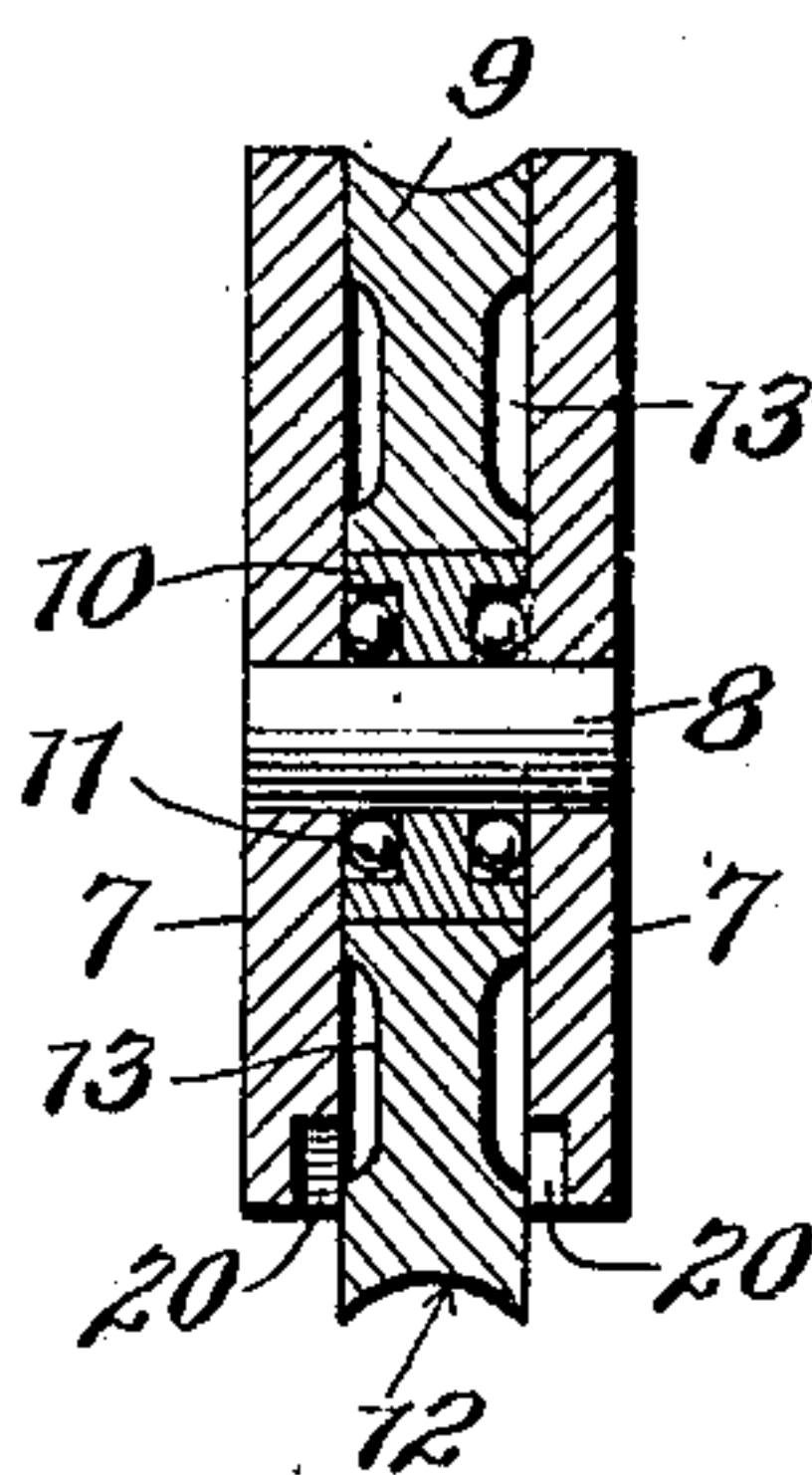
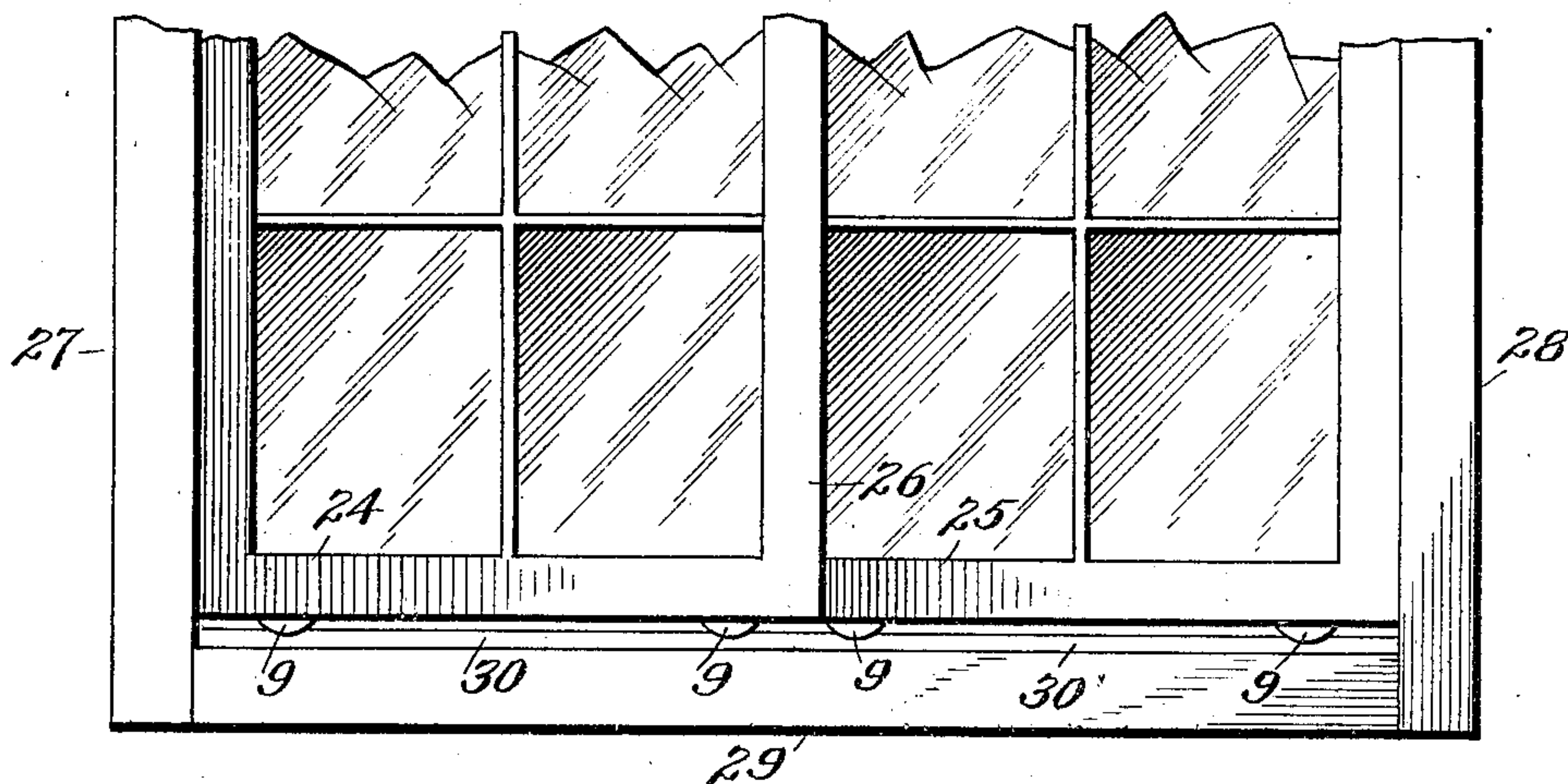


Fig. 6.



Inventor

Witnesses

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# UNITED STATES PATENT OFFICE.

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## TRACK-PULLEY.

No. 827,850.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed January 17, 1906. Serial No. 296,560.

*To all whom it may concern:*

Be it known that I, FRANK S. CLARKSON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Track-Pulleys, of which the following is a specification.

This invention relates to pulleys of the class intended to run upon tracks, especially that class of pulleys used for supporting sliding doors on tracks.

The special object of this invention is to provide a pulley of this class particularly applicable to doors of wall-cases, where a number of doors are used, so that they slide by or past each other, or in situations where a door slides into a casing or receptacle when opened. The doors used in such situations are usually of very fine and costly construction, and it is extremely desirable that they shall move in positions as near as possible to each other without rubbing and that there shall be as little lateral play as possible during the movements, so that the doors may not become bruised, rubbed, or marred by striking against each other. Such lateral play is very often caused by a very slight lateral play of the pulleys upon which the doors are supported; and the special object of this invention is to provide a pulley for supporting such doors and like articles in which there shall be as near an entire absence of lateral play as is possible to be had.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts of such a pulley as will be hereinafter fully described and afterward specifically claimed at the end of this specification.

In order that others skilled in the art to which my invention most nearly appertains may be enabled to construct and use the same, I will now proceed to describe an embodiment thereof, having reference to the accompanying drawings, in which—

Figure 1 is a central vertical sectional view through the boxing of a pulley constructed in accordance with my invention, the sheave and axle or spindle of the pulley being removed. Fig. 2 is a similar view, the pulley with its ball-bearing and axle or spindle being in position. Fig. 3 is a central transverse vertical section through the complete pulley. Fig. 4 is a transverse vertical sec-

tion on the line 4 4 of Fig. 2, and Fig. 5 is a side elevation of a slightly-modified form of the invention. Fig. 6 is a view of the lower portion of the front of a case having sliding doors, illustrating the application of my invention thereto.

Like reference characters mark the same parts wherever they occur in the several figures of the drawings.

Referring specifically to the drawings by reference characters, 6 indicates the face-plate of the boxing of the pulley; 7 7, the sides or cheeks of the boxing; 8, the spindle secured in the cheeks of the boxing, and 9 the pulley mounted upon the spindle through the medium of a steel sleeve 10, shrunk into the pulley and provided with raceways to receive the balls 11, which form the ball-bearing.

Formerly the boxing of such a pulley, consisting of the face-plate and the two cheeks or sides, was cast in separate pieces and secured together in any suitable manner. Afterward they were cast in one piece in a three-part mold, and in this manner the present embodiment of my invention is cast.

The pulley is of an ordinary construction, being provided with an annular groove 12 to rest upon a correspondingly-shaped rail, and is hollowed out on each side, as at 13 in Figs. 2 and 3, between the rim 14 and the hub 15, one edge projecting slightly through an opening in the face-plate, so that it may bear upon the rail upon which the door is supported. Ordinarily this opening in the face-plate is sufficiently wide to permit of lateral movement or wobbling of the pulley; but in order to prevent such movement I have restricted this opening, so that the rim of the pulley has a bearing at the points 16 on each side of the opening, through which said rim projects through the face-plate, and the said opening in the face-plate is further restricted until it almost contacts with the periphery of the pulley at the points 17 17.

The cheeks of the pulley-boxing are provided on their inner sides with reinforcements 18, substantially of the form of an isosceles triangle, the points 16 16 being parts of said reinforcement and said reinforcement being cut away at its outer edge, as at 20, on each side of the opening in the face-plate for the purpose of facilitating the casting of the boxing in one piece.



A third point of contact with the rim of the pulley on the opposite side of its axle or spindle is provided at 21, which is also a part of the reinforcement 18, the reinforcement being of a triangular shape for the double purpose of providing the three points of contact on opposite sides of the spindle and permitting of the easy withdrawal of the boxing from the mold in the operation of casting.

In the particular use to which these pulleys are applied there is always a considerable weight imposed on these—to wit, the weight of the doors—the pulley-boxing being secured in the lower surface of the doors by means of screws entering through the screw-holes 22. For this reason there may be quite close contact between the rim of the pulley and the points 16 and 21 without preventing the rotation of the pulley, the pulley being mounted upon ball-bearings, as before mentioned. Such points 16 and 21 being in close contact with the sides of the rim of the pulley absolutely prevent any lateral movement or wobbling of the pulley, even though the spindle and ball-bearing might become loose through continued wear. In providing that the periphery of the pulley move as near as possible to the part 17 of the boxing any wobbling or lost motion longitudinally of the door by reason of a loose bearing at the center of the pulley will also be obviated.

A pulley having a boxing of ordinary construction might to some extent be utilized by modifying it, as shown in Fig. 5, in which three points of contact with the rim of the pulley are provided by means of screws 23, passing through the cheeks or sides of the boxing and bearing upon the rim of the pulley. This modification might answer as a temporary expedient where the pulleys constructed as hereinbefore described with reference to the other figures of the drawings could not be obtained.

While I have specifically described the construction of the various parts comprising an embodiment of my invention, I desire it to be understood that I do not limit myself to such specific and exact construction, it being obvious to those skilled in the art that slight changes or modifications of such construction might be made without departing from the spirit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A boxing for a track-pulley, comprising a face-plate and two side plates, a pulley journaled in the side plates and projecting through the face-plate, and means whereby three points of contact between the side plates and the rim of the pulley are provided, two of the points being on opposite sides of a point diametrically opposite the third point, substantially as described.

2. A boxing for a track-pulley, comprising a face-plate and two side plates, a pulley journaled in the side plates and projecting through the face-plate, and a reinforcement on the inner face of each of the side plates, affording three points of contact with each side of the rim of the wheel, substantially as described.

3. A boxing for track-pulleys, comprising a face-plate and two side plates, the side plates having a triangular reinforcement on their inner faces, extending to the opening in the face-plate, a portion of said reinforcement being cut away at 20, substantially as and for the purpose described.

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

FRANK S. CLARKSON.

Witnesses:

S. BRASHEARS,  
FRANK A. HARRISON.