

No. 697,892.

Patented Apr. 15, 1902.

W. SELLERS.
TROLLEY WHEEL.

(Application filed Jan. 31, 1902.)

(No Model.)

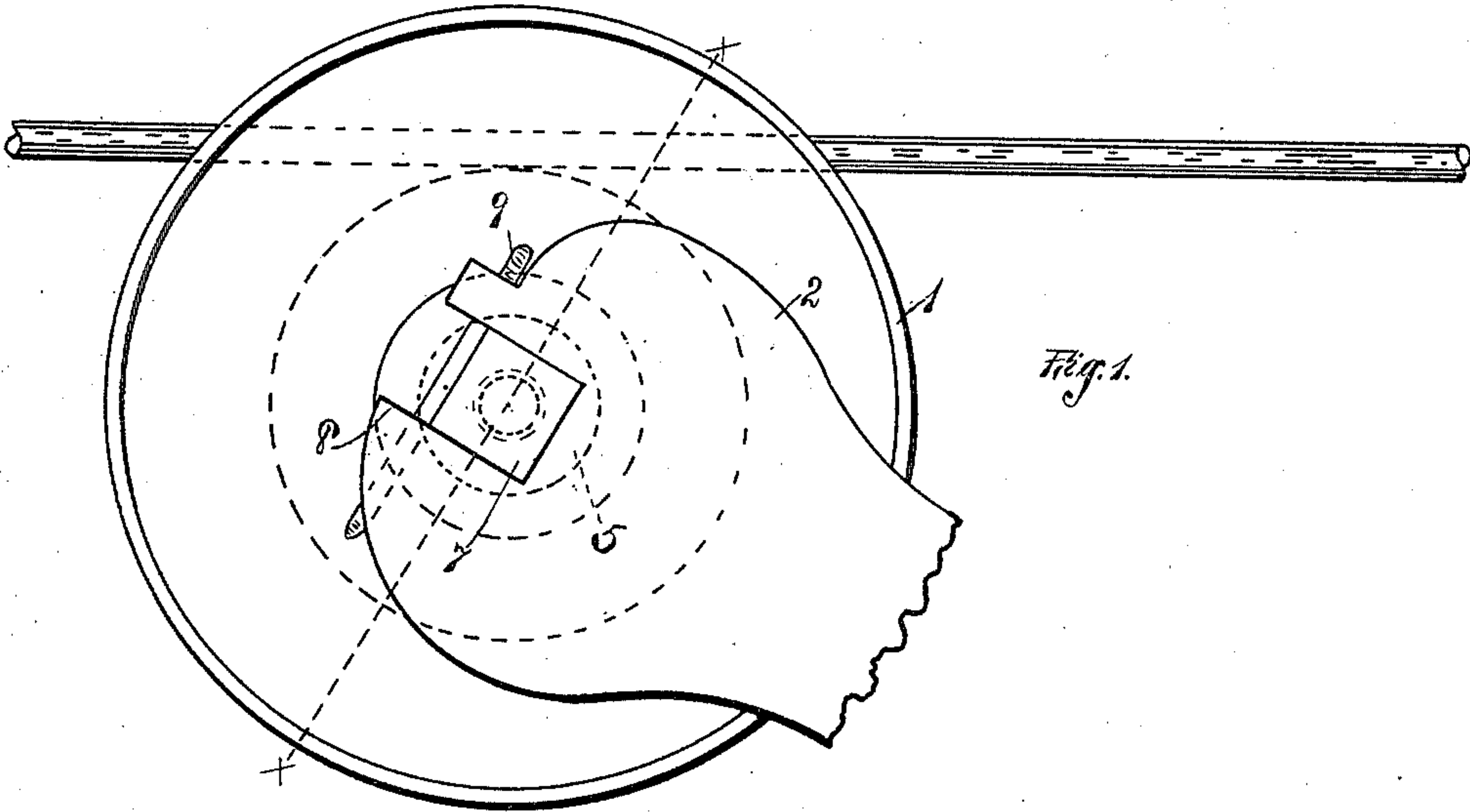


Fig. 1.

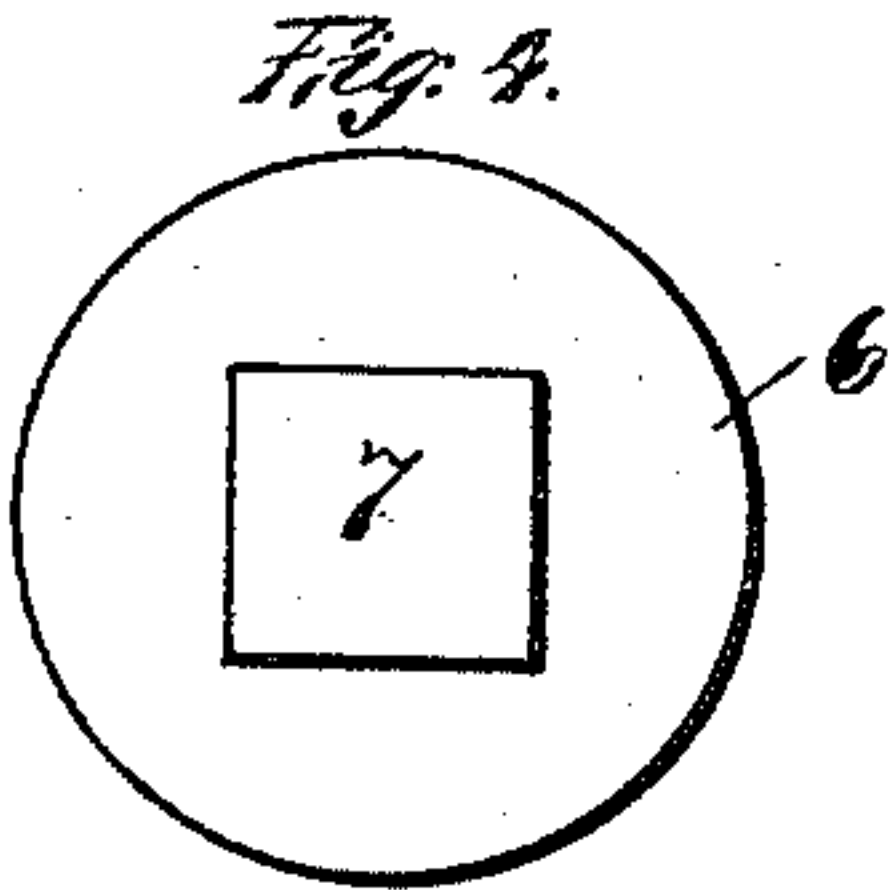


Fig. 4.

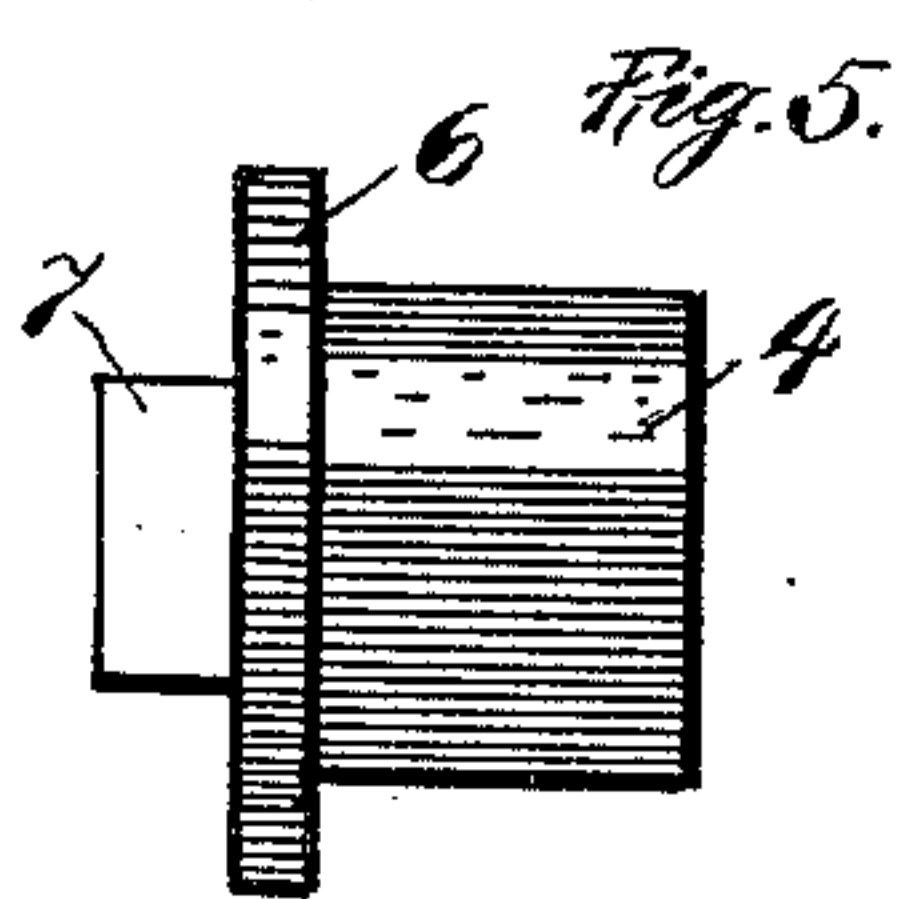


Fig. 5.

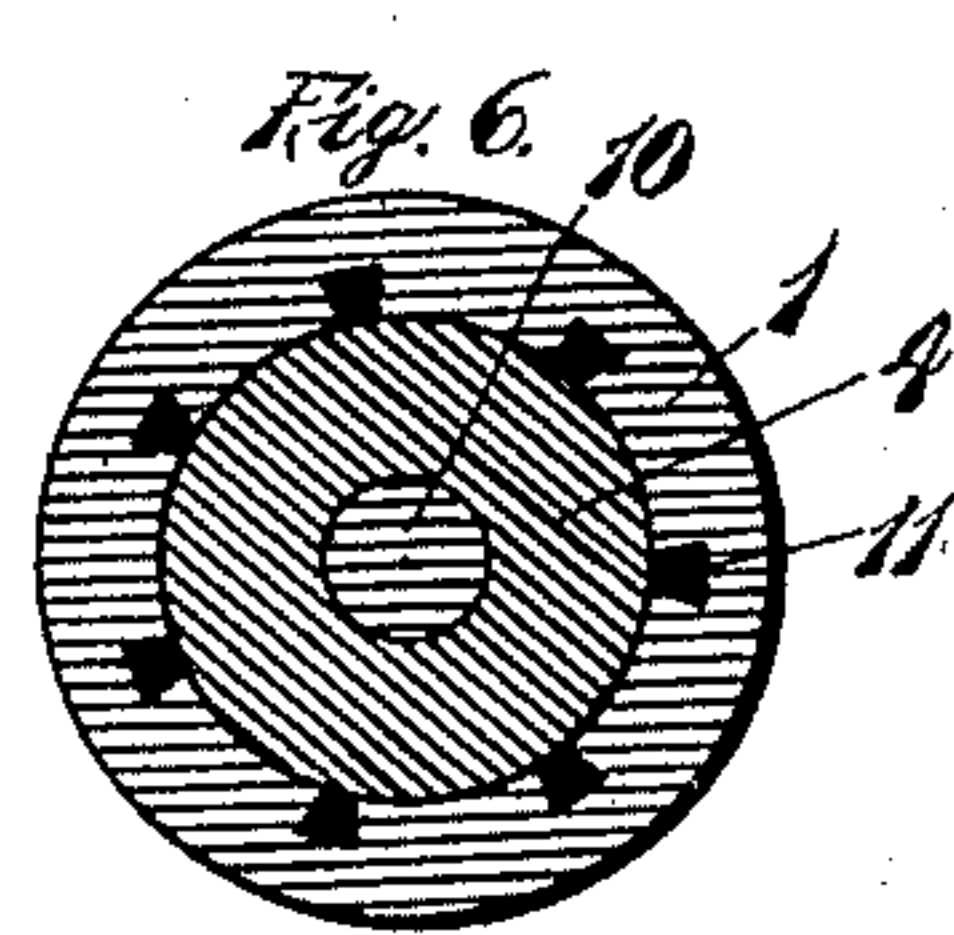


Fig. 6.

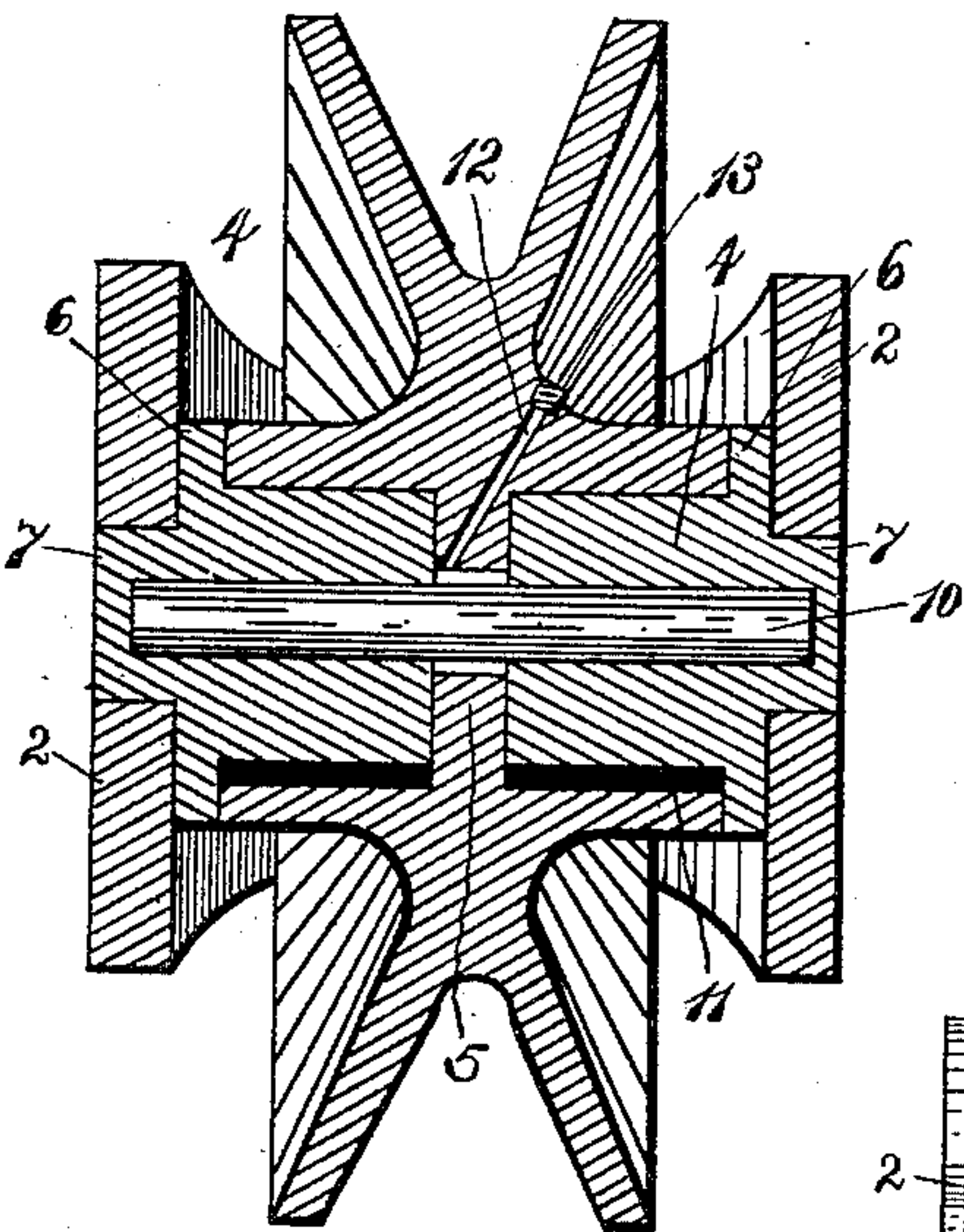


Fig. 2.

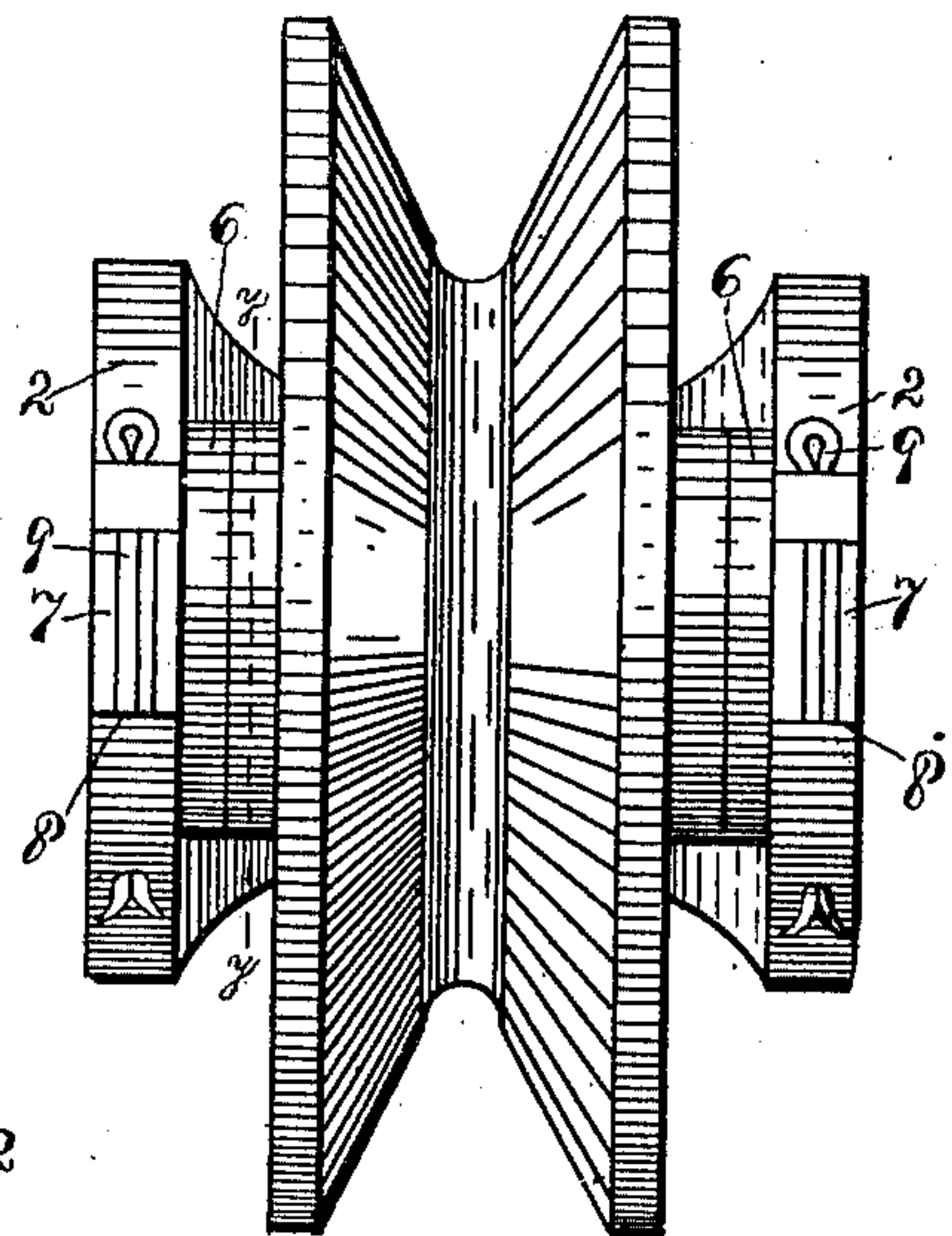


Fig. 3.

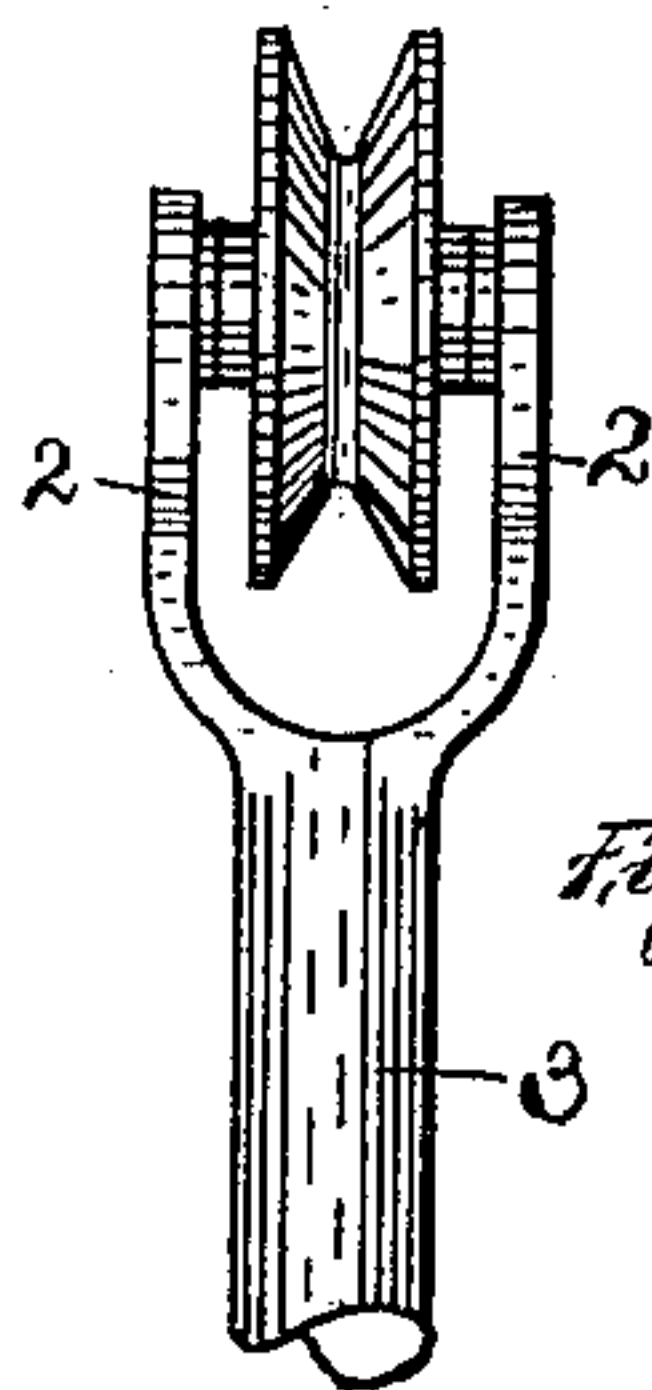


Fig. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM SELLERS, OF HAVERHILL, MASSACHUSETTS.

TROLLEY-WHEEL.

SPECIFICATION forming part of Letters Patent No. 697,892, dated April 15, 1902.

Application filed January 31, 1902. Serial No. 92,000. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SELLERS, a citizen of the United States, and a resident of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Trolley-Wheels, of which the following is a specification.

This invention relates to an improved form of bearing for a trolley-wheel which enables the wheel to run a long time without attention and with a minimum amount of wear and which may be readily removed and replaced when it becomes necessary to do so.

For an understanding of my invention reference is made to the accompanying drawings, in which—

Figure 1 is a side elevation of my device in the position of use. Fig. 2 is a central cross-section on line *xx* of Fig. 1. Fig. 3 is an end elevation. Figs. 4 and 5 are detail views of one of the bearing-sleeves. Fig. 6 is a cross-section on line *yy* of Fig. 3. Fig. 7 is a view of the under side of the device on a reduced scale.

The trolley-wheel 1 is of usual form and is supported in the arms 2 of the pole 3. The hubs of the wheel are chambered out to receive the cylindrical bearing-sleeves 4, and an annular partition 5 is formed integral with the wheel and midway thereof, against which the inner ends of the sleeves 4 are adapted to bear. (See Fig. 2.) Each outer end of sleeves 4 is provided with a flange 6, against which the ends of the hubs bear, and each sleeve is also provided with a centrally-arranged square projection 7, which is adapted to fit into a corresponding notch 8 in the outer end of each of said arms 2. These notches 8 lead in the general direction of the length of the trolley-pole, and the square ends 7 of the bearings 4 are held therein by cotter-pins 9. Each bearing 4 is bored axially from its inner nearly to its outer end to receive an alining-shaft 10, which fits tightly therein and serves to better hold the bearings in alinement. The bearing-surfaces of the hubs of wheel 1 are provided with a series of dovetail-shaped recesses, which are filled with graphite or other suitable lubricant 11. An oil-hole 12 is provided which leads through partition 5 to the space between the bearings, and

the outer end of said hole is closed by a screw-plug 13.

As the ends of the bearings 4 engage opposite sides of the annular partition 5 they will act as thrust-bearings and hold the wheel from lateral movement. The flanges 6 also act in the same way, so that the wear occasioned by the lateral pressure on the wheel will be distributed upon two bearing-surfaces. The wear on the flanges 6 by the ends of the hubs is reduced to less than one-half what it would be if partition 5 were not employed. As the bearing-surfaces at the ends of the hubs, which are ordinarily employed to hold the wheel against lateral movement, soon become worn, so that the wheel has a very objectionable amount of side play, and as the greater this looseness the greater will be the possibility of the bearing becoming clogged with dust, it will be apparent that the inner thrust-bearing, which is formed by the annular flange 5, in connection with the ends of the bearings 4, and which relieves the wear on the ends of the hub, is highly important and advantageous. Moreover, this inner thrust-bearing is much more fully protected from dust than any other part of the bearing, so that the wear thereon resulting from dust is much less than on the exposed outer bearings.

When it is desired to remove the wheel from the pole, it is only necessary to remove the cotter-pins 9 and draw the square ends 7 out of the slots. The wheel may obviously be replaced with equal facility. It will be observed that as the slots 8 are arranged so that they incline downwardly when the pole is in an inclined position the weight of the wheel will always force the square ends of bearings 4 into the ends of said slots when the wheel is running on the trolley-wire, so that no wear whatever comes on the cotter-pins. These pins, moreover, are in such a position that they will not drop out if they do not happen to be properly bent at their ends.

By boring the holes for the alining-shaft only partly through to their outer ends a convenient means for holding said shaft in place is provided without resorting to the use of pins or screws. Moreover, when oil is introduced through oil-hole 12, which is afterward

tightly closed, the oil can escape only by passing over the bearing-surfaces and cannot leak by shaft 10, as it would if the bearings 4 were completely bored through to their outer ends.

5 The middle annular space about the shaft 10 acts as an oil-chamber, so that the wheel may run a long time without lubrication, this capability being materially aided by the graphite in the hub of the wheel.

10 From the foregoing description it will be apparent that I have produced a simple and durable construction which is especially advantageous when used for the purpose for which it is intended.

15 Having described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

1. A trolley-wheel having two hubs, an annular partition which is arranged between the
20 outer ends thereof, two cylindrical bearings which are oppositely arranged in said hubs so that their ends engage opposite sides of said partition, an alining-shaft which is arranged in both bearings, and means for connecting the outer ends of said bearings to the
25 support of the wheel.

2. A trolley-wheel having two hubs, an annular partition which is arranged between the outer ends thereof, two relatively short bearings which are oppositely arranged in said
30 hubs so that their ends engage opposite sides

of said partition, means for holding said bearings in alinement, and means for connecting the outer ends of said bearings to the support of the wheel.

3. A trolley-wheel having two hubs, an annular partition which is arranged between the outer ends thereof, two bearings which are oppositely arranged in said hubs so that their ends engage opposite sides of said partition, flanges on said bearings which are adapted to engage the outer ends of said hub, an alining-shaft which is arranged in both bearings, and means for connecting the outer ends of said bearings to the support for the wheel.

4. A trolley-wheel having two hubs, two bearings which are oppositely arranged therein, means for securing the outer ends of said bearings to a support for the wheel, said bearings being axially bored from their inner ends partly through to their outer ends, forming closed recesses therein, and an alining-shaft which has its ends arranged and fitted in said recesses, said wheel being provided with an oil-passage which leads to the recess about
55 said shaft between the ends of said bearings.

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

WILLIAM SELLERS.

Witnesses:

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