

No. 802,993.

PATENTED OCT. 31, 1905.

R. KISSINGER.
TROLLEY WHEEL BEARING.
APPLICATION FILED MAR. 27, 1905.

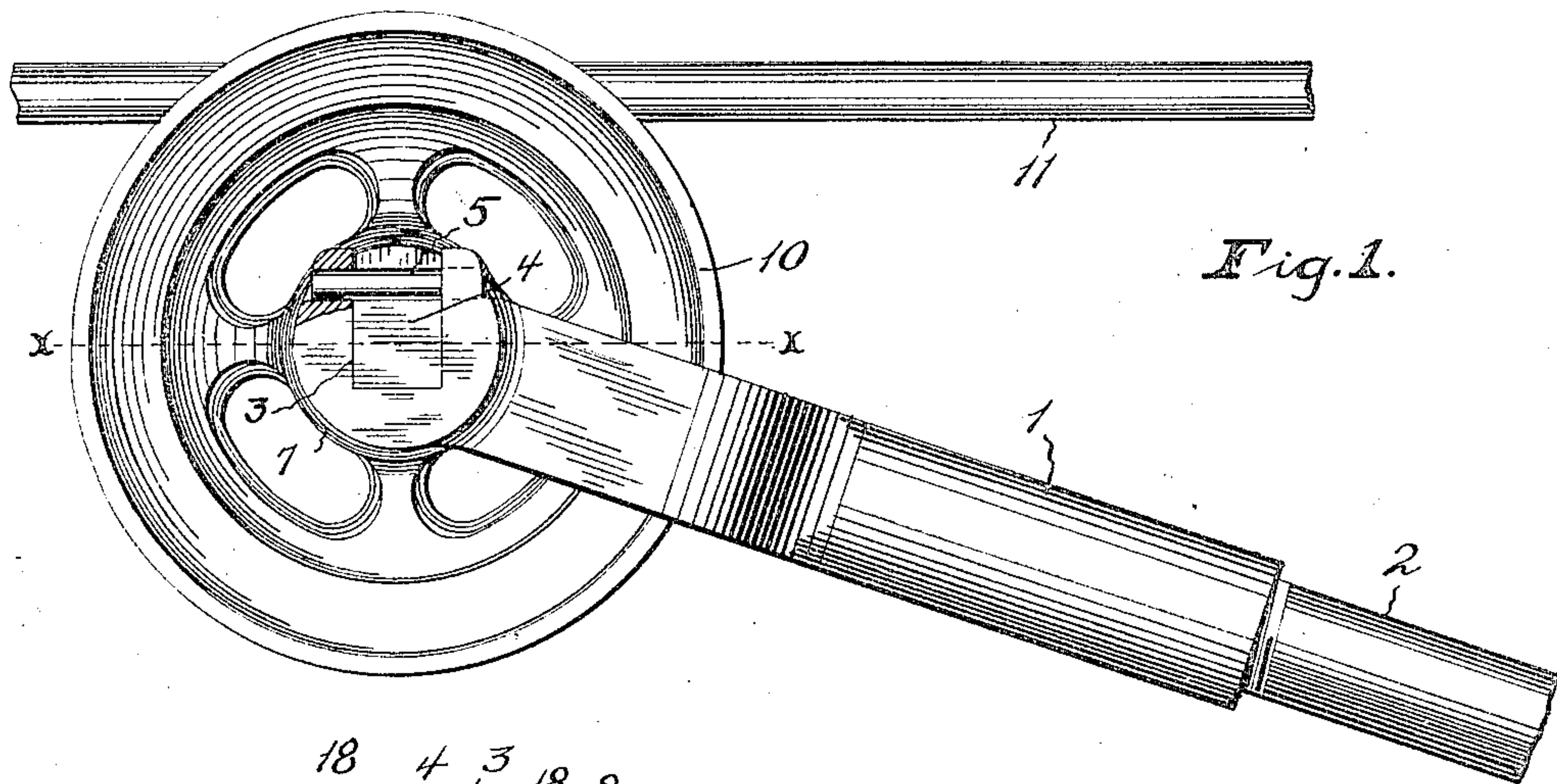


Fig. 1.

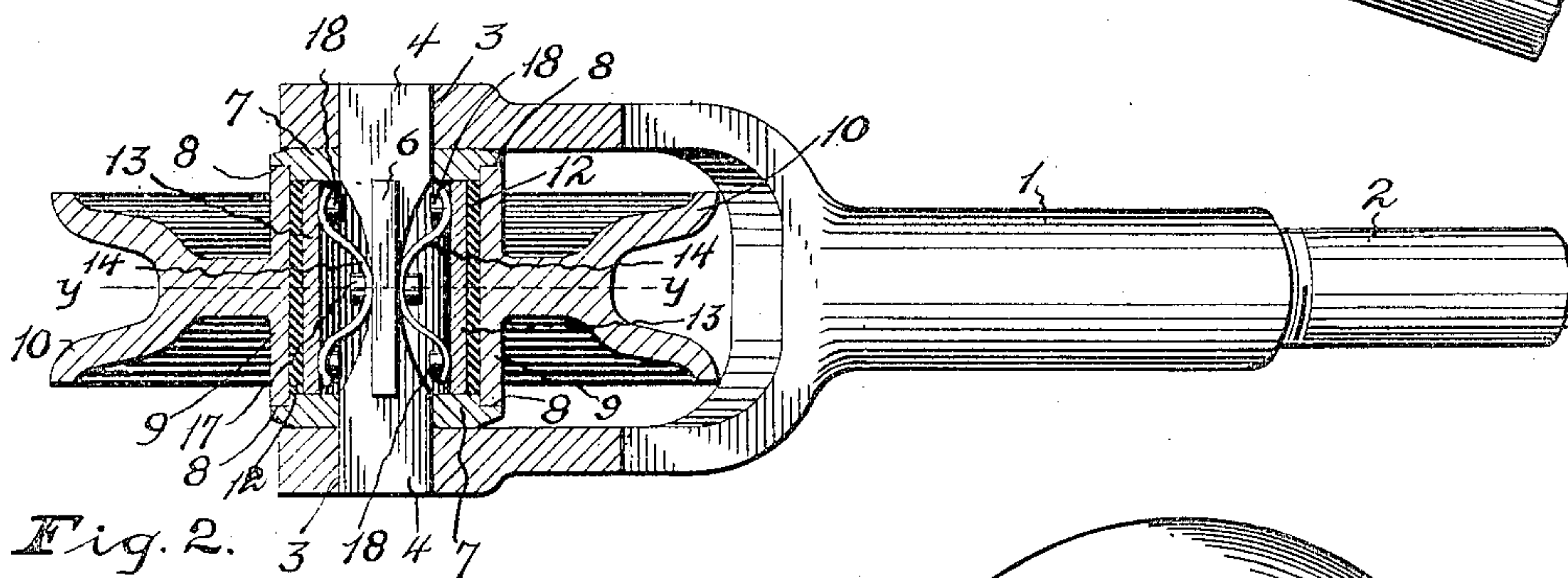


Fig. 2.

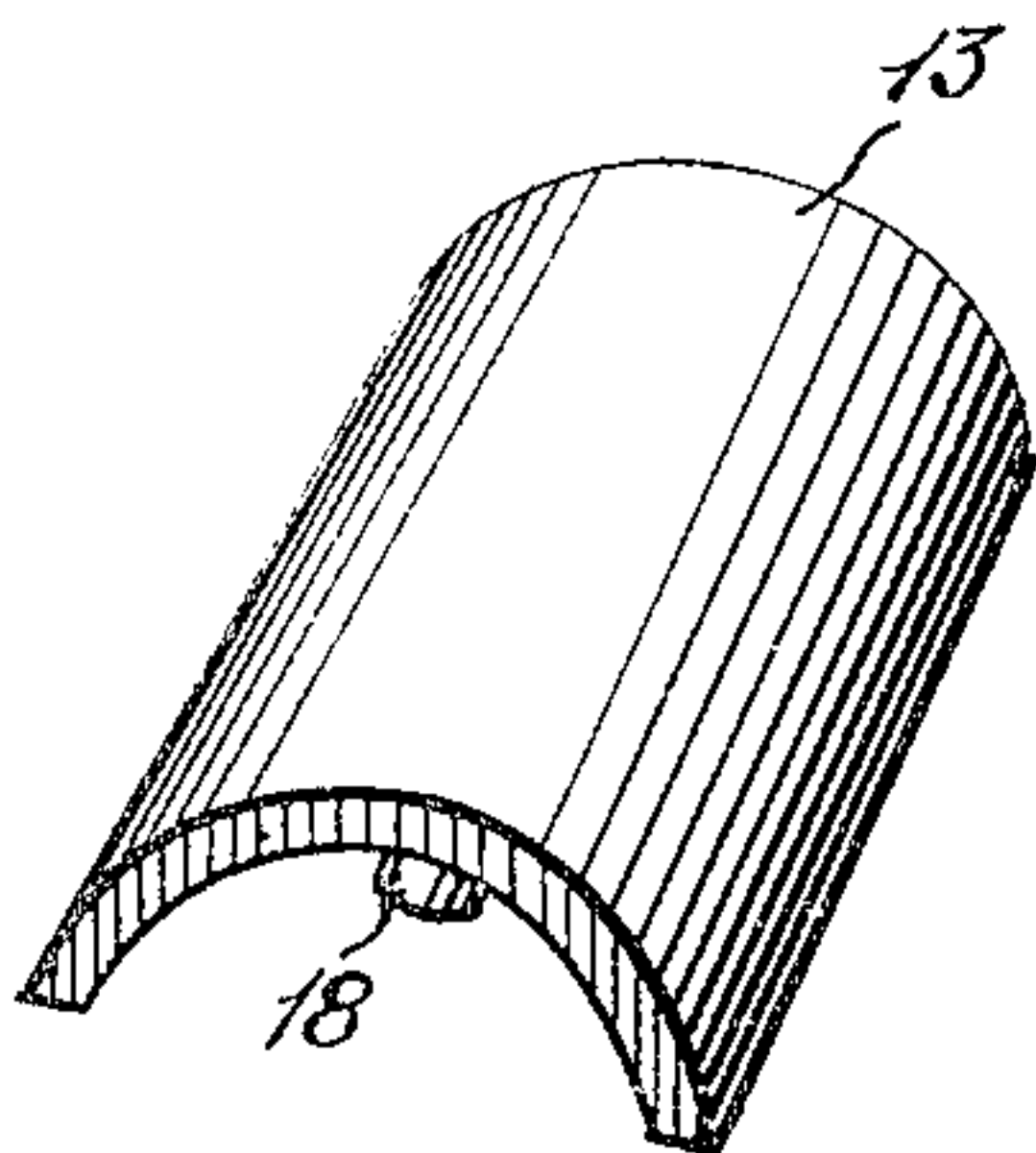


Fig. 4.

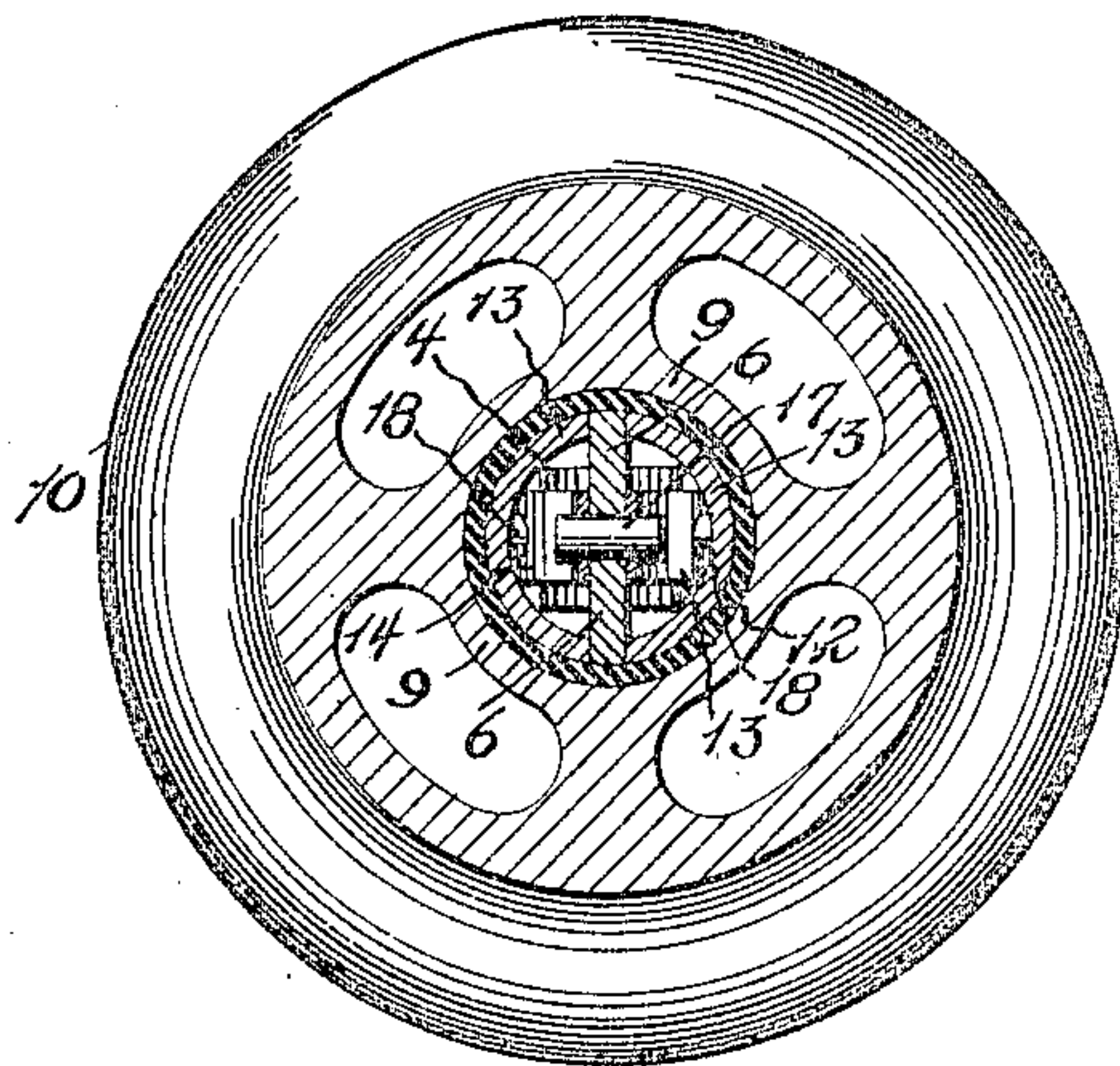


Fig. 3.

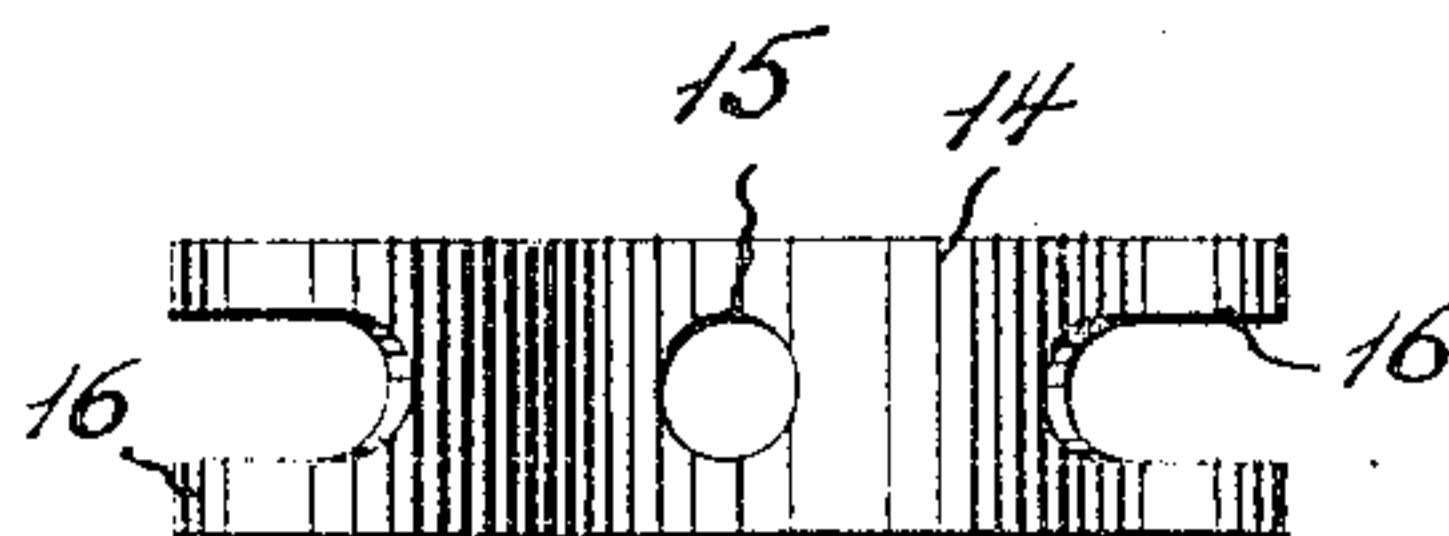


Fig. 5.

WITNESSES:

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ROBERT KISSINGER, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO
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TROLLEY-WHEEL BEARING.

No. 802,993.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed March 27, 1905. Serial No. 252,143.

To all whom it may concern:

Be it known that I, ROBERT KISSINGER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Trolley-Wheel Bearings, of which the following is a specification.

My invention relates to a new and useful improvement in bearings for trolley-wheels. The object of the invention is to provide a bearing in which by the employment of resilient retaining means the parts are held firmly in contact with each other and "arc-ing" thus prevented.

Another feature resides in the resilient retaining means which takes up the wear of the parts and assures a positive and firm contact between parts which move across each other.

Finally, the object of the invention is to provide a device of the character described that will be strong, durable, efficient and simple, and comparatively inexpensive to make.

With the above and other objects in view the invention consists of the novel details of construction and operation a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation of the upper end of a trolley-pole, showing my improved wheel and bearing supported thereon and in contact with a portion of a trolley-wire, a portion of the trolley-harp being broken away to show one of the retaining-pins. Fig. 2 is a horizontal sectional view taken on the line *x x* of Fig. 1, showing a portion of the harp and the trolley-pole in plan. Fig. 3 is a vertical sectional view taken on the line *y y* of Fig. 2. Fig. 4 is a perspective view of one of the bearing-plates, and Fig. 5 is a plan view of one of the springs.

In the drawings the numeral 1 designates an ordinary trolley-harp secured upon the end of a trolley-pole 2 and being formed at its upper and outer ends with rectangular recesses or sockets 3. The sockets 3 are of such depth as to receive and hold against rotation the square ends of a shaft 4, which is held in place by pins 5, projected across the recesses over the ends of the shaft, as clearly shown in Fig. 1. The shaft 4 is provided with a central leaf-like portion 6, which extends lon-

gitudinally of the shaft and abuts at each end, washers 7 fitting upon the squared portions of the shaft 4 and abutting the inner sides of the harp 1. The washers are each formed around the outer edges of their inner faces with an annular groove 8, adapted to receive the hub 9 of the trolley-wheel 10. By observing Fig. 2 it will be seen that the hub 9 extends from the groove 8 of one washer to the groove 8 of the other washer, and owing to the fact that the washers impinge the inner sides of the harp 1 all lateral play is taken up. The trolley-wheel 10 is suitably grooved to receive the trolley-wire 11 and by the shaft 4 and the washer 7 being held against rotation the wheel has its hub 9 riding in the grooves 8 of the washers 7 and thus supported. Fitting snugly within the hub 9 and extending entirely between the washers 7 is a bushing 12, formed of a suitable non-conducting material, such as fiber or the like. The leaf portion 6, hereinbefore described, is of such length as to bear at each side upon the bushing 12, as clearly shown in Fig. 3.

Arranged upon each side of the leaf portion 6 and shaped to fit the inner contour of the bushing 12 are segmental bearing-plates 13, resting upon the leaf portion 6 and having a length equal to that of the bushing, so as to extend entirely between the washers. It is obvious that the segmental plates 13 being placed upon each side of the leaf portion 6 together therewith complete a circular bearing, contacting with the inner surface of the bushing 12 and rotatably supporting the same. For the purpose of taking up wear and preventing arc-ing I arrange upon each side of the leaf portion 6 flat springs 14, each having a central opening 15 and bifurcated ends 16. The springs are curved inwardly at their centers and have their ends slightly rounded, as clearly shown in Fig. 2. A pin 17, extending through the center of the leaf portion 6 and projecting on each side thereof, passes through the openings 15 of each spring, and studs 18, projecting inwardly from the plates 13 and set back from their ends, project through the bifurcated end 16 of the spring and together with the pin 15 hold the said springs in place. By reason of the bifurcated ends 16 the springs are allowed a limited movement and may be compressed when the

plates 13 are inserted in the bushing 12, so that the said plates may be held firmly in contact with the bushing, and the springs tending to force the plates outward the wear will
5 thus be taken up.

It is apparent that the plates 13 are at all times under pressure and that a tight bearing is had, which prevents wobbling of the trolley-wheel 10, thus obviating the difficulties
10 encountered where arcing results from the looseness of parts.

My improved wheel comprises comparatively few parts, which parts are simple of construction and act harmoniously to produce
15 a substantial bearing and prolong the life thereof. The parts are readily accessible, thus facilitating cleaning and repairing and numerous other objections prevalent in complicated structures.

20 Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a bearing for trolley-wheels, the combination with a trolley-wheel and a shaft, of
25 elongated bearing-plates disposed within the trolley-wheel, and resilient means associated

with the shaft and the plates for holding them in yieldable contact with the trolley-wheel.

2. In a device of the character described, the combination with a trolley-wheel and a
30 harp, of a shaft passing through the trolley-wheel and supported against rotation by the harp, washers mounted upon the shaft and forming end supports for the trolley-wheel, and a yieldable bearing for the trolley-wheel
35 supported from the shaft and disposed between the washers.

3. In a bearing for trolley-wheels, the combination with a harp and a trolley-wheel, of a shaft supported by the harp and formed
40 with a leaf portion, segmental bearing-plates arranged on each side of the leaf portion of the shaft in contact with the trolley-wheel, and springs interposed between the leaf portion of the shaft and the bearing-plates.
45

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

ROBERT KISSINGER.

Witnesses:

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M. B. SCHLEY.