

No. 612,159.

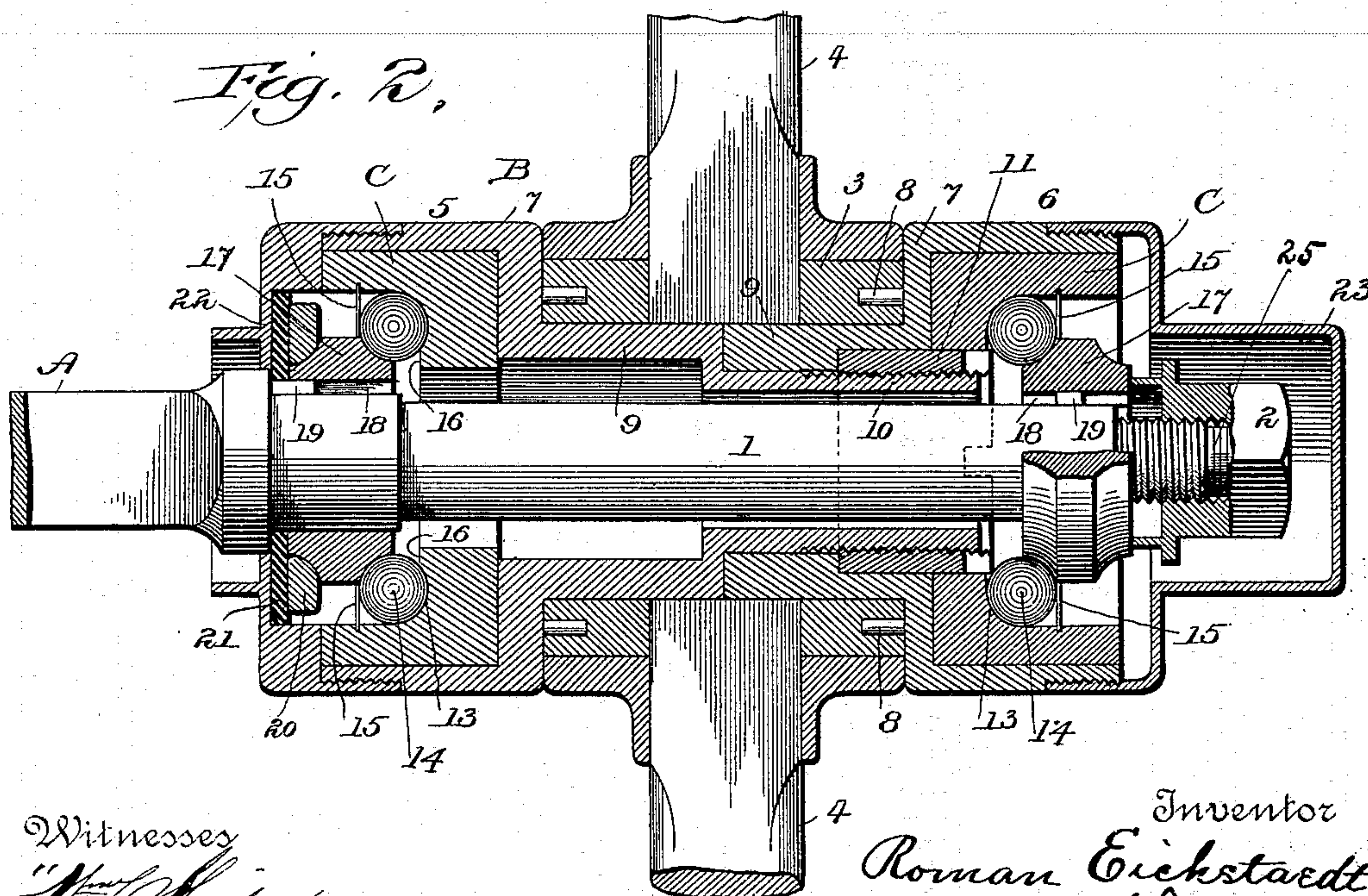
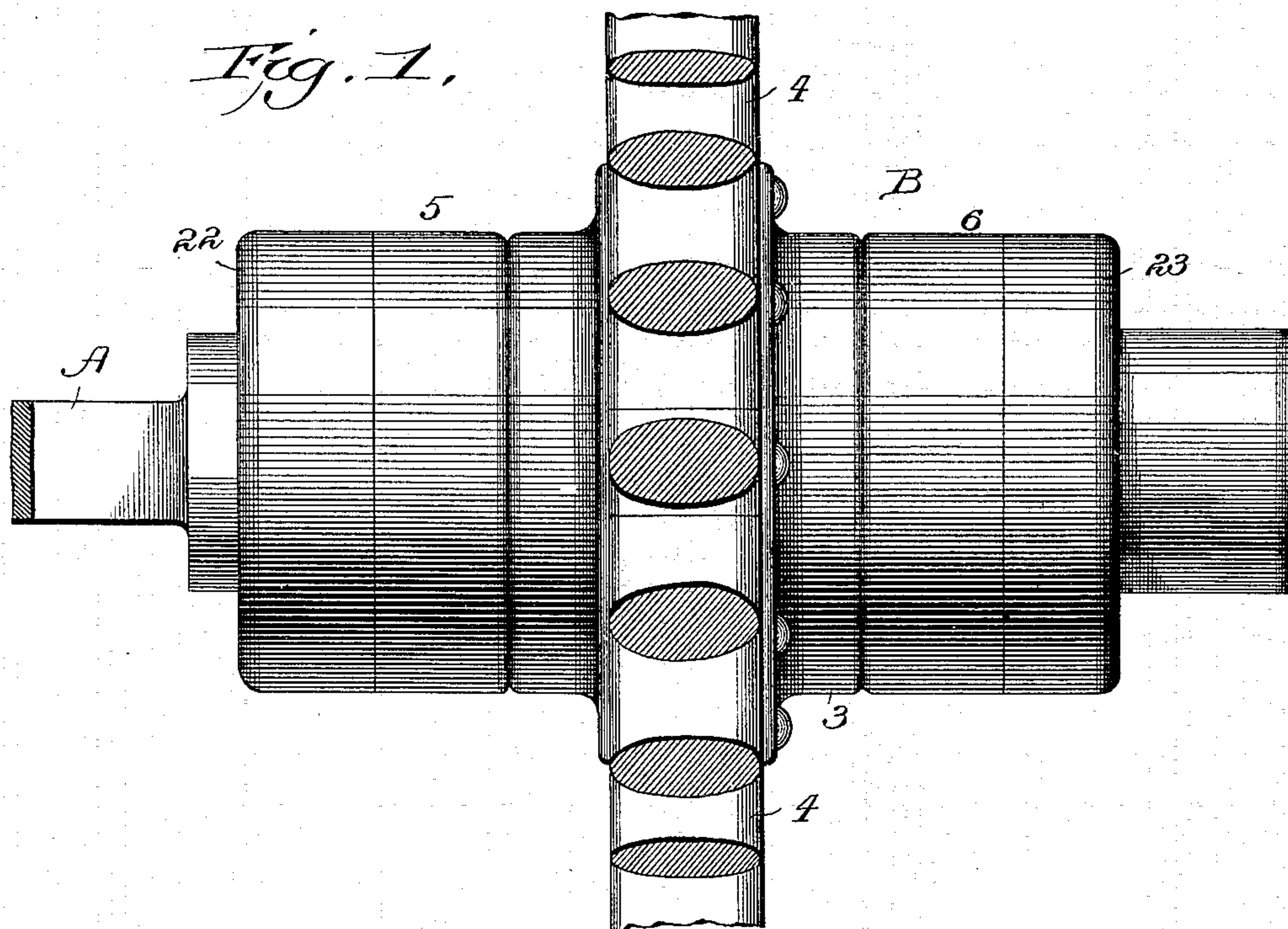
Patented Oct. 11, 1898.

R. EICHSTAEDT.
VEHICLE HUB.

(Application filed June 27, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
W. J. Quinn
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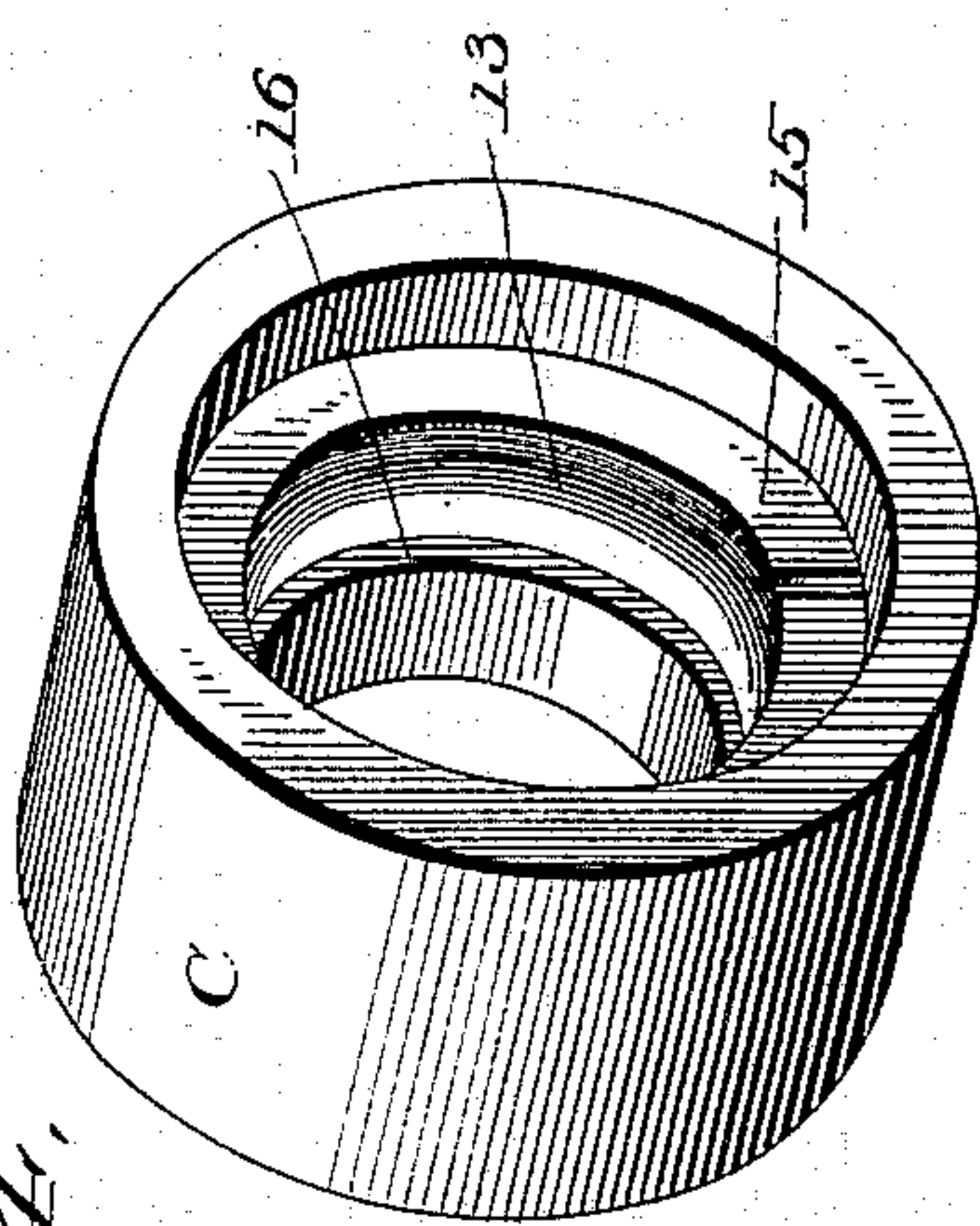
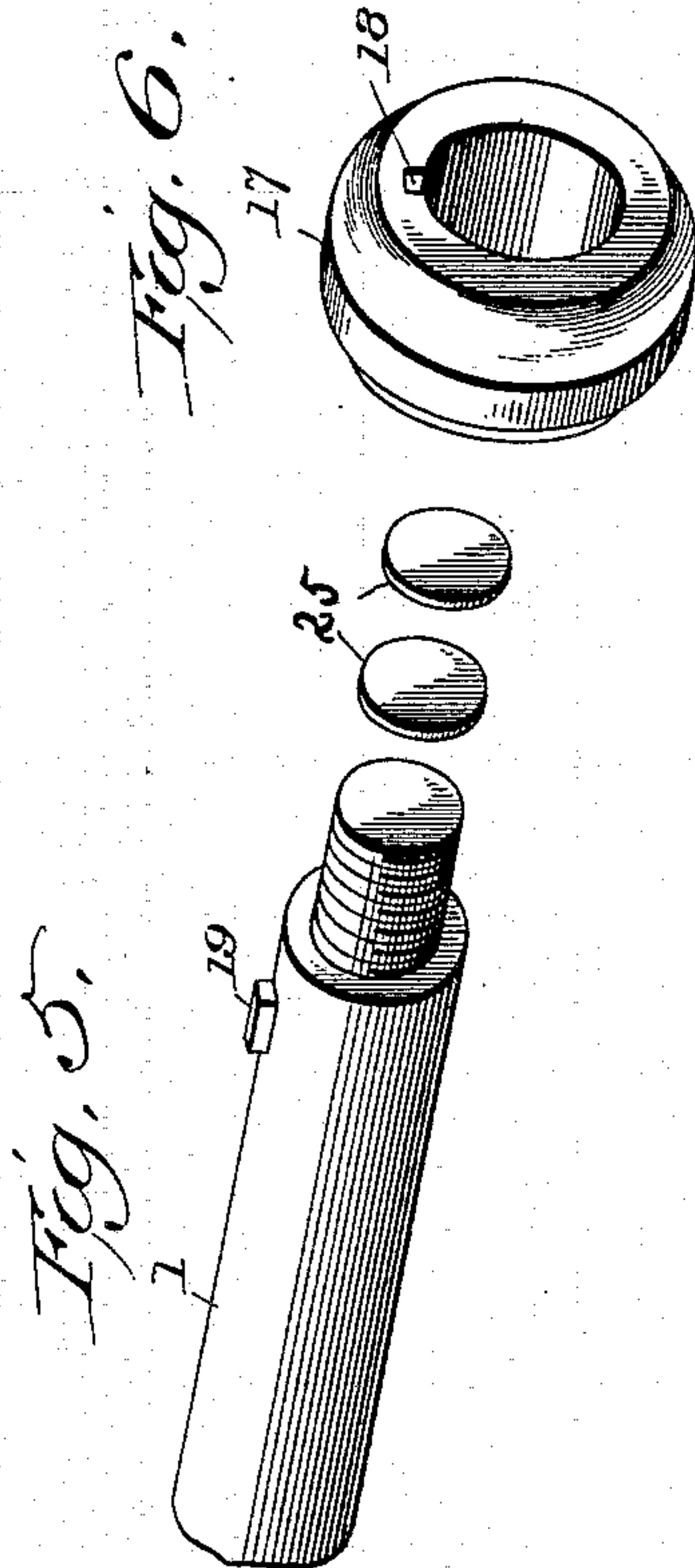
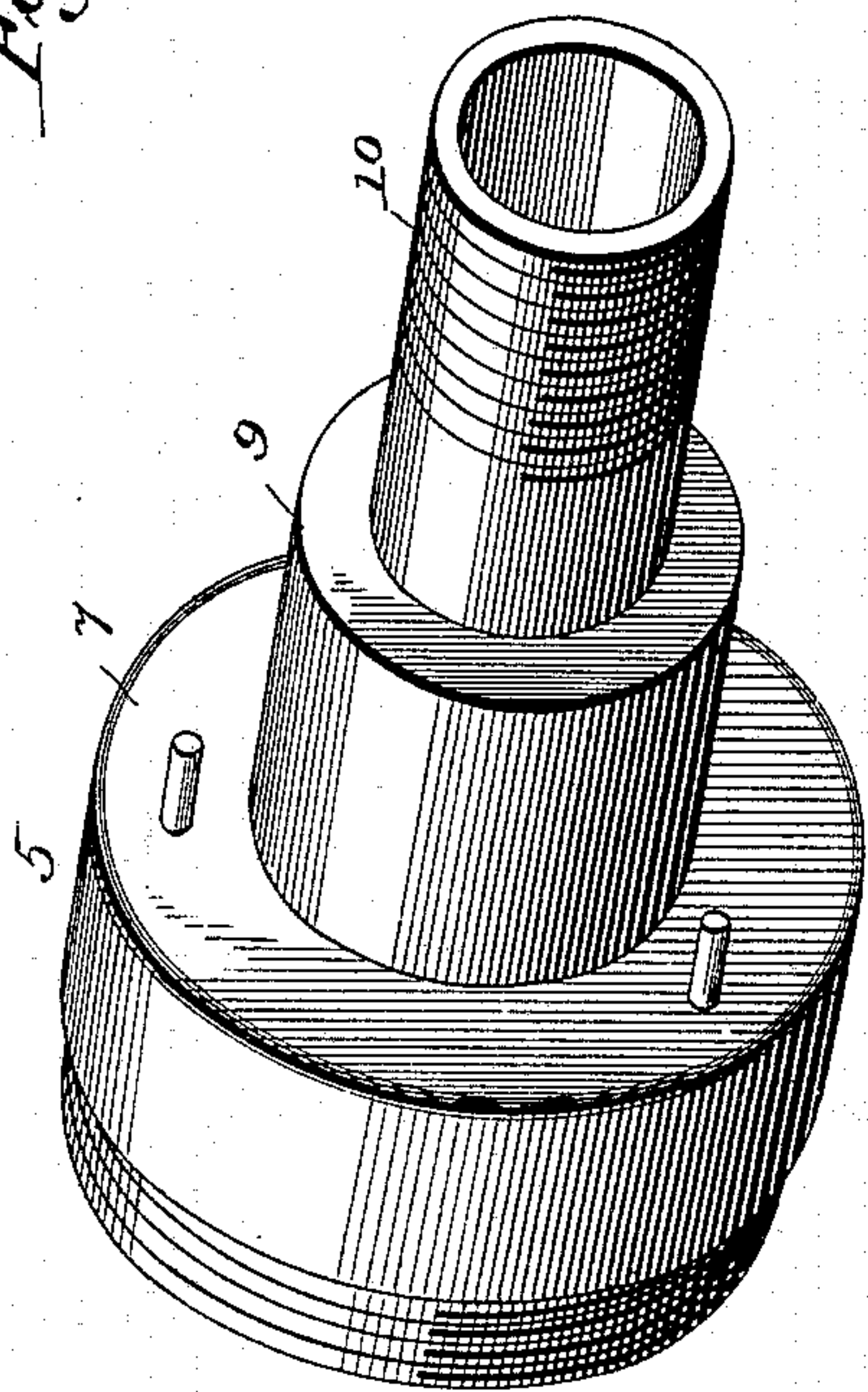
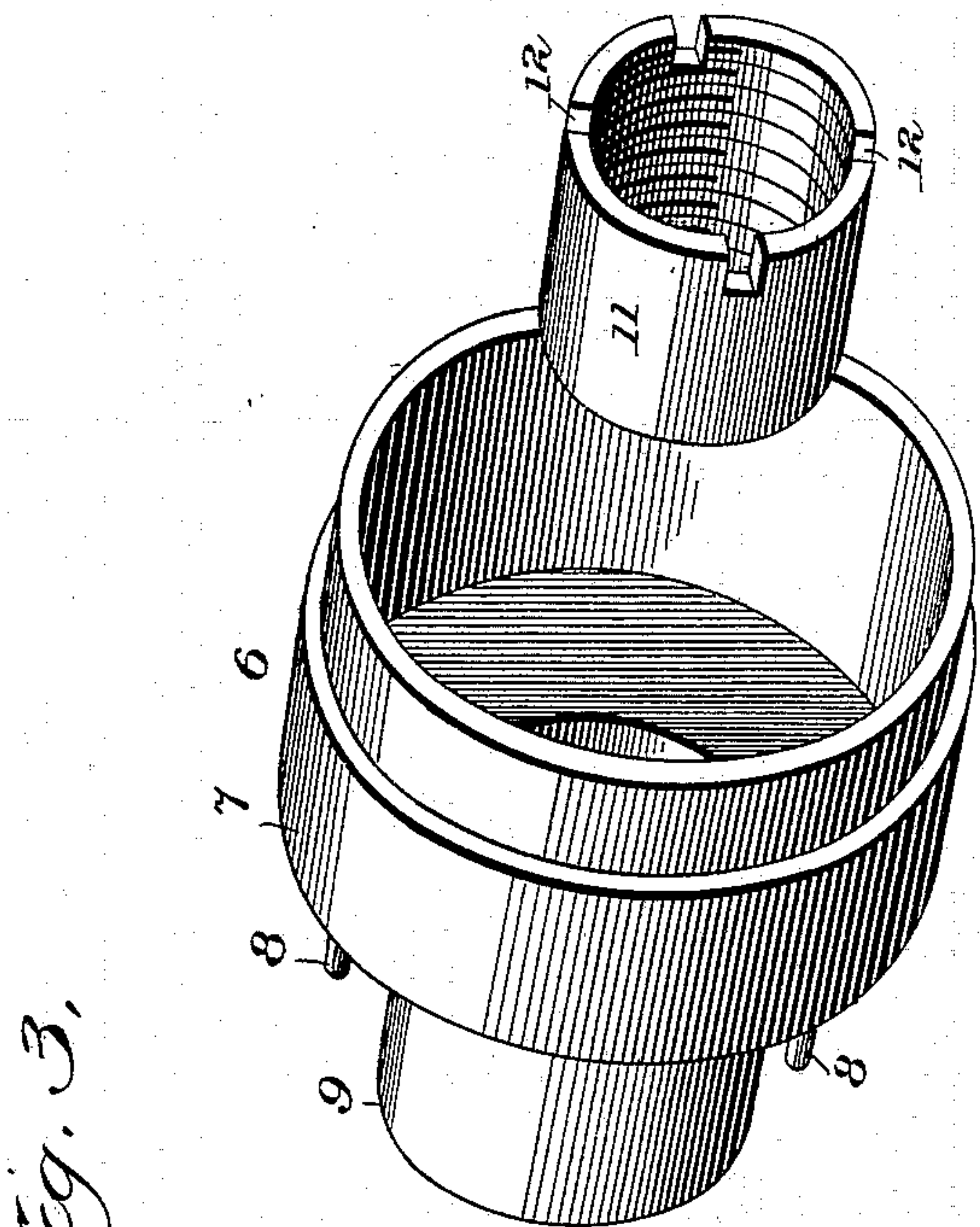
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2 Sheets—Sheet 2.



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Fig. 4.

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UNITED STATES PATENT OFFICE.

ROMAN EICHSTAEDT, OF MICHIGAN CITY, INDIANA.

VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 612,159, dated October 11, 1898.

Application filed June 27, 1898. Serial No. 684,586. (No model.)

To all whom it may concern:

Be it known that I, ROMAN EICHSTAEDT, a citizen of the United States, residing at Michigan City, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Vehicle-Hubs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in ball-bearings for wheel-hubs, one object being to provide means for applying anti-friction-bearings to old vehicle-hubs, another object being to provide a construction in which balls of adequate size for the size and weight of the vehicle and load to be carried may be employed.

Another object is to provide a simple form of bearing which may be easily assembled or dismembered when occasion may require and which will be effectual in operation and without liability of easily getting out of order.

A still further object is to provide a bearing which will only require oiling at long intervals, which will be dust-proof and water-proof, and, finally, a further object is to provide a bearing of such construction that all parts can be removed from the wheel without dismemberment.

With these objects in view my invention consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation. Fig. 2 is a longitudinal sectional view; and Figs. 3, 4, 5, and 6 show the parts of the hub dismembered and in enlarged detail.

A represents an axle, and 1 the ordinary spindle usually employed and which has the usual screw-thread at its outer end to receive the nut 2.

B indicates the hub, which comprises three main portions—namely, the central band 3, in which the spokes 4 4 are secured, and the

sectional axle-box, which consists of the two sections 5 and 6. These sections comprise each an outer cup 7, each of which is provided with preferably three inwardly-projecting 55 dowel-pins 8 8, adapted to be forced into the opposite ends of the central band 3 of the hub, whereby to prevent their turning with respect to said central band. They also comprise the inwardly-extending sleeves 9 9, integral with 60 the cup and adapted to fit the bore of the central band and meet each other at their inner ends when the several parts are assembled. One of these sleeves is provided on its inner end with a tubular extension 10, which is 65 screw-threaded externally and which enters the bore of the other sleeve. A tubular nut 11 in the latter sleeve has an internal thread and is notched, as at 12 12, at its outer edge, whereby to receive a wrench or other instru- 70 ment for turning it, the function of this nut being to draw the two sections of the axle-box together securely against the central band of the hub by virtue of its abutment against the shoulder 26 of section 6, whereby the three 75 parts are in effect made one integral structure.

C C are two ball-cups, they being adapted to fit respectively and be held by friction in the cups 7 of the axle-box sections. In these 80 ball-cups the usual ball-races 13 are formed and the balls 14 14 therein are held in place by the removable retaining-rings 15 15. In each of the ball-races an internal flange 16 is formed to hold the balls back in place, and 85 the tubular nut 11 constitutes this flange in one of the ball-cups. Outside of each set of ball-bearings a reversible cone 17 is placed. These cones each have a notch 18 in the bore, which receives a key 19 on the axle to pre- 90 vent them from turning. Adjacent to the inner cone a felt washer 20 is placed to retain the lubricant, and outside of the felt washer is a rubber washer 21, which prevents the ingress of sand, water, or other extraneous ma- 95 terial. To allow for wear, the nut 2 has removable washers 25. On each end of the axle-boxes caps 22 and 23 are secured in any convenient manner.

From the foregoing description it will be 100 seen that the several parts of the bearing, although separable and capable of having their

various parts renewed, yet when together they constitute, in effect, a single hub, every part of which is removed from the axle when the wheel is taken off for oiling or other purposes. It will also be observed that the size of the internal bore is such that a plentiful supply of grease or oil may be applied and the necessity for oft-repeated oiling is avoided. Another thing worthy of notice is the fact that this improved bearing may be used with the axles in common use, and, as previously mentioned, old hubs may be remodeled and utilized in the construction of my improved hub-bearing.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

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

1. The combination with a central band, of an axle-box comprising two sections adapted to enter said band from its opposite ends, the end of one entering the other, and the two secured together, balls in the outer ends of the sections, and cups and cones for the balls.

2. The combination with a central band, of an axle-box comprising two sections adapted to enter said band from its opposite ends, the end of one entering the other, a nut screwed to one and against the shoulder on the other, whereby to hold the two sections together,

balls in the outer ends of the sections and cups and cones for the balls.

3. The combination with a central band, of an axle-box secured thereto, said axle-box comprising two sections, the end of one entering the other and the two secured together, said sections having retaining-cups formed at their opposite ends, ball-cups held in said retaining-cups, balls in the ball-cups, retaining-rings for confining the balls in the cups and reversible cones on which the balls turn.

4. The combination with a central band of an axle-box composed of sections, each section having a retaining-cup at the outer end and a sleeve at the inner end, said sleeve adapted to enter the bore of the central band from the opposite ends thereof, means for preventing said sections turning with respect to the band, one section of the axle-box having an inwardly-projecting tubular extension which extends into the sleeve of the other section and is externally screw-threaded, and a tubular nut adapted to turn on said threads and secure the sections rigidly together.

5. The combination with a central band, of an axle-box comprising a pair of telescoping sections, ball-cups and cones held therein and a tubular nut for securing said sections together, and serving as a retaining-flange for holding the balls in their race.

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

ROMAN EICHSTAEDT.

Witnesses:

WILLIAM OHMING, Jr.,
R. J. KRUEGER.