

No. 708,421.

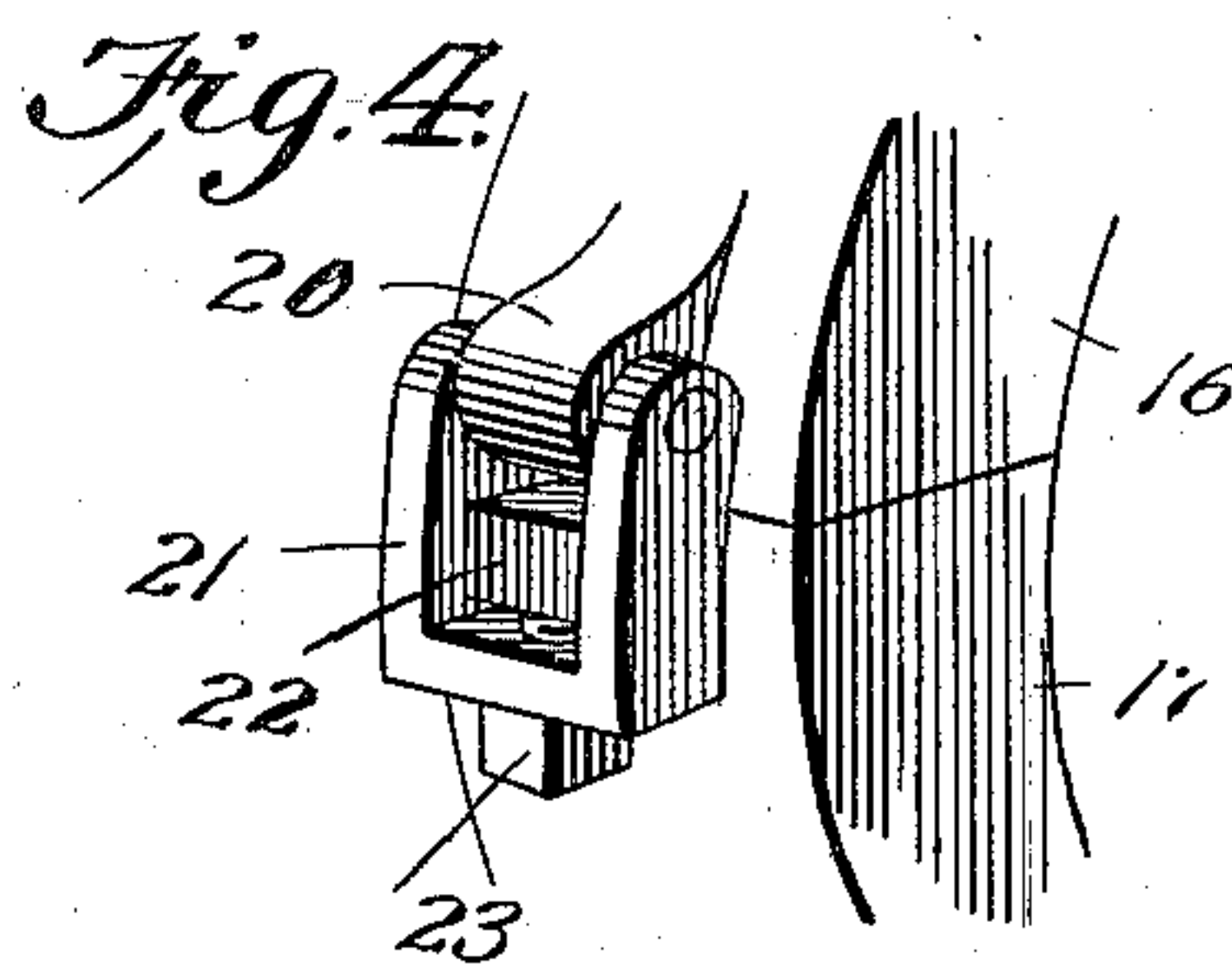
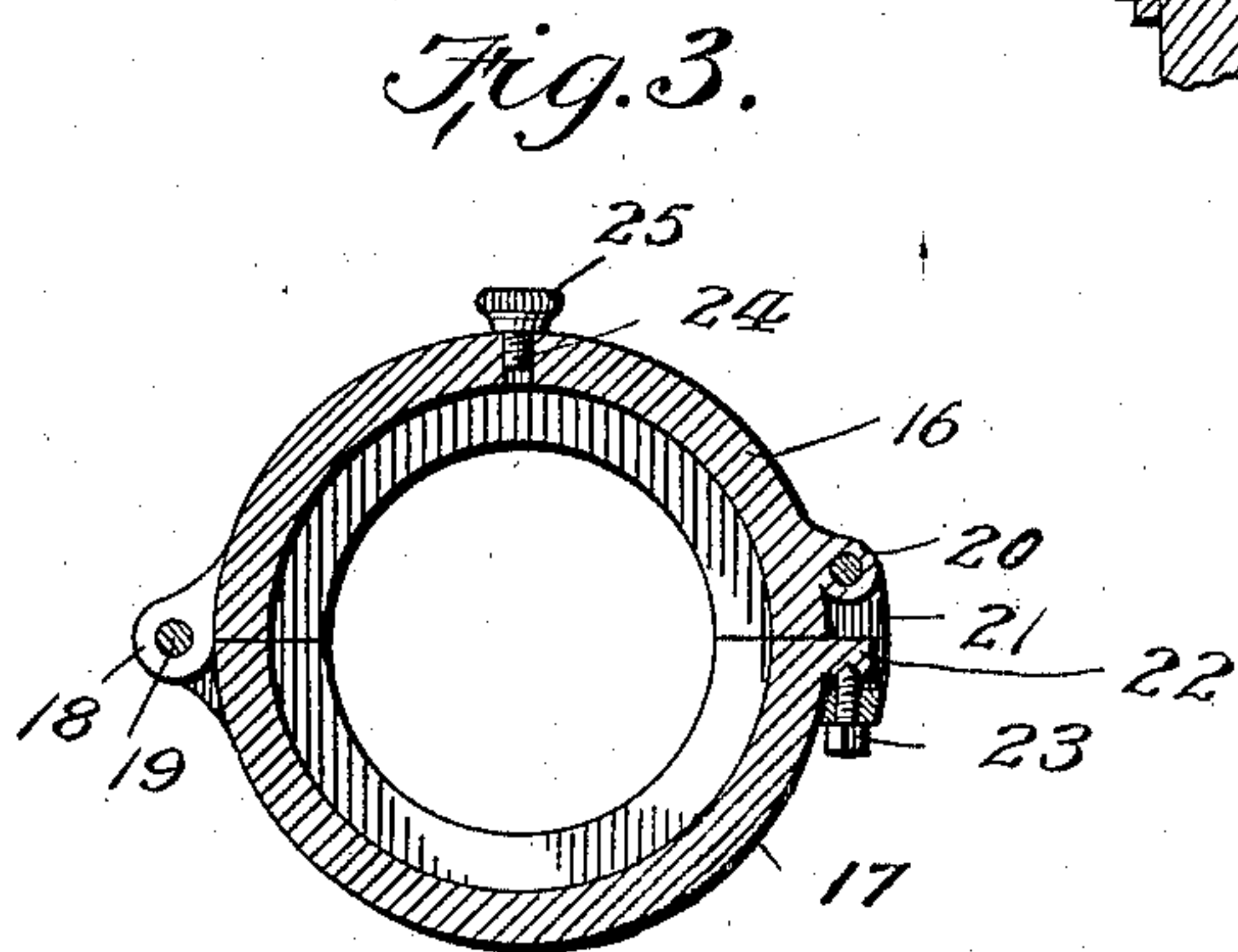
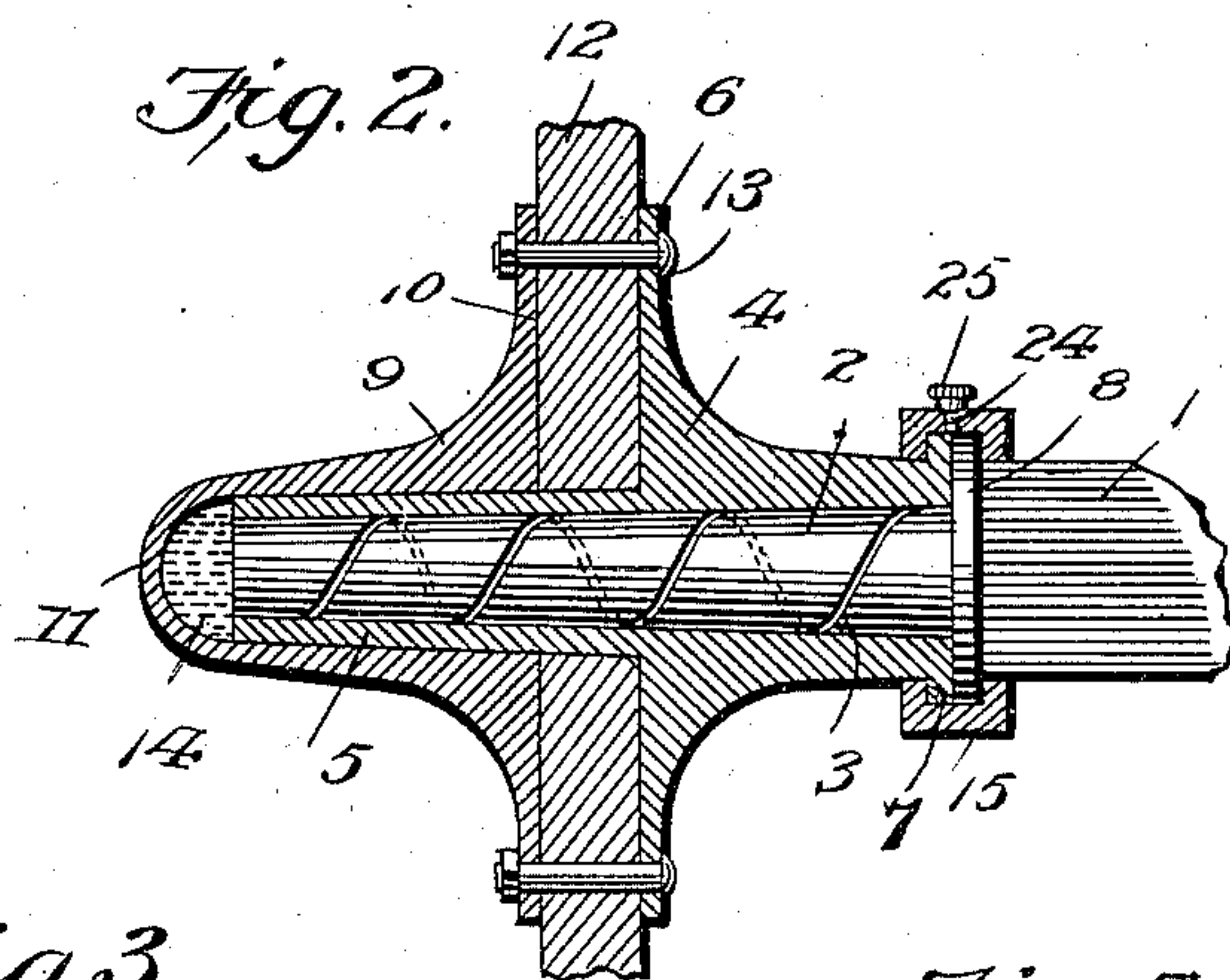
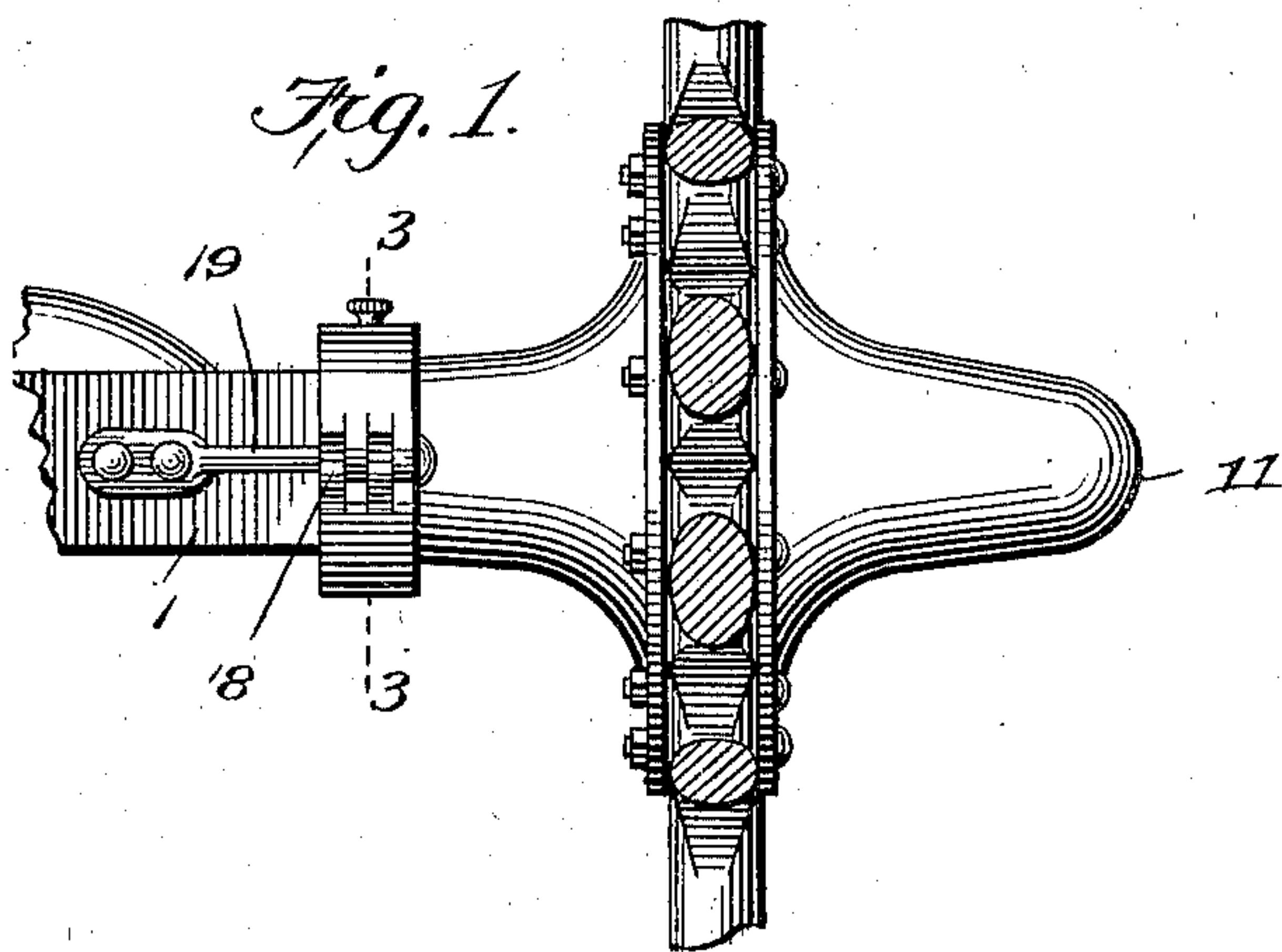
Patented Sept. 2, 1902.

E. B. STEARNS.

VEHICLE HUB.

(Application filed Jan. 22, 1902.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 708,421, dated September 2, 1902.

Application filed January 22, 1902. Serial No. 90,816. (No model.)

To all whom it may concern:

Be it known that I, EDMOND B. STEARNS, a citizen of the United States, residing at Eldorado, in the county of Butler and State of Kansas, have invented new and useful Improvements in Vehicle-Hubs, of which the following is a specification.

This invention relates to a vehicle-hub; and the primary object of the same is to improve the construction of metallic hubs for carriage and other wheels and provide them with means for holding the inner ends of the spokes more securely, and each is composed of detachable parts which will enable the hub to be conveniently secured to the axle at the inner end of said hub, the parts of which the hub is composed being adjustable at any time to tighten the inner ends of the spokes, and thereby produce a more durable wheel.

A further object of the invention is to provide a simple form of dust-proof hub having self-oiling means.

With these and other objects and advantages in view the invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a hub embodying the features of the invention and showing the spokes broken away. Fig. 2 is a longitudinal vertical section of the same shown applied to an axle. Fig. 3 is a transverse vertical section on the line 3-3, Fig. 1. Fig. 4 is a detail perspective view of a portion of the hub, showing the locking means therefor.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates an axle of the usual form, having a spindle 2, which is constructed with a spiral groove 3, extending longitudinally thereof from the outer to the inner terminals. On the spindle 2 is removably fitted a member 4, having a projecting sleeve 5 formed integral therewith, the bore of the sleeve alining or continuing from that in the member 4, and when the latter is applied the outer end of the sleeve 5 coincides with the outer end of the spindle. The member 4 also

has a radial flange 6, with an outer straight face in a plane at right angles to the outer surface of the sleeve 5, and at its inner terminal said member also has a circumferential rib 7 to closely abut against the guard-flange 8 of the axle, the said inner end of the member 4, including the rib 7, being equal in diameter to the guard-flange 8, so that the surfaces of the rib and flange will be flush when the member 4 is properly applied over the spindle 2. The hub also includes a member 9, having a radial flange 10, with an inner straight face adapted to be disposed parallel with the outer face of the flange 6 of the member 4. The member 9 is tubular and has an outer rounded closed terminal 11, and in assembling the two members the member 9 is slipped over the sleeve 5 of the member 4. The space between the inner face of the flange 10 of the member 9 and the outer face of the flange 6 of the member 4 will be proportionate to the thickness of the butts or inner ends of the spokes 12, held by the parts of the hub, and before securing the two members the spokes are inserted between the flanges 6 and 10 and rigidly held between said flanges by transversely-extending nutted bolts 13, which are capable of adjustment to compensate for any looseness of the spokes caused by wear or shrinkage, and thus providing means for tightening the spokes without separating them from the felly or removing the tire. When the members 9 and 4 are thus secured and included in the structure of the complete wheel, the outer rounded end 11 of the member 9 will be at such distance adjacent the end of the sleeve 5 that a chamber 14 will be produced with which the spiral groove 3 of the spindle 2 has communication when the hub is mounted over the said spindle. After the hub is applied on the spindle 2 it is obvious that it must be secured to prevent accidental movement or disengagement, and for this purpose an annular clamp 15 is provided and comprises two sections 16 and 17, connected by a hinge-joint 18, of which an arm 19, having its rear extremity secured to the axle 1, serves as a pintle. The said arm 19 stands outwardly far enough away from the adjacent side of the axle to compen-

sate for the projection of the sections 16 and 17. The clamp 15 is of box-like form and has a groove therein of such dimensions as to snugly receive the rib 7 and guard-flange 8, as clearly shown by Fig. 2, and to secure the two sections 16 and 17 the one is formed with a fulcrum-lug 20, from which is movably swung a stirrup 21, the said lug and stirrup being located adjacent to the joint of the two sections at one side and the stirrup adapted to be pushed over an outstanding lug 22, carried by the section 17. To prevent the stirrup from becoming accidentally disengaged from the lug, it is provided with a set-screw 23, which is adjusted to bind firmly against the lug 22, and thus securely hold the two sections 16 and 17 united around the rib 7 and flange 8 and maintain the hub in operative position to the spindle without liability of said hub working off or becoming loose. The sections 16 and 17 are semicircular in contour, and by opening the same the hub can be easily withdrawn from the spindle. Though the annular flange 15 snugly engages the rib 7 and guard-flange 8, the said rib is permitted to rotate within the clamp.

To oil the part of the hub engaged by the clamp 15, the latter is formed with an oil-vent 24, which is normally closed by a vent-screw 25, and when the hub is applied to the spindle 2 oil or other suitable lubricant is placed within the hub in sufficient quantity to fill the chamber 14, and from the said chamber the oil or lubricant is conveyed through the groove 3 around the spindle with obvious advantages.

The improved hub is absolutely dust-proof and will prevent wear on the spindle. It is also simple in construction and comparatively inexpensive in the cost of manufacture. It will also be seen that the arm 19 holds the annular clamp 15 in connection with the axle, so that the said clamp is always in position for engagement with the inner terminal of the hub when the latter is applied.

Having thus described the invention, what is claimed as new is—

1. A hub comprising separable members, one of which has an outwardly-projecting sleeve with a smooth outer surface and the other an outwardly-projecting tube with a smooth bore to frictionally fit over said sleeve, the tube having an outer integral closed extremity which is normally located in advance of the outer end of the sleeve to form an oil-receptacle, the two members also having opposing radially-projecting flanges which are spaced apart to receive wheel-spokes, and means for securing said flanges.

2. A hub comprising separable members, one of which has an outwardly-projecting sleeve with a smooth outer surface and the other an outwardly-projecting tube with a smooth bore to frictionally fit over said sleeve, the tube having an outer integral closed extremity which is normally located in advance of the outer end of the sleeve to form an oil-receptacle, the two members also having opposing radially-projecting flanges which are spaced apart to receive wheel-spokes, means for securing said flanges combined with an axle-spindle to fit in the sleeve, said spindle having a spiral groove therearound which extends full length of the spindle and communicates with said outer receptacle.

3. A hub having an outer closed portion combined with an axle having a spindle on which said hub is removably fitted, and an annular clamp comprising hinged sections, one of the sections carrying a pivoted locking-stirrup with a set-screw therein, and the other a lug for engagement by said stirrup and screw.

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

EDMOND B. STEARNS.

Witnesses:

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