

No. 819,128.

PATENTED MAY 1, 1906.

C. H. DRIVER.
VEHICLE AXLE.
APPLICATION FILED DEC. 1, 1904.

Fig. 1.

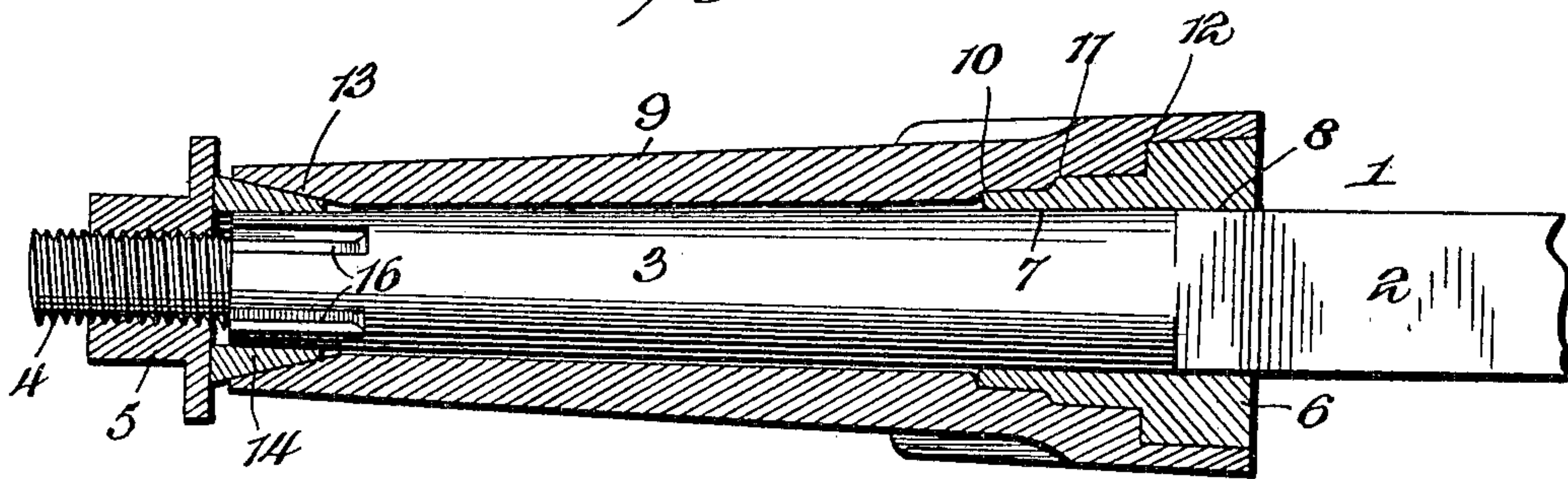


Fig. 2.

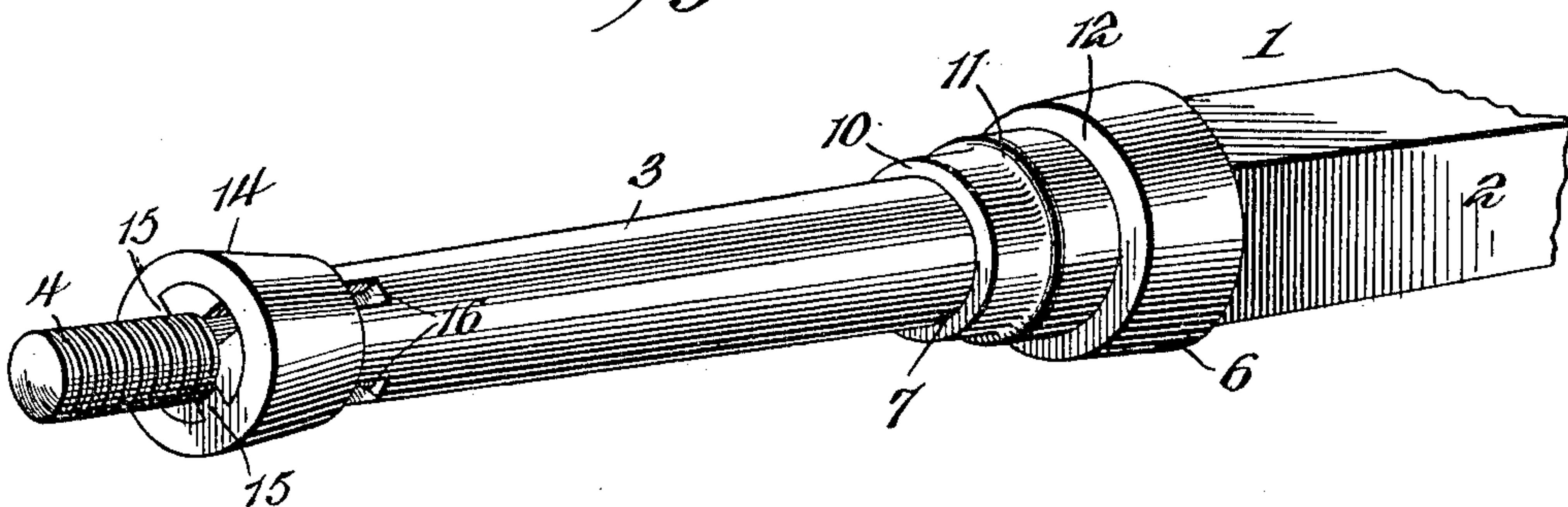


Fig. 3.

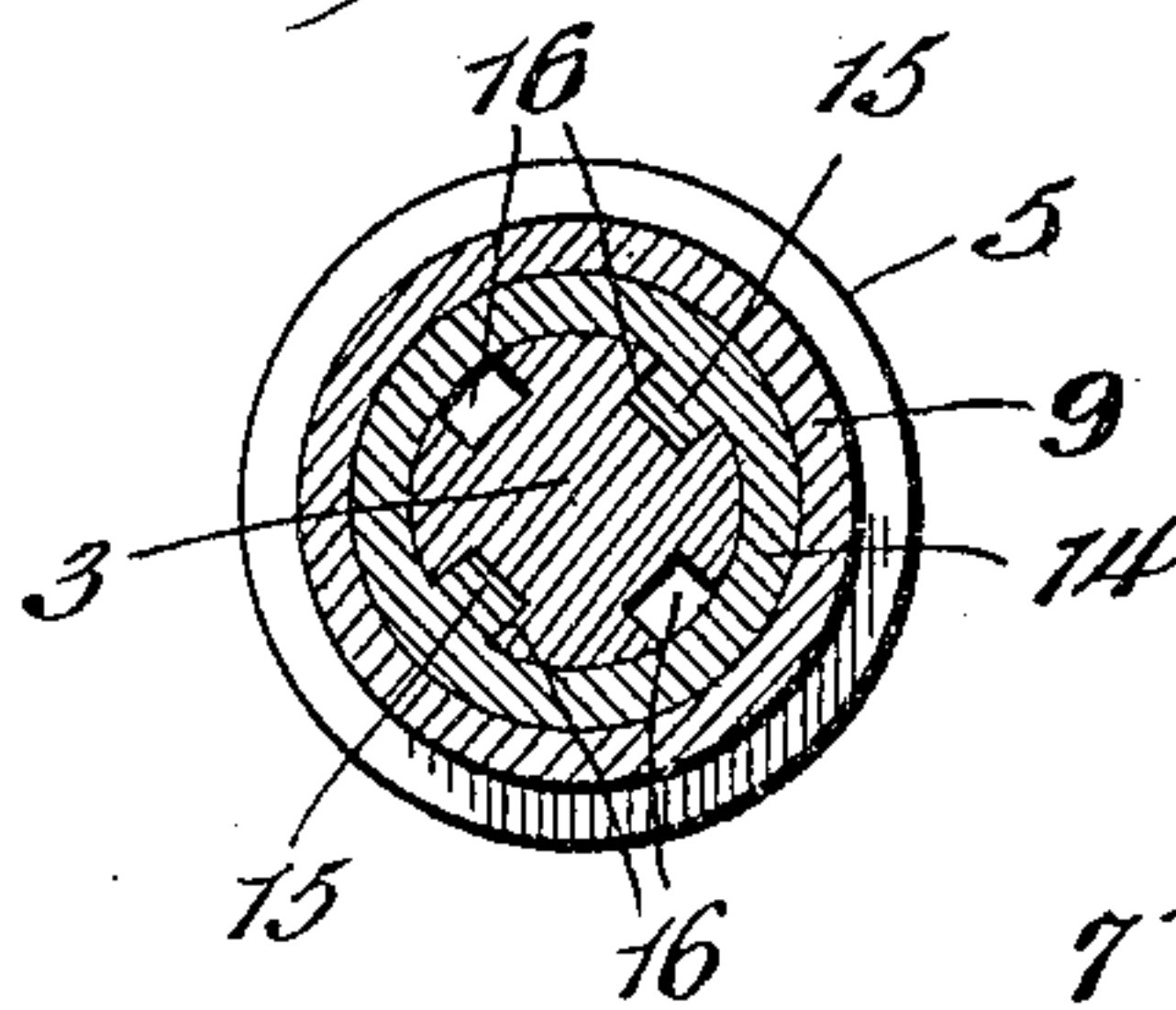


Fig. 4.

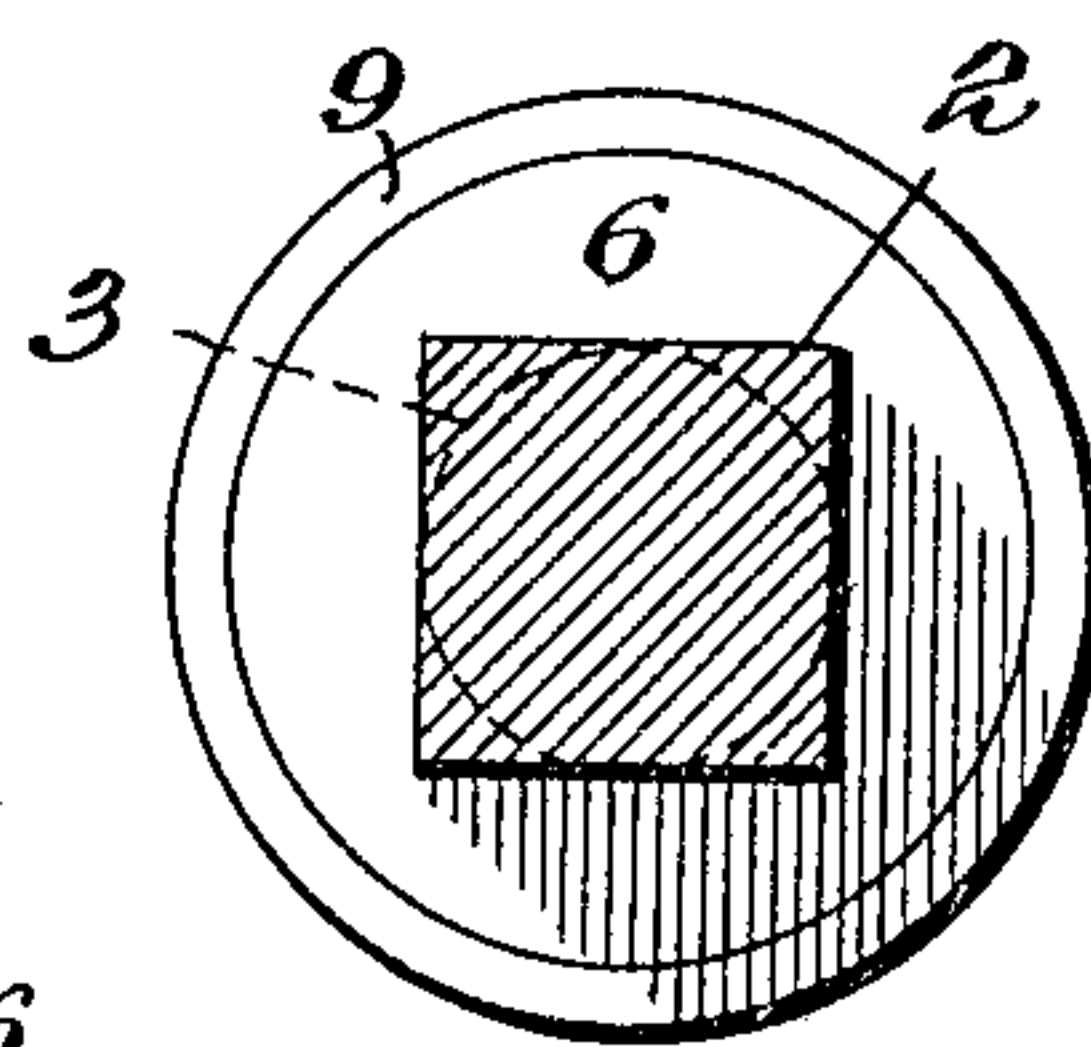
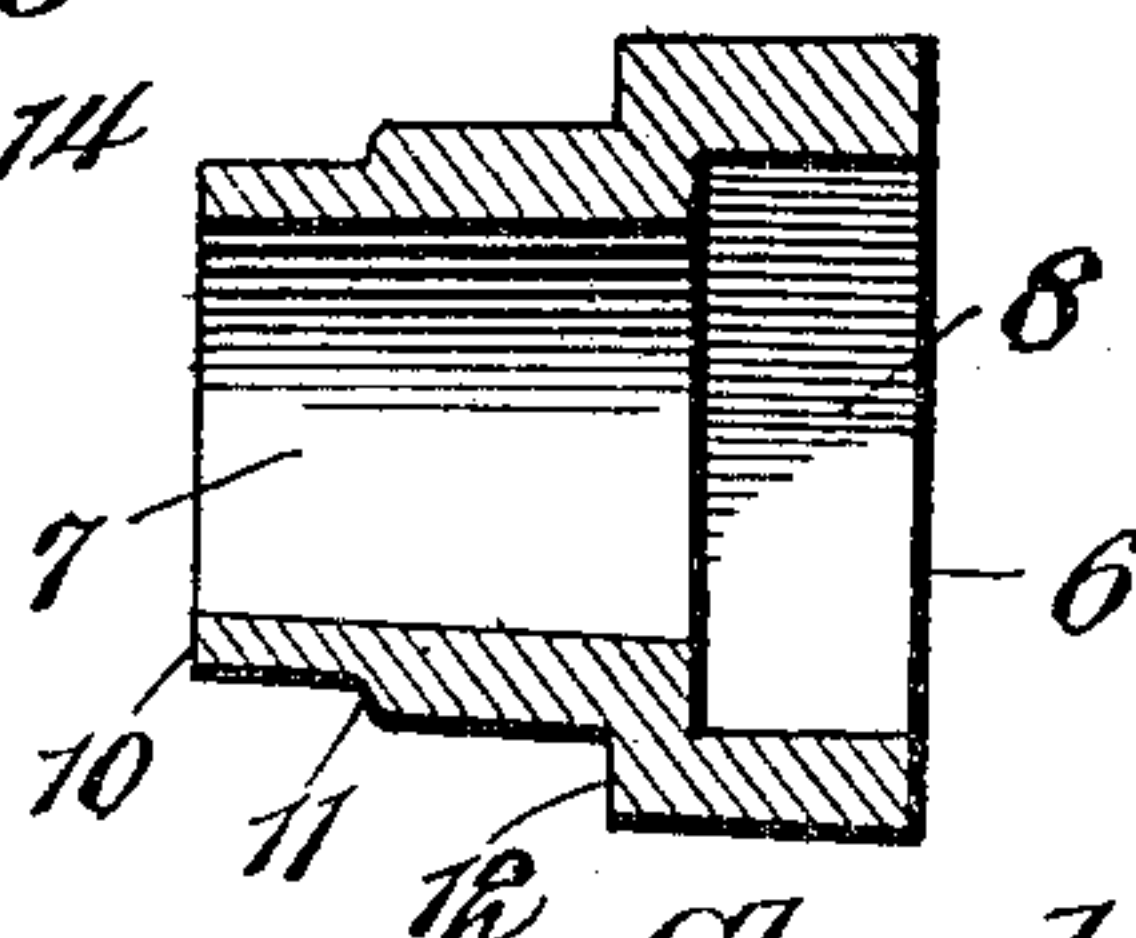


Fig. 5.



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Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES H. DRIVER, OF TARPON SPRINGS, FLORIDA, ASSIGNOR OF ONE-SIXTH TO WILLIAM W. K. DECKER, ONE-SIXTH TO JOHN K. CHANEY, AND ONE-SIXTH TO HAYES BIGELOW, ALL OF TARPON SPRINGS, FLORIDA.

VEHICLE-AXLE.

No. 819,128.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed December 1, 1904. Serial No. 235,074.

To all whom it may concern:

Be it known that I, CHARLES H. DRIVER, a citizen of the United States, residing at Tarpon Springs, in the county of Hillsboro and State of Florida, have invented a new and useful Vehicle-Axle, of which the following is a specification.

The invention relates to improvements in vehicle-axes.

10 The object of the present invention is to improve the construction of vehicle-axes and to provide a simple and comparatively inexpensive one of great strength and durability capable of enabling wear and lost motion to be readily taken up and adapted to permit the parts subjected to the wear to be readily renewed without discarding the axle.

20 With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended, it being understood that various changes in the form, portion, size, and minor details of construction within the scope of the claim may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

30 In the drawings, Figure 1 is a longitudinal sectional view of one end of an axle-box constructed in accordance with this invention. Fig. 2 is a perspective view of the same, the axle-box being removed. Fig. 3 is a transverse sectional view of the outer end of the spindle, illustrating the manner of interlocking the conical bearing-sleeve with the same. Fig. 4 is a transverse sectional view of the axle, the removable collar and the axle-box being in elevation. Fig. 5 is a detail sectional view of the removable collar.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

45 1 designates an axle having a squared body portion 2 and provided with a round spindle 3, reduced and threaded at its outer end 4 for the reception of an axle-nut 5. The inner end of the spindle receives a removable collar 6, provided with an opening to receive the axle and having the front or outer portion 7 round to conform to the configuration of the spindle. The rear portion 8 of the

opening of the collar is squared in cross-section to conform to the configuration of the squared body portion 2 of the axle. The collar overlaps the body portion of the axle, and by means of the squared inner end of the opening it is interlocked with the said body portion 2 of the axle, whereby it is held against rotation on the spindle. The collar constitutes the inner bearing portion of the axle; and its exterior conforms to the configuration of the interior of the inner end of an axle-box 9 and is provided with a plurality of shoulders 10, 11, and 12, increasing in diameter from the outer to the inner or rear portion of the collar. When the collar is worn out, it may be renewed at a very low cost.

70 The outer end 13 of the axle-box is internally flared or beveled and is adapted to receive an adjustable bearing-sleeve 14, arranged on and slidably interlocked with the outer portion of the spindle adjacent to the threaded end thereof. The sleeve is provided on its interior with a plurality of longitudinal tongues or ribs 15, which fit in corresponding grooves 16 of the outer portion of the spindle, the grooves and the tongues or ribs being preferably rectangular in cross-section; but they may be of any other desired configuration, as will be readily understood. The bearing-sleeve is designed to extend a considerable distance beyond the grooved portion of the spindle to enable it to be gradually advanced into the axle-box by the axle-nut as the parts become worn, whereby wear and lost motion may be readily taken up. By this construction a proper bearing for the wheels of a vehicle is afforded until the inner and outer bearing portions are entirely worn out. When the bearing portions are worn out, they may be readily renewed at a very low cost. The body portion of the spindle is not subjected to wear, and the axle will not have to be renewed.

100 It will be seen that the vehicle-axle is exceedingly simple and inexpensive in construction, that the adjustment of the outer bearing-sleeve may be effected by an ordinary wrench, and that all wear and lost motion may be quickly taken up without removing the wheels of a vehicle. It will also be clear that when the outer collar or bearing-sleeve becomes flattened at the bottom the ribs 15 may be changed from one set

of grooves to another to partially rotate the outer bearing-sleeve or collar to bring a rounded and comparatively unworn portion at the bottom.

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

10 The combination with an axle-box interiorly tapered at the outer end and provided at the inner end with a plurality of interiorly-arranged shoulders of increasing diameter, and an axle having a polygonal body portion
15 and a round spindle, the latter being provided at its outer end with a plurality of longitudinal grooves, of an inner removable and reversible collar located within the inner end of the axle-box and provided with a plurality of exterior shoulders increasing in diameter
20 said collar being also provided with inte-

riorly-arranged polygonal and cylindrical portions conforming to the configuration of the spindle and the body portion of the axle, an outer reversible conical collar fitted within the outer end of the axle-box and provided 25 with an interior rib slidably engaging one of the said grooves, and an axle-nut arranged on the spindle and engaging the outer collar and retaining the same and the inner collar in their interlocked relation with the axle and 30 in their engagement with the axle-box and being spaced from the latter.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES H. DRIVER.

Witnesses:

JOHN H. SIGGERS,
S. GEORGE TATE.