

(No Model.)

W. C. HOWE.
SPINDLE FOR VEHICLES.

No. 426,815

Patented Apr. 29, 1890.

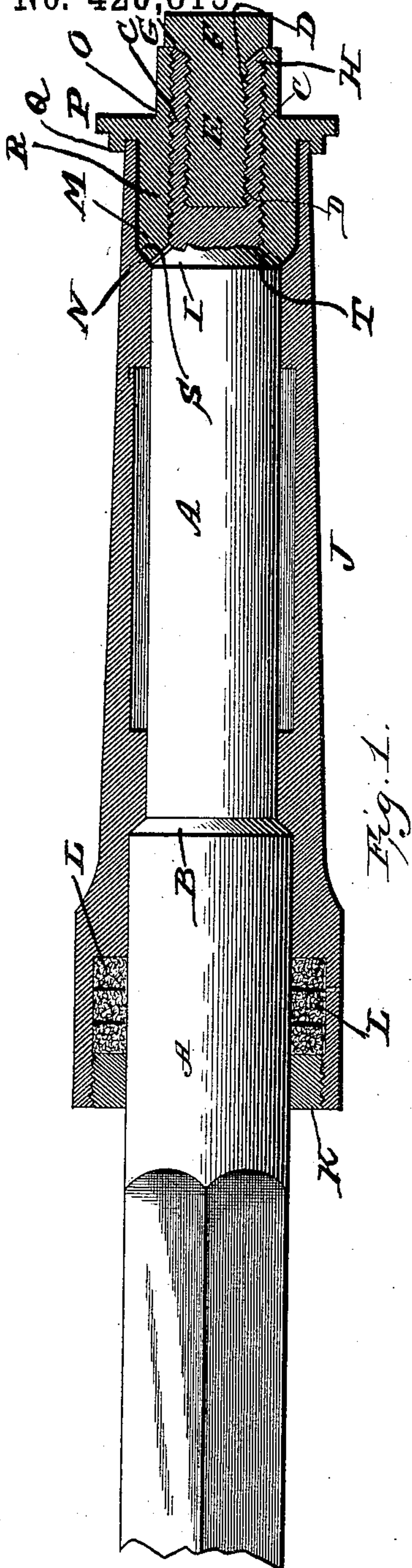


Fig. 1.

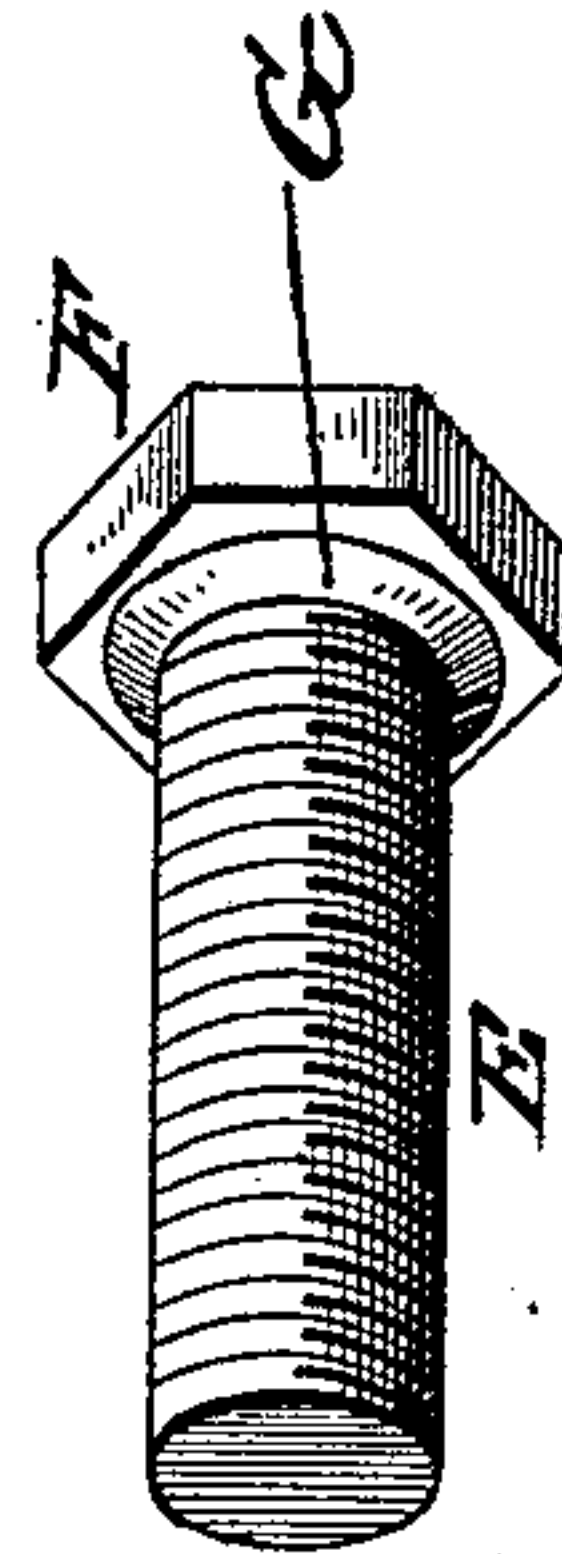


Fig. 3.

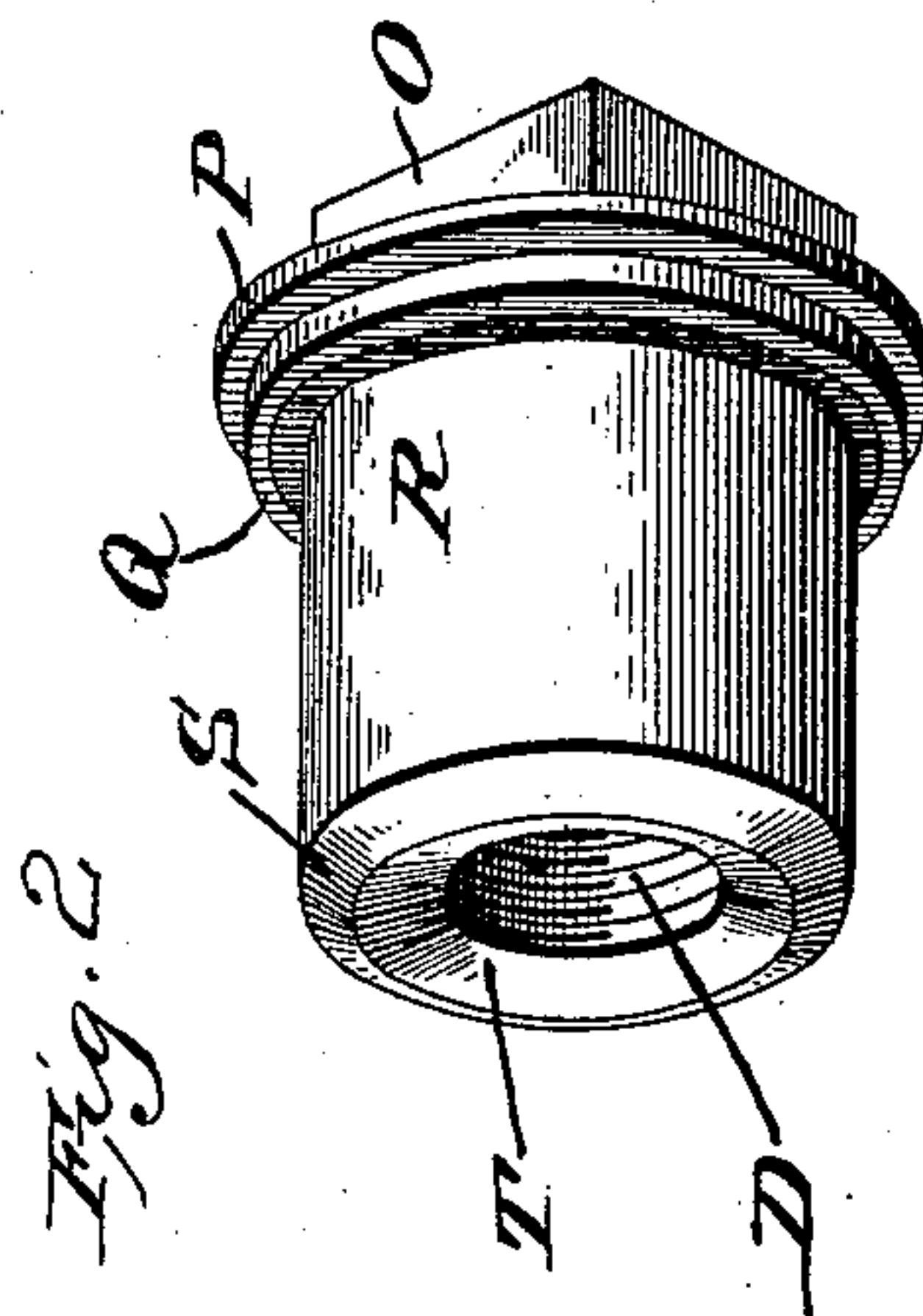


Fig. 2.

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UNITED STATES PATENT OFFICE.

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SPINDLE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 426,815, dated April 29, 1890.

Application filed February 6, 1890. Serial No. 339,388. (No model.)

To all whom it may concern:

Be it known that I, WILLIS C. HOWE, a citizen of the United States, and a resident of Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Spindles for Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal sectional view through the axis of my improved spindle. Fig. 2 is a perspective detail view of the nut at the outer end of the spindle; and Fig. 3 is a perspective view of the nut-locking bolt, which operates to hold the nut in place.

Like letters of reference denote corresponding parts in all the figures.

This invention relates to spindles for vehicles of that class in which the nut which holds the box upon the spindle proper is locked in position by means of a bolt working in a threaded recess or bolt-hole in the outer end of the axle-spindle; and my improvement consists in the detailed construction and combination of parts of a vehicle-spindle of that type, which will be hereinafter more fully described and claimed.

Reference being had to the accompanying drawings, the letter A designates the axle-spindle proper, which may be provided with a shoulder B, if desired; or it may be made tapering from end to end, according to the kind of box with which it is intended to be used. The outer end of this spindle is reduced and screw-threaded, as shown at C, and this threaded extension C is bored through longitudinally and threaded interiorly, so as to form a threaded bolt-hole D, the screw-threads of which run in reverse direction to the exterior threads. In other words, if the threads on the outside of the reduced part C run from right to left, then the threads in the inner bolt-hole D run from left to right, and vice versa. The spindles are always so arranged relative to the axles and the vehicle supported on the axles that the locking-bolts

which are screwed into it the bolt-holes D will, as the vehicle progresses, have a tendency or impulse to work into their respective bolt-holes and thus bind upon the nuts. This is accomplished by making the inner threads right-hand on one side of the vehicle and left-hand on the other.

The locking-bolt (shown at E) has a head F and a conical short neck G, fitting into a conical countersink or recess H in the outer end of the part C. The outer end of the spindle where this merges into the threaded extension C is also turned off to form a short cone I, for the purpose hereinafter set forth.

The axle-box (shown at J) is screw-threaded at its inner end to seat an exteriorly-threaded ring K, which holds the lubricating-washers L in place in the usual manner. The outer end of the box is enlarged, as shown at M, the inner end of this enlargement being beveled, as shown at N, to fit against the corresponding bevel on the axle-nut. The latter consists, essentially, of three parts, which are, however, integral with one another. These are the outer square or hexagonal part O, adapted to receive a wrench or spanner for removing or fastening the nut, an intermediate circular disk P, provided with an inwardly-projecting annular flange Q, and the cylindrical part R, adapted to fit within the enlarged outer end M of the box, and having an outer bevel S, bearing against the bevel N of the box, and an inner bevel T, similarly bearing against the spindle-cone I when the nut is in its proper working position. By the peculiar construction of this nut, with its cylindrical and beveled portion R, in conjunction with the spindle-cone I and box-bevel N, the nut may be so adjusted as to readily take up wear and prevent any longitudinal motion of the box upon the spindle.

The object of the circular disk P, with its flange Q, which, when the parts are in proper juxtaposition to one another, overlaps the outer end of the box, is to prevent dust and dirt from entering between the spindle and the box from the outside.

As stated at the outset of this specification, the nut, after it has been properly adjusted upon the spindle, may be locked in place by means of the locking-bolt E, by loosening

which the nut may readily be adjusted to compensate for wear, as may be required, in a moment of time and with absolute efficiency.

5 Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination, in a spindle for vehicles, of the following elements: the axle-spindle
10 having the outer cone or bevel I and reduced screw-threaded extension C, provided with an inner threaded and countersunk bolt-hole, the threads of which run in a direction reverse to the exterior threads, the locking-bolt
15 E, having a conical neck G, adapted to fit into the conical countersink at the outer end of the bolt-hole, the axle-box provided with

the cylindrical enlargement M, beveled at its inner end, and the axle-nut, comprising the square part O, circular disk P, having the 20 annular inwardly-projecting flange Q and cylindrical part R, terminating in the outer bevel or cone S, and an inner bevel T, all constructed and combined to operate substantially in the manner and for the purpose 25 hereinbefore set forth.

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

WILLIS C. HOWE.

Witnesses:

ROBERT H. EASTBURN,
JOSEPH K. COATES.