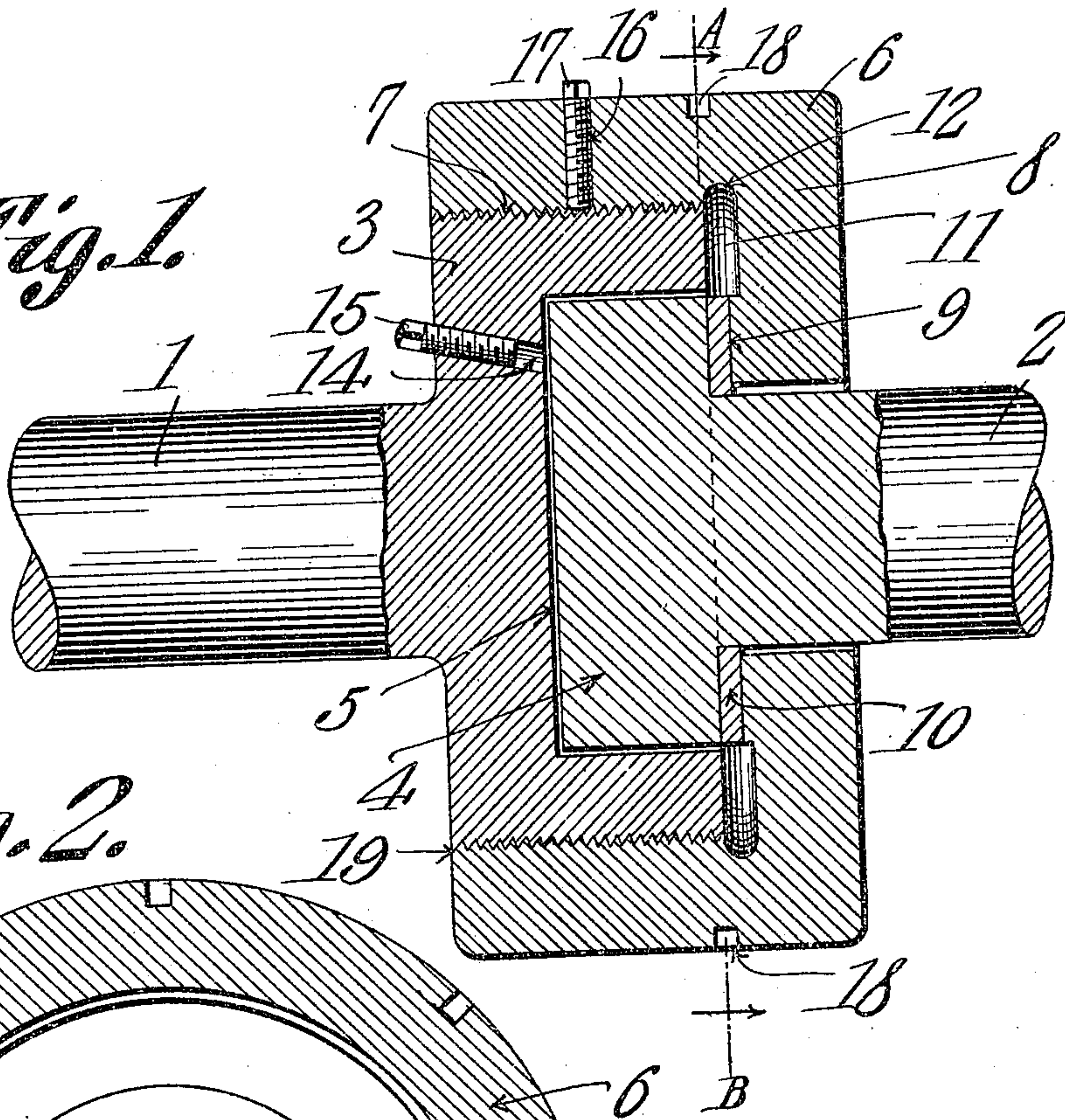


S. T. PYEATT.  
CAR AXLE.  
APPLICATION FILED FEB. 5, 1910.

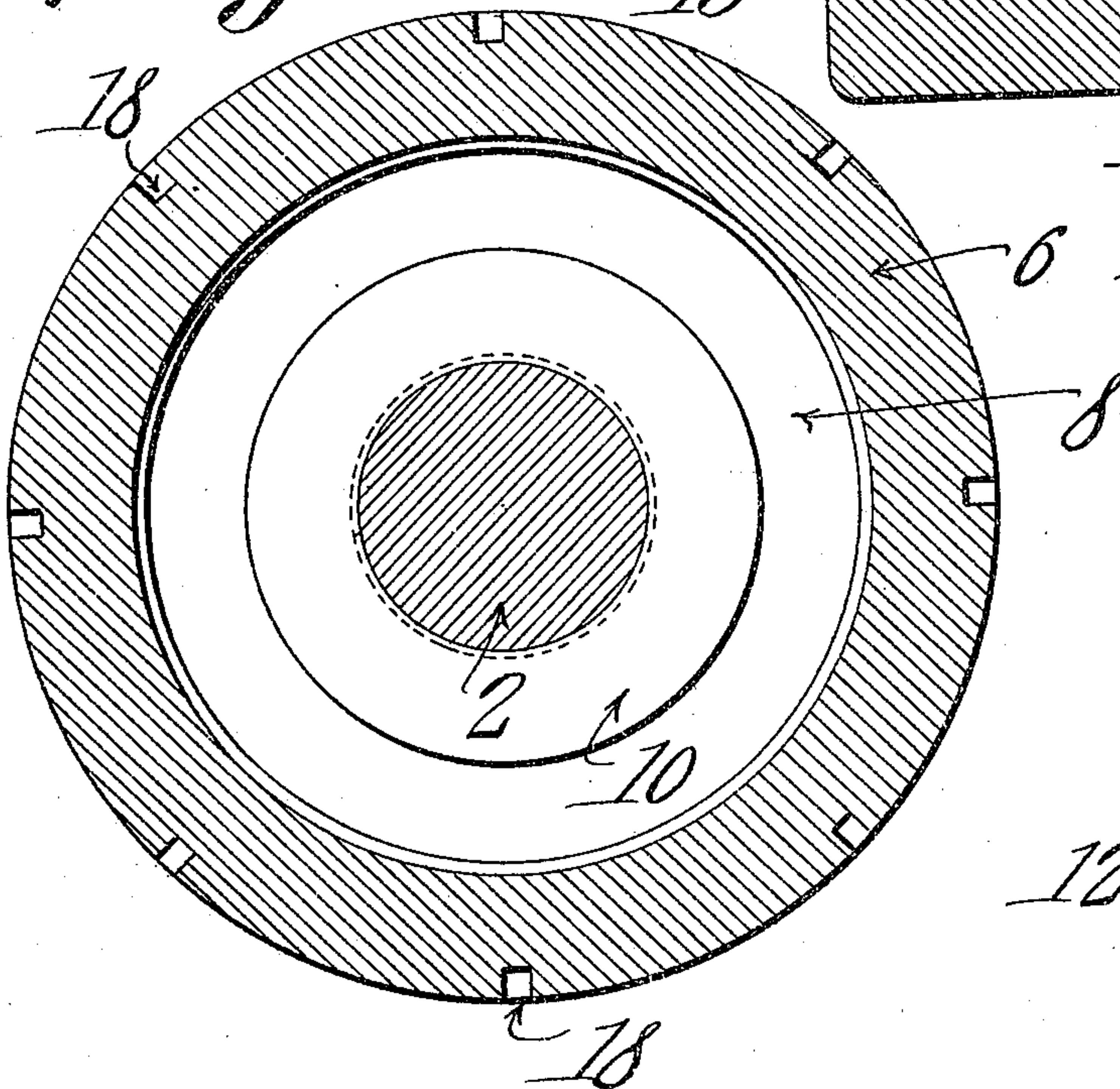
Patented June 7, 1910.

960,399.

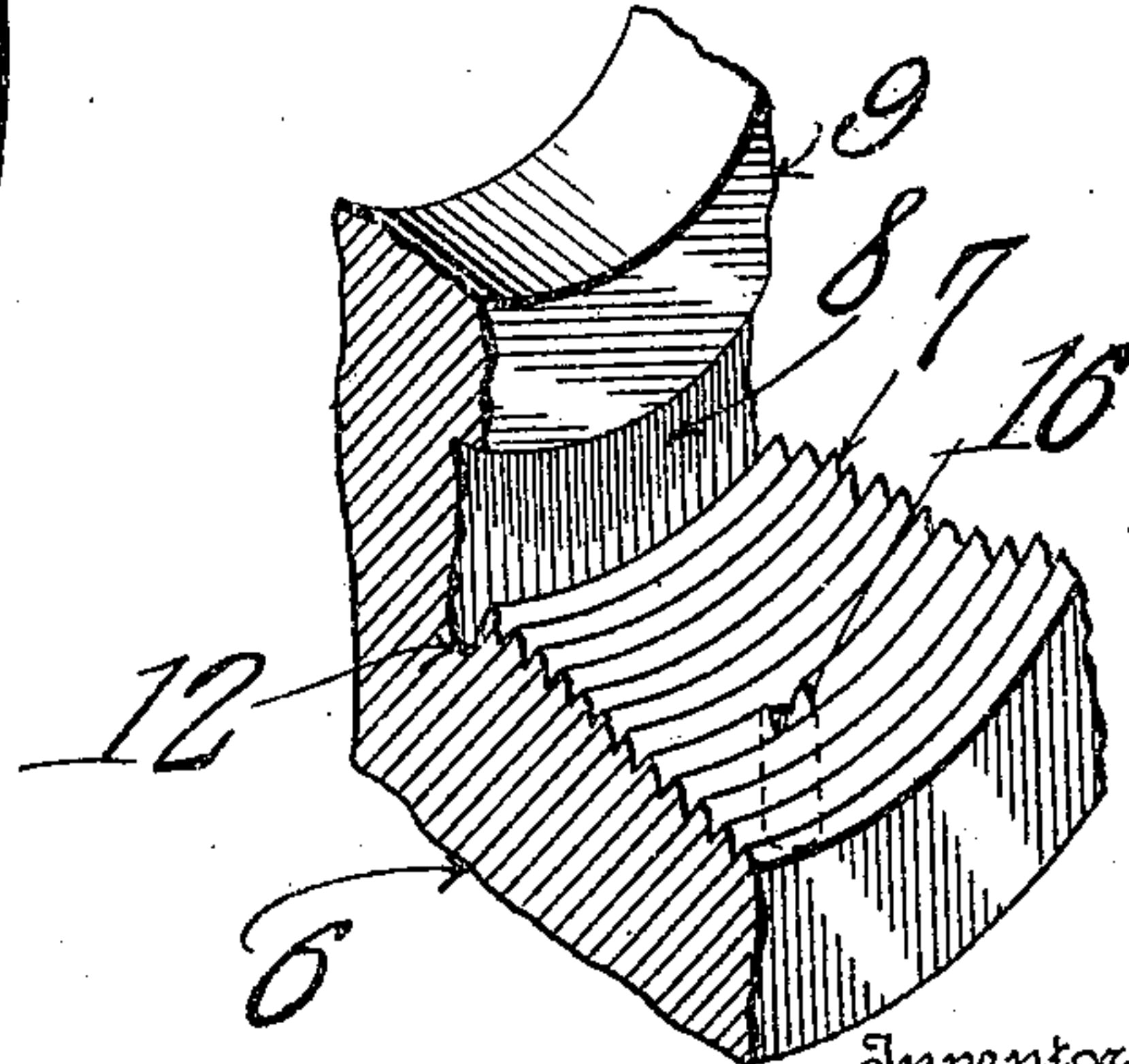
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Samuel T. Pyeatt.*

By *C. A. Snow* Attorneys

Witnesses  
*E. J. Smith*  
*Mason B. Lawton*



# UNITED STATES PATENT OFFICE.

SAMUEL THOMAS PYEATT, OF CANEHILL, ARKANSAS.

CAR-AXLE.

960,399.

Specification of Letters Patent.

Patented June 7, 1910.

Application filed February 5, 1910. Serial No. 542,242.

*To all whom it may concern:*

Be it known that I, SAMUEL T. PYEATT, a citizen of the United States, residing at Canehill, in the county of Washington and State of Arkansas, have invented a new and useful Car-Axle, of which the following is a specification.

It is the object of this invention, to provide an axle for cars, consisting of separate sections, rotatably united at their adjacent ends, so that the wheel which is upon the extremity of one axle section may rotate independently of the wheel which is on the other axle section, a construction tending to obviate the flattening of the wheel, when one wheel, moving upon the outer rail of a curved track, must traverse a greater distance than the other wheel, moving upon the inner rail of the curved track.

Another object of the invention is so to construct the device, that one axle section, will, at its end, inclose, for rotation, the end of the other axle section, so that the inclosed axle section will bear peripherally, against the outer axle section, and not against some subsidiary portion of the structure.

Another object of the invention is so to construct the device that the extremity of one axle section may be securely held in place, for rotation, within the other axle section.

Another object of the invention is to regulate and control the lubrication of the parts of the structure.

With the above and other objects in view, the invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the drawings, and specifically claimed, it being understood that, within the scope of what is claimed, changes may be made, without departing from the spirit of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings,—Figure 1 is a longitudinal section of the structure, parts being shown in elevation; Fig. 2 is a transverse section of Fig. 1, upon the line A—B, looking in the direction of the arrows; and Fig. 3 is a fragmental perspective of the cap, whereby one of the axle sections

is held for rotation within the contour of the other axle section.

The axle forming the subject matter of this application, consists of two separate sections, which, for convenience, will hereinafter be referred to as the primary section and the secondary section, the primary section being denoted in the drawings, by the numeral 1, and the secondary section being there denoted by the numeral 2. The axle sections 1 and 2 are provided, at their adjacent ends, respectively, with enlarged heads 3 and 4, there being in the head 3 of the primary section 1, an opening 5 which is adapted to house entirely, for rotation, the head 4 of the secondary axle section 2. A cap 6 is shown, the same, upon its inner wall, being threaded, as shown at 7. This threaded portion 7 of the cap is adapted to engage the threaded exterior of the head 3, and, at one end, the cap 6 is provided with a flange 8 which is adapted to overhang the head 3 of the primary section 1, and likewise to overhang the head 4 of the secondary section 2. This flange 8 of the cap, is open axially, to provide for the passage of the secondary axle section 2, the opening in the cap being surrounded by an annular, inwardly extended lip 9, of substantially the same diameter as the head 4, and consequently of less diameter than the opening in the head 3. A washer 10 is introduced between the lip 9 and the head 4, the washer surrounding the axle section 2 closely, and being of substantially the same diameter as the lip 9, so that the washer may, if necessary, move, under the actuation of cap 6, within the contour of the opening 5. The washer 10 serves to space the cap 6 apart from the head 3, to define between the cap and the head 3, an oil chamber 11, which, as shown most clearly in Figs. 1 and 3, is peripherally extended into the cap 6, as denoted by the numeral 12, beyond the periphery of the head 3. In the outer, lateral, vertical face of the head 3, and located relatively near to the axle section 1, there is an oil duct 14 communicating with the opening 5. This oil duct 14 may be closed by means of a screw plug 15, or the like. There is a radial-opening in the cap 6, denoted by the numeral 16, and threaded to receive a set screw 17, adapted at its inner end, to bear against the periphery of the head 3, whereby the



cap 6 may be secured in place upon the head 3, against accidental displacement. A plurality of radial openings 18 are let into the outer face of the cap 6, these openings being adapted to receive one end of a falciform wrench, whereby the cap 6 may be adjusted upon the head 3.

In practical operation, the head 4 will rotate in the opening 5 of the head 3, the axle sections 1 and 2 being thus separately rotatable, so that the wheels which are located at the ends of the sections 1 and 2 may traverse the inner and outer rails of a curved track, without compelling the outer wheels to slide as the car is rounding the curve.

The washer 10 obviously tends to take up a portion of the wear in the structure, the cap 6 being readily rotatable to adjust the head 4 within the head 3, the set screw 17 constituting a means for holding the cap 6 in any position which it may assume. Owing to the fact that the cap 6 is provided with the inwardly extending lip 9, which said lip, together with the washer 10, are of less diameter than the opening 5, the head 4 may readily be adjusted within the opening 5 within the cap 3, without the cap 6 coming in contact with the end of head 3. Thus, after the head 4 has been worn away to such a degree that it no longer fills the opening 5, the lip 9 and the washer 10, extending into the opening 5, will be effective to prevent the axle sections 1 and 2 from having more than the necessary longitudinal play.

When oil is introduced into the oil duct 14, the bearing faces of the heads 3 and 4 will be thoroughly lubricated. Any excess of oil being housed within the extended portion 12 of the oil chamber 11, it being seen that, from this extended portion 12, the oil cannot readily leak away, along the line of union 19 between the head 3 and the cap 6. When the axle sections are in rotation, the oil, will, by its inertia, retire into the chamber 11, from which it will gradually leak away, between the washer 10 and the parts of the device between which the washer is inclosed.

It should be noted that the axle sections 1 and 2 terminate in enlarged heads. By thus enlarging the ends of the axle sections, a relatively large bearing surface is provided. It should also be noted that the head 4 is housed entirely within the periphery of the head 3, so that the heads, at their peripheries, bear against each other for rotation, and not against some subsidiary portion of the device. By this construction, the strength of the device is greatly enhanced, the cap 6, which is held to the remaining parts of the structure by threading only, serving merely as a means for holding one of the heads for rotation within the other,

the cap 6 receiving no portion of the wear incident to the rotation of the one head within the other.

Having thus described the invention, what is claimed is:—

1. An axle for cars, consisting of a primary and a secondary section, each of which is terminally enlarged to form a head, there being an opening in the head of the primary section arranged to inclose entirely, for rotation, the head of the secondary section; a cap adjustably held upon the exterior of the head of the primary section and having a flange to overhang the head of the secondary section, there being an annular, inwardly extending lip upon the flange, of substantially the same diameter as the head of the secondary section.

2. An axle for cars, consisting of axle sections having enlarged heads, one of which is hollow to house the other head entirely, for rotation; a cap threaded to engage the hollow head and having an inwardly extended lip of substantially the same diameter as the housed head; a washer of substantially the same diameter as the lip, interposed between the lip and the housed head and arranged to space the cap from the hollow head to define an oil chamber peripherally extended into the cap beyond the hollow head; there being an oil duct in the lateral face of the hollow head adjacent the axle section thereof.

3. An axle for cars, consisting of a primary and a secondary section, each of which is terminally enlarged to form a head, there being an opening in the head of the primary section arranged to inclose entirely, for rotation, the head of the secondary section; a cap threaded to engage the exterior of the head of the primary section and having a flange to overhang the head of the secondary section, there being an annular, inwardly extending lip upon the flange, of less diameter than the opening; a washer of less diameter than the opening, located between the lip and the head of the secondary section and arranged to engage the head of the secondary section; there being an oil duct in the lateral face of the head of the primary section, communicating with the opening, adjacent the primary section; the engagement between the lip and the washer defining a chamber between the cap and the head of the primary section, the chamber being extended into cap beyond the head of the primary section.

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

SAMUEL THOMAS PYEATT.

Witnesses:

BRUCE HOLCOMB,  
ART T. LEWIS.