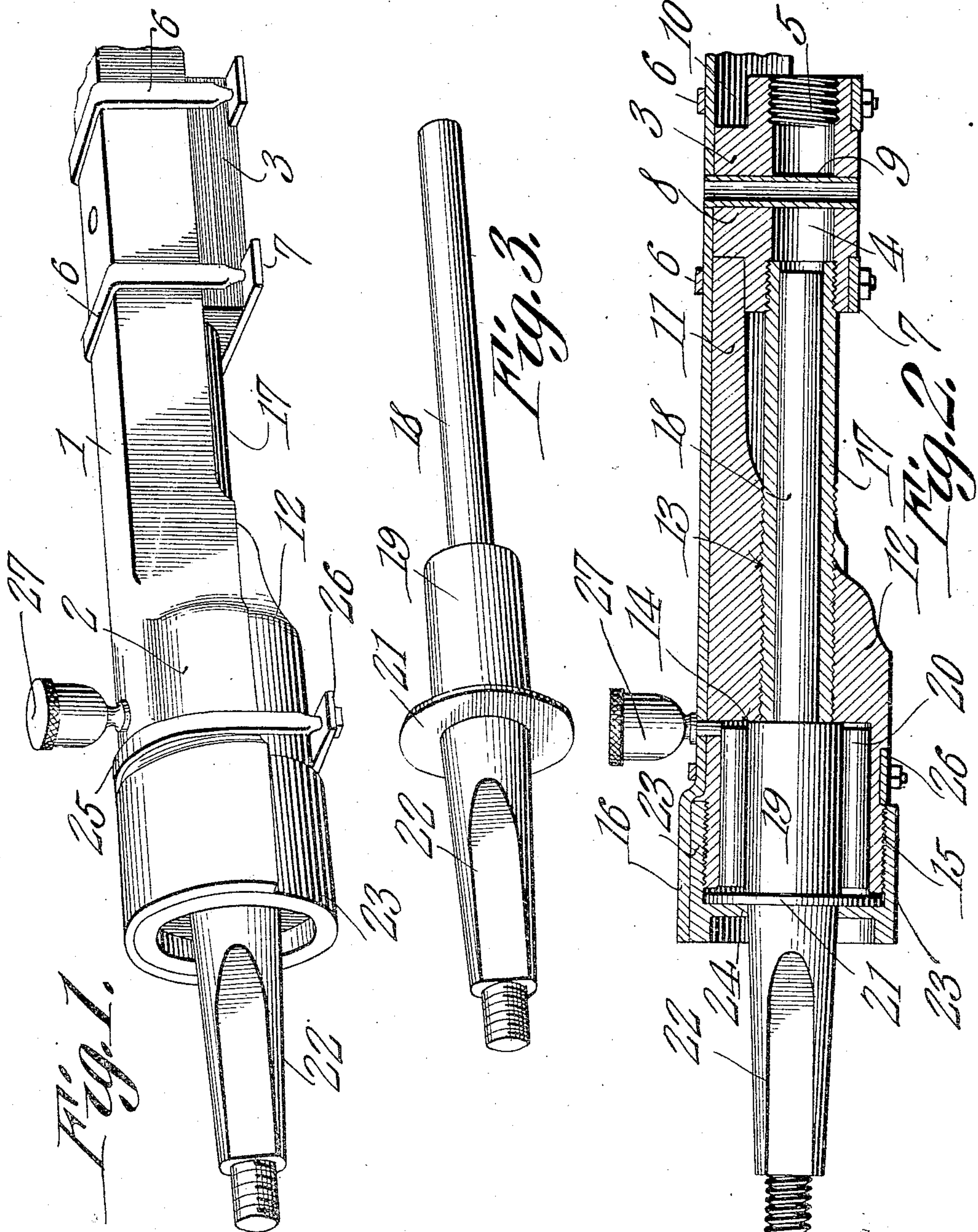


C. CRIESS.
 VEHICLE AXLE.
 APPLICATION FILED NOV. 16, 1909.

955,251.

Patented Apr. 19, 1910



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CHARLES CRIESS, OF STROUD, OKLAHOMA.

VEHICLE-AXLE.

955,251.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed November 16, 1909. Serial No. 528,330.

To all whom it may concern:

Be it known that I, CHARLES CRIESS, a citizen of the United States, residing at Stroud, in the county of Lincoln and State of Oklahoma, have invented a new and useful Vehicle-Axle, of which the following is a specification.

This invention relates to vehicle axles and its object is to provide an all metal axle formed of parts which are assembled in a novel manner and which form dust proof cases for revoluble spindles to which the supporting wheels are secured, it being designed to utilize wheels and spindles which rotate together.

Another object is to provide an axle of this type having anti-friction bearings therein for the spindle, the interior of the axle being dust proof and all of the parts being readily accessible for the purpose of making repairs or replacing any of the parts.

A further object is to provide an axle durable in construction and comparatively cheap to manufacture.

With these and other objects in view the invention consists in certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a perspective view of a portion of an axle embodying the present improvements. Fig. 2 is a central vertical longitudinal section through the parts shown in Fig. 1, the spindle being shown in elevation. Fig. 3 is a perspective view of the spindle.

Referring to the figures by characters of reference 1 designates a channel member constituting the body of the axle, the said member being rounded and enlarged transversely at each end as shown at 2, only one end portion of the axle being illustrated. A bearing block 3 is fitted in the middle portion of the channel member 1, and has a longitudinally extending bore 4 the ends of which are interiorly screw threaded as indicated at 5. This block is secured to the channel member 1 by means of U-bolts 6, the threaded ends of which engage plates 7 extending under the block 3 and retained on the U-bolts by nuts, in the usual manner. The bore 4 is intersected by another bore 8

in which is arranged a bearing tube 9, this tube extending entirely through the block 3 and also through the middle portion of the top of channel member 1 and being designed to receive the king bolt of the running gear.

The upper corner portions of the block 3 are cut away so as to form recesses 10, each of these recesses being designed to receive a tongue 11 formed at the inner ends of a casing block 12 which is mounted within the rounded and enlarged end portion 2 of the channel member 1. This casing block has a central longitudinally extending bore 13 opening into a larger bore or counter bore 14, and the outer end portion of the block 12 is exteriorly screw threaded as indicated at 15.

The outer extremity of the channel member 1 is extended partly around and over this screw threaded portion to constitute a guard or shield 16. A tube 17 is screwed into each of the threaded ends 5 of block 3 and each of these tubes is also threaded into the adjoining bore 13. Said tube 17 constitutes a bearing for a spindle 18 extending from a cylindrical head 19 located in the counter bore and is surrounded by a series of anti-friction rollers 20 or the like. An annular flange 21 is formed at the outer end of the head 19 and laps the outer end of the casing block 12, there being a tapered wheel engaging spindle 22 projecting from the outer end of the head. An interiorly screw threaded cap 23 is designed to be screwed onto the block 12 and to project between said block and the shield 16, the said cap being provided with a central opening 24 in the end thereof and through which the tapered spindle 22 extends. The cap, when in position, laps the flange 21 and thus holds the head 19 against longitudinal displacement. It is to be understood that a U-bolt 25 may be mounted on the enlarged end portion 2 of the channel member, said bolt engaging a plate 26 extending under the block 12 so as to secure said block in fixed relation to the channel member. An oil cup 27 is mounted on the enlarged portion of the channel member and opens into the counter bore 14.

In assembling the parts of the axle, the block 3 is secured in the middle portion of the channel member 1 as heretofore described and the casing blocks 12 are placed in the end portions of the channel member. The

tubes 17 are then interposed between the blocks 12 and the middle block 3 and placed with their ends in the bores of said blocks. The two ends of each tube are provided with right and left hand threads respectively so that, when the tube is rotated, it will screw into both of the bores and the block 12 engaged by each tube will thus be drawn longitudinally until its tongue 11 becomes seated in the recess 10. The said casing blocks are then secured by means of the U-bolts 25. The spindles 18 may then be inserted into the tubes 17 so as to bring the heads 19 into the counter bores 14 and, after the anti-friction devices 20 have been placed around the heads, the caps can be screwed onto the casing blocks and the parts thus held against displacement. By placing a lubricant within the cup 27, oil can be supplied automatically to the bearings without the necessity of disconnecting any of the parts of the axle.

It is to be understood of course that the threads on the various parts are to be so arranged as to tighten, rather than unscrew as the result of the rotation of the spindles.

It is of course to be understood that the tube 9 and bore 8 are to be dispensed with when the axle is used at the rear end of the vehicle.

Various changes can of course be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

1. An axle including a longitudinally channeled member, blocks secured within the ends and center portions of said member, a tubular connection between the blocks, and a spindle mounted for rotation within said connection and the blocks.
2. An axle consisting of a longitudinally channeled member, a centrally disposed block secured therein, casing blocks secured within the end portions of said member, each of said casing blocks having an integral portion projecting between the first mentioned block and the channeled member, tubular connections between the blocks, and spindles mounted for rotation within said blocks and connections.
3. An axle consisting of a longitudinally channeled member, a block secured in the middle portion of said member for the reception of a king bolt, casing blocks secured in the end portions of said member, each of said casing blocks having an integral portion for engaging the central block, tubular connections between the blocks, spindles mounted for rotation within the connections and blocks, and a retaining cap detachably engaging each of the casing blocks, said

channeled portions lapping the cap and constituting a shield therefor.

4. An axle including a longitudinally channeled member, a casing block detachably secured in one end thereof, an intermediate block secured within said member, a tongue integral with the casing block and engaging the intermediate block, a tubular connection between the two blocks, said blocks having bores, and a spindle mounted for rotation within the bores and connections.

5. An axle including a longitudinally channeled member, an intermediate block detachably secured therein, a casing block detachably secured in one end of said member and having an integral portion projecting between the said member and the intermediate block, a tubular connection between the blocks, a spindle mounted for rotation within said connection, a head thereon, mounted for rotation within the casing block, and separate cooperating means upon the head and block for holding the spindle and head against longitudinal displacement.

6. An axle including a longitudinally channeled member, an intermediate block detachably secured therein, a casing block detachably secured at one end of said member, said member projecting over the block and constituting a shield, a cap detachably engaging the casing block and projecting under the shield, a tubular connection between the blocks, a spindle mounted for rotation within said connection, and a head upon the spindle revolvably mounted within the casing block, said cap constituting means for holding the head against longitudinal displacement.

7. An axle including a longitudinally channeled member, an intermediate block detachably secured therein, a casing block secured in the end portion of said member and having an integral tongue engaging the intermediate block, there being a longitudinal bore within each of the blocks, a tubular member detachably mounted within said bores, there being a counter-bore within the casing block, a spindle mounted for rotation within the tubular member and having an integral head revolvably mounted within the counter bore, and cooperating means upon the head and the casing block for holding the head and spindle against longitudinal displacement.

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

CHARLES CRIESS.

Witnesses:

AMOS A. SEATON,
NELLE NEAL.