

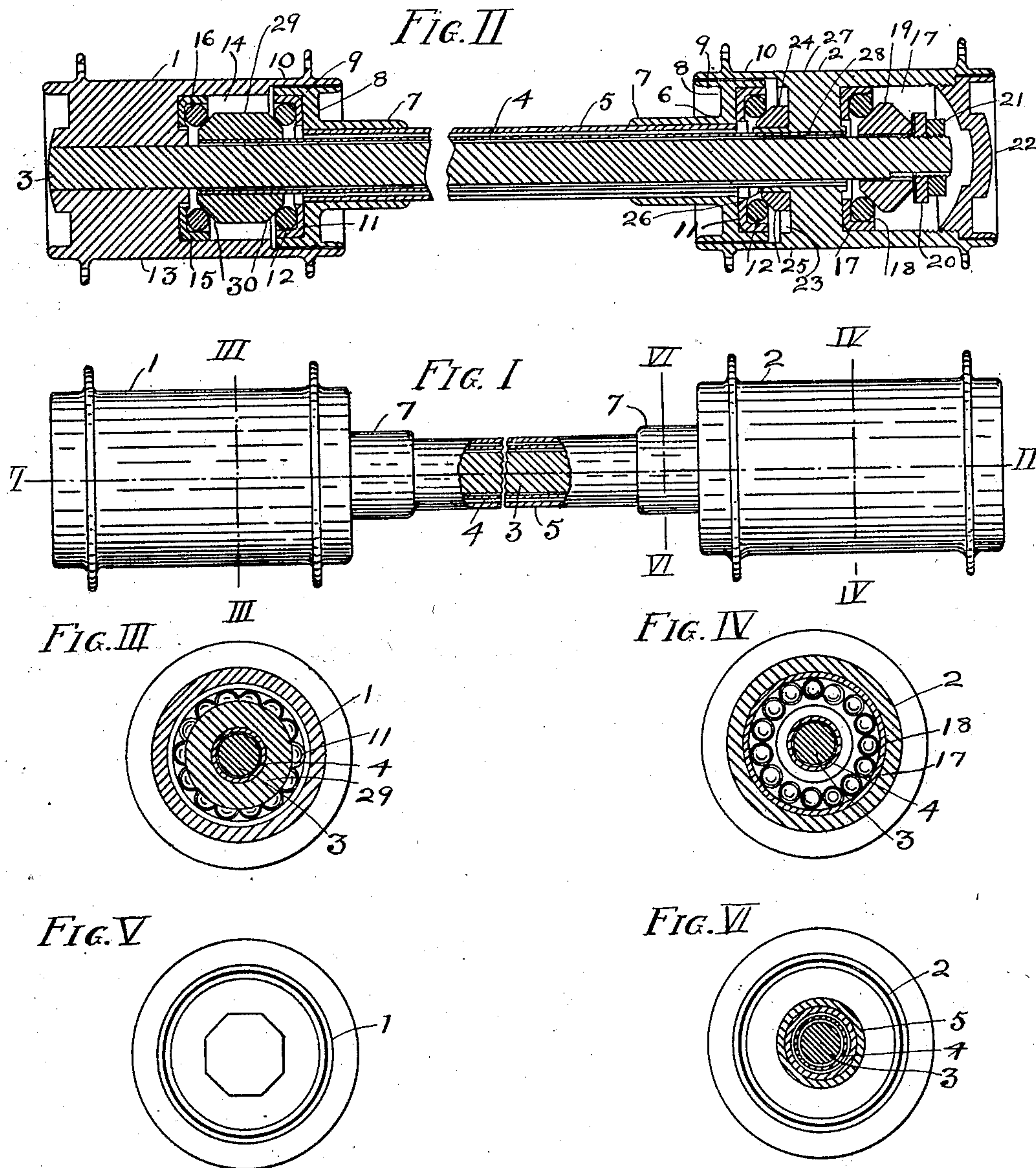
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P. B. MATHIASON.
VEHICLE AXLE AND BEARING.

(Application filed Aug. 3, 1900.)

(No Model.)



WITNESSES:
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VEHICLE AXLE AND BEARING.

SPECIFICATION forming part of Letters Patent No. 671,112, dated April 2, 1901.

Application filed August 3, 1900. Serial No. 25,804. (No model.)

To all whom it may concern:

Be it known that I, PETER B. MATHIASON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, (with post-office address at 432 South Grand avenue, in said city,) have invented certain new and useful Improvements in Vehicle Axles and Bearings, of which the following is a full, complete, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in vehicle-axles and the bearings between the wheels and axle; and my invention consists in certain features of novelty hereinafter described and claimed.

Figure I represents a detail front elevation of a pair of hubs and the connecting-axle, a portion being broken away to show the interior construction. Fig. II is a longitudinal section taken on line II II, Fig. I. Fig. III is a transverse section taken on line III III, Fig. I. Fig. IV is a transverse section taken on line IV IV, Fig. I. Fig. V is an end view. Fig. VI is a transverse section taken on line VI VI, Fig. I.

Referring to the drawings, 1 2 represent a pair of hubs.

3 represents the axle proper, which is surrounded by an inner sleeve 4, which in turn is surrounded by an outer sleeve 5. The outer sleeve 5 remains stationary and is provided at each of its ends with a boxing 6, consisting of a horizontal annular flange 7, which is fixed to the outer sleeve 5, a vertical annular flange 8, which limits the inward thrusts of the hubs, and with a horizontal flange 9, upon which parts 10 of the hubs 1 2 travel.

11 represents annular bearing-rings formed in an angle and which abut against the inner face of the parts 8 9 of the boxing, said rings forming a bearing for and limiting the inward movements of the ball-bearings 12.

The hub 1 is fixed to one end of the axle 3 by a solid portion 13 and is provided at its inner end with a cavity or chamber 14. At the inner end of the chamber 14 is an annular bearing-ring 15, with sides extending at right angles, against which ball-bearings 16 travel or have their bearing.

17 represents a chamber in the hub 2, hav-

ing a bearing-ring of the same construction as ring 15 to form an inner bearing for bearing-balls 18.

19 represents a double cone-shaped bearing-ring placed over the axle 3 within the chamber 17 of the hub 2, said ring bearing against the balls 18 on their outer face.

20 represents a jam-nut, and 21 a set-nut, on the free end of the axle 3 within the chamber 17 of the hub 2.

22 represents a screw-threaded cap for closing up the outer end of the chamber 17. The hub 2 is provided on its inner end with a chamber 23, in which is located an annular ring 24, having a beveled face 25, against which the inner faces of the bearing-balls 12 travel, said bearing-ring being loosely mounted on an annular flange 26 of the hub 2. The hub 2 is provided with a solid inner section 27, which is secured at 28 to the inner sleeve 4, said sleeve surrounding the axle 3, as above stated, and extending into the chamber 14 of the hub 1.

29 represents a bearing-ring loosely mounted on the free end of the inner sleeve 4 and is provided at each of its ends with beveled bearing-faces 30, against which bearing-balls 12 16 travel. It will thus be seen that by adjusting the nuts 20 21 at the free end of the axle 3 the bearings in both hubs are regulated and adjusted, one end of the inner sleeve 4 being free to move lengthwise within the chamber 14 of the hub 1, and one end of the axle 3 being free to move lengthwise within the chamber 17 of the hub 2.

I claim as my invention—

1. In a device of the kind described, the combination of a pair of hubs, a central axle to one end of which one of the hubs is secured, and a sleeve surrounding the axle to one end of which the opposite hub is secured, substantially as set forth.

2. In a device of the kind described, the combination of the hubs, an inner axle adapted to revolve and secured to one of the hubs, an inner sleeve adapted to revolve and secured to the opposite hub and an outer fixed sleeve surrounding the inner sleeve, substantially as set forth.

3. In a device of the kind described, the combination of a pair of hubs having interior chambers, a central axle secured to one of

said hubs and extending into the chamber of the opposite hub and a sleeve surrounding the axle having one of its ends secured to the opposite hub and its opposite end extending
5 into the chamber of the first-mentioned hub, substantially as set forth.

4. In a device of the kind described, the combination of a pair of hubs having internal chambers, a central axle fixed to one of
10 said hubs and having a free end extending into the chamber of the opposite hub, a bearing-ring on said free end, a sleeve secured at one of its ends to one of the hubs and having a free end adapted to extend into the cham-

ber of the opposite hub with a loosely-mount- 15 ed bearing-ring on said free end of the sleeve, substantially as set forth.

5. In a device of the kind described, the combination of the hubs, an inner axle, a sleeve adapted to revolve around said axle, 20 an outer fixed sleeve, a flanged boxing secured to the respective ends of the outer fixed sleeve and annular bearing-rings located within the boxing, substantially as set forth.

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Witnesses:

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