

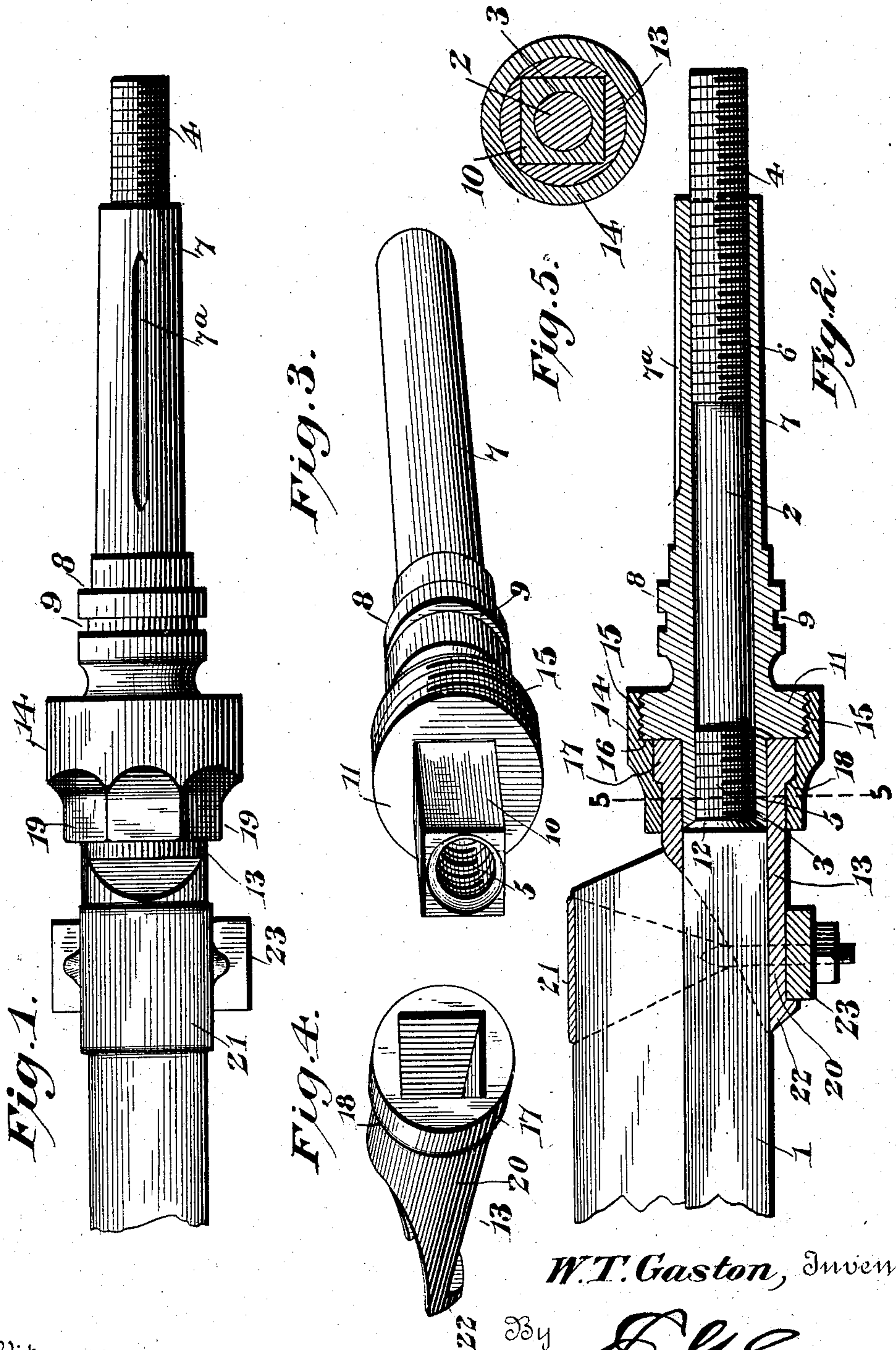
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PATENTED FEB. 2, 1904.

W. T. GASTON.
VEHICLE AXLE.

APPLICATION FILED APR. 28, 1903.

NO MODEL.



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WILBERT TULLER GASTON, OF HACKBERRY, OKLAHOMA TERRITORY.

VEHICLE-AXLE.

SPECIFICATION forming part of Letters Patent No. 751,278, dated February 2, 1904.

Application filed April 28, 1903. Serial No. 154,681. (No model.)

To all whom it may concern:

Be it known that I, WILBERT TULLER GASTON, a citizen of the United States, residing at Hackberry, in the county of Woodward and Territory of Oklahoma, have invented a new and useful Vehicle-Axle, of which the following is a specification.

The invention relates to improvements in vehicle-axles.

The object of the present invention is to improve the construction of vehicle-axles and to provide a simple and comparatively inexpensive one adapted when its bearing-surface has become worn to enable the same to be renewed with little expense and great convenience.

A further object of the invention is to provide a vehicle-axle having a removable thimble or skein and to provide a simple and efficient device adapted to securely hold the thimble or skein on the axle and capable of rendering the inner end of the axle-box dust-proof.

Another object of the invention is to provide a thimble or skein adapted to be readily screwed on or off the axle and capable of effectually resisting any tendency of the rotation of a vehicle-wheel to unscrew it accidentally.

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 claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a portion of a vehicle-axle constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail perspective view of the thimble or skein. Fig. 4 is a detail view of the sleeve. Fig. 5 is a transverse sectional view on the line 5 5 of Fig. 2.

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

1 designates an axle having a reduced outer portion 2, provided with inner and outer threaded portions 3 and 4, adapted to engage interior screw-threads 5 and 6 of a thimble or skein 7. The screw-threads are of the same diameter and pitch and those at each end of the axle will be disposed in a direction opposite to that of the rotation of the wheel, so that the wheel when rotating forwardly will not operate to unscrew the thimble or skein. The thimble or skein forms the bearing of the axle and takes the place of the ordinary spindle, the threaded outer end of the reduced portion of the axle being extended beyond the thimble or skein to receive an axle-nut. The thimble has an exterior configuration similar to that of a spindle and is provided with a longitudinal groove 7^a. The inner portion of the thimble is provided with an annular enlargement 8, adapted to fit into the inner end of an axle-box and provided with an annular groove 9.

The inner end of the thimble is provided with a squared portion 10, and it has an annular flange 11 at the inner end thereof. The squared portion 10 of the inner end of the thimble is of the same diameter as the body portion of the axle, and when the parts are assembled the faces of the squared portion are arranged flush with the adjacent faces of the body portion of the axle. The shoulder formed by reducing the axle is preferably beveled, as shown at 12, and the adjacent end of the thimble is flared to fit the shoulder 12.

After the thimble is screwed on the reduced portion of the axle, with its exterior faces at its inner end flush with those of the body portion of the axle, a sleeve 13, which has been previously placed on the body portion of the axle, is moved outward against the annular flange 11 to embrace or surround the squared portion 10 and the adjacent portion of the body of the axle, whereby the thimble is interlocked with the body portion of the axle and is held against rotation. The sleeve 13,

which is provided with a square opening to conform to the configuration of the axle and the squared portion of the thimble, has a round exterior and is adapted to receive a collar 14 for engaging the flange 11. The flange 11 is provided with exterior screw-threads 15, and the collar 14, which is provided with interior screw-threads to engage those of the collar, has a shoulder 16 for engaging the flange 11. The sleeve 13 is provided between its ends with an annular shoulder 17, and the collar is provided with an approximately centrally arranged shoulder 18 for engaging that of the sleeve, whereby the latter is held firmly against the flange 11. The screw-threads of the flange 11 and the collar 14 are the reverse of those of the axle in order to prevent the forward rotation of the adjacent wheel from affecting the collar. The collar is provided with an exterior polygonal wrench-receiving portion 19, and the squared portion 10 of the thimble is also adapted to receive a wrench for enabling the thimble to be readily removed when desired. The flange 11 and the collar 14 form a shoulder to receive the inner end of the axle-box, which is closed by the flange and the collar to form a dust-tight joint.

When the thimble becomes worn, it may be readily removed and a new thimble may be applied to the axle at a very small cost, and the present device obviates the necessity and inconvenience of welding a new spindle to the body portion of the axle. Also the sleeve and the collar reinforce the axle and the skein and provide a construction substantially as strong as a solid spindle. The sleeve 13 is provided with an extension 20, arranged at the bottom of the axle and projecting inward on the same a sufficient distance to be engaged by the adjacent axle-clip 21. The bottom extension is provided with a depending projection 22, forming a shoulder for engaging the clip-plate 23 of the axle-clip, whereby the sleeve is interlocked with the latter. The extension 20 is interposed between the clip-plate and the lower face of the axle and is firmly clamped against the latter by the nose of the axle-clip. The shoulder formed by the projection is located at and engages the inner edge of the clip-plate.

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

1. A device of the class described comprising an axle having threads, a thimble threaded to receive the axle, a sleeve detachably interlocked with the thimble at one end and with the axle at the other end, whereby the former is held against rotation on the latter, and means for detachably connecting the thimble and the sleeve, substantially as described.

2. A device of the class described comprising

an axle provided with screw-threads, an interiorly-threaded thimble arranged on the axle, said axle and thimble being provided with contiguous polygonal portions, and a sleeve conforming to the configuration of the polygonal portions of the spindle and the axle and holding the former against rotation on the latter, substantially as described.

3. A device of the class described comprising an axle having screw-threads, a thimble interiorly threaded to receive the axle and provided with exterior screw-threads, a sleeve interlocked with the axle and the thimble to hold the latter against rotation on the former, and a collar engaging the sleeve and the screw-threads of the thimble, substantially as described.

4. A device of the class described comprising an axle provided with screw-threads and having a polygonal portion, a skein having a corresponding polygonal portion and provided with interior and exterior screw-threads and engaging those of the axle, a sleeve having a polygonal opening to receive the polygonal portions of the axle and the skein, said sleeve having an annular exterior, and a collar provided with an annular opening to receive the sleeve and interiorly threaded to engage the exterior threads of the thimble, substantially as described.

5. A device of the class described comprising an axle having a reduced threaded portion, a thimble arranged on the threaded portion of the axle and provided with an exterior annular flange having screw-threads, a sleeve interlocked with the axle and the thimble and having an annular exterior and provided with a shoulder, and a collar engaging the shoulder of the sleeve and provided with screw-threads engaging those of the flange of the thimble, substantially as described.

6. A device of the class described comprising an axle having inner and outer screw-threads, a thimble having inner and outer threads to engage those of the axle and terminating short of the end thereof, said thimble being provided at its inner end with a polygonal portion and having an exteriorly-threaded flange, a sleeve engaging the axle and the polygonal portion of the thimble, and a collar arranged on and engaging the sleeve and interiorly threaded to receive the flange of the thimble, substantially as described.

7. In a device of the class described, the combination with an axle, and an axle-clip, of a sleeve arranged on the axle and engaged by the axle-clip, a thimble receiving the axle, and means for securing the thimble to the sleeve, substantially as described.

8. In a device of the class described, the combination with an axle, and an axle-clip, of a sleeve provided with an extension interposed between the axle-clip and the axle and engaged

by the former and provided at the inner side of the same with a projecting shoulder, whereby it is interlocked with the clip, a thimble arranged on the axle, and means for securing the thimble and the sleeve together, substantially as described.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

WILBERT TULLER GASTON.

Witnesses:

E. O. McCANN,
JOHN W. GASTON.