(No Model.)

J. J. DEVINE.

AXLE FOR VEHICLES.

No. 297,973. Patented May 6, 1884.

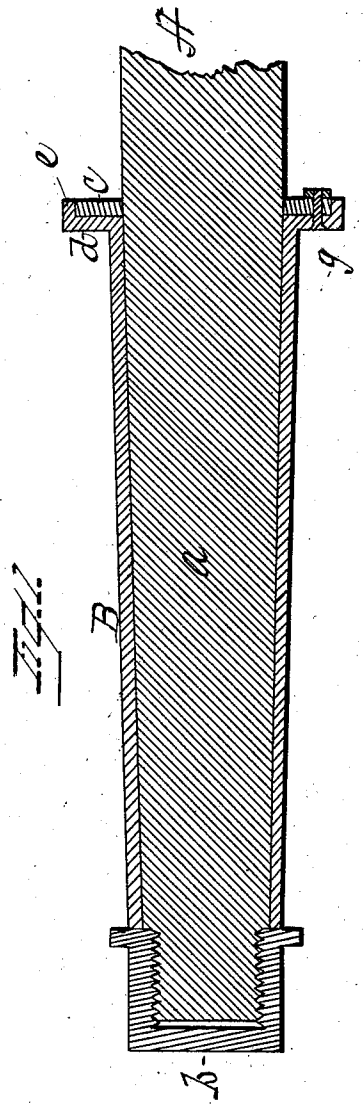


Fig. 1.

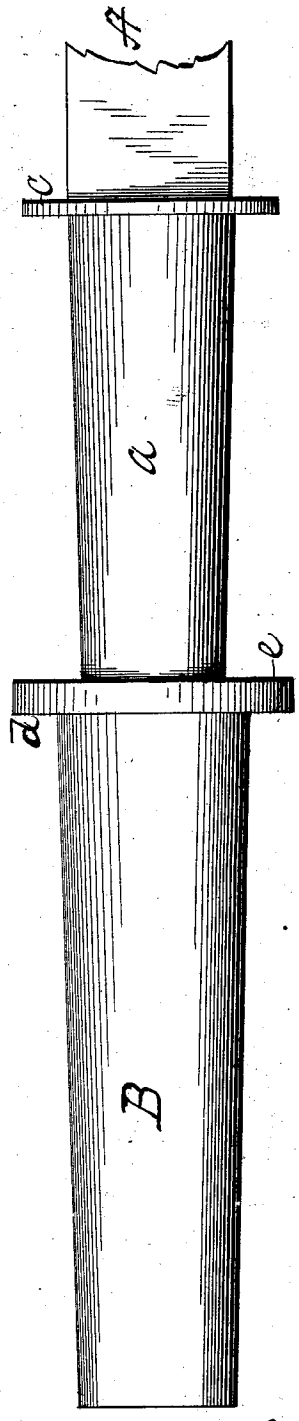


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES J. DEVINE, OF PLYMOUTH MEETING, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO THOMAS LYNCH, OF SAME PLACE.

AXLE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 297,973, dated May 6, 1884.

Application filed October 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. DEVINE, a citizen of the United States of America, residing at Plymouth Meeting, in the county of Montgomery, in the State of Pennsylvania, have invented a new and useful Carriage-Axle, of which the following is a specification.

My invention relates to improvements in carriage or vehicle axles; and the object is to provide for the wheel a removable wearing-surface, which can be readily adapted to the purpose intended and removed and replaced by another whenever necessary.

My improvements consist in the novel construction and combination of parts, as will be hereinafter more fully set forth, and specifically pointed out in the claim.

My improvements are fully illustrated in the accompanying drawings, wherein Figure 1 is a view of a section of an axle with the collar and end bar, and Fig. 2 is a view of the sleeve with shoulder and wall fitting the collar on the axle.

The letter A represents the axle, having an extended core, *a*, which may be formed straight or tapering, and provided with a burr, *b*, on the end for the purpose of retaining the wheel. On the axle, at the inner end of the core, is formed the collar *c*, of proper dimensions to fit the shoulder of the sleeve, as hereinafter stated. This collar or ring is perforated in the under side to receive a bolt.

The letter B represents the sleeve or bearing, registering in length with the length of the core of the axle, and formed with a shoulder, *d*, and extending wall *e*. This shoulder *d* corresponds in height to the height of the annulus or ring on the axle, and the extended wall *e* in length corresponds to the width of the ring. The shoulder of the sleeve has a countersunk perforation, which registers with the perforation in the collar or ring on the axle, and when fitted in place a bolt, *g*, is passed through the two and secured by a nut or rivet. The sleeve is formed slightly smaller than the core of the axle, in order that it may be heated and shrunk on the axle and adjusted in place. The bolt is then put through the shoulder and collar and holds the parts firmly together. When the sleeve is worn out, its removal is readily effected, and a new one in its place makes that part of the vehicle as good as new.

It is essential to the general application of my improved sleeve that the core of the axle fit the bore of the sleeve, as stated.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination, the axle A, formed with the extended core *a* and ring or collar *c*, and provided with a burr, *b*, the metal sleeve B, fitted to the core of the axle, and formed with the shoulder *d* and wall *e*, and the retaining-bolt *g*, substantially as and for the purpose set forth.

Signed at the place aforesaid, in the presence of two attesting witnesses, this 27th day of October, A. D. 1883.

JAMES J. DEVINE.

Attest:

WM. HAYWOOD,

THOMAS LYNCH.