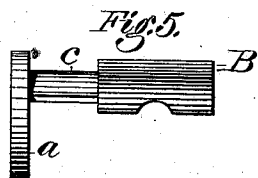
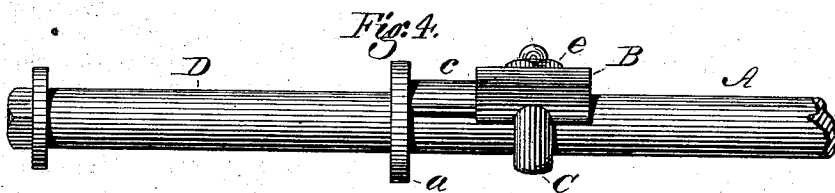
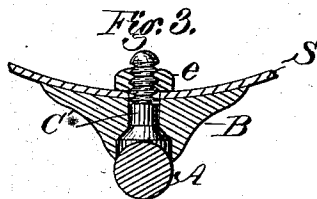
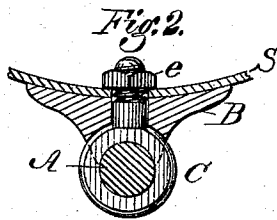
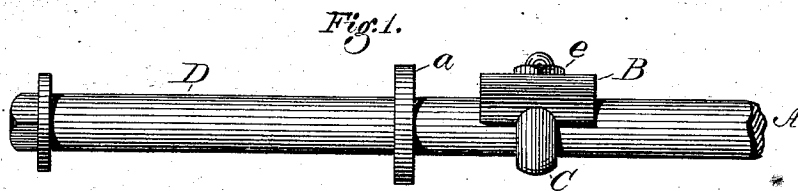


H. W. WARNER.
Axles for Children's Carriages.

No. 158,815.

Patented Jan. 19, 1875.



Witnesses:
Will. H. Dodge
Wm. Goughborough

Inventor:
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UNITED STATES PATENT OFFICE.

HENRY W. WARNER, OF GREENFIELD, MASSACHUSETTS.

IMPROVEMENT IN AXLES FOR CHILDREN'S CARRIAGES.

Specification forming part of Letters Patent No. **158,815**, dated January 19, 1875; application filed December 11, 1874.

To all whom it may concern:

Be it known that I, HENRY W. WARNER, of Greenfield, in the county of Franklin and State of Massachusetts, have invented certain Improvements in Axles for Children's Carriages, of which the following is a specification:

My invention relates to the axles of children's carriages; and the invention consists in making the axle of a round rod of metal, and securing the seat-block for the spring to the axle by an eyebolt, or equivalent means, so as to dispense with the forming of shoulders on the axle, and also avoid the necessity of making holes through the axle, as herein-after more fully described.

Figure 1 is a side elevation, and Fig. 2 is a cross-section, of a portion of an axle embodying my invention. Figs. 3, 4, and 5 represent modifications of the same.

Formerly, axles for children's carriages were made of flat or rectangular bars, but laterally they have been made of round rods having shoulders formed thereon by upsetting and swaging the metal, or by making the shoulders separate and fastening them on the axle; but in all such cases holes were made through the axle and the shoulders to receive bolts for fastening the springs to the axle. It was this weakening of the axle by these holes that necessitated the forming of shoulders at those points.

In constructing my improved axle, I take a round rod of metal, A, of the proper size, and provide an eyebolt, C, as represented in Figs. 1, 2, and 4, with an eye of such a size as to permit the axle-rod to pass through it. I provide a small metallic seat-block, B, upon which the spring S is to rest, as shown in Fig. 3, the under side of this block B being fitted to rest on the axle, and having a hole for the stem of the eyebolt C to pass through, as shown in Figs. 2 and 3. It will thus be seen that after slipping the eyebolt on the axle the seat-block B is slipped on the stem of the bolt, the spring S set thereon, and a nut, e, screwed on the stem of the bolt C, which fastens the whole securely together. Thus I avoid the making of holes through the axle, and also the forming of shoulders or enlargements on the axle, thereby greatly simplifying and

cheapening the construction. Instead of using the eyebolt C, a bolt, C', without any eye may be used, as represented in Fig. 3, in which case the seat-block will be countersunk, so as to let the head of the bolt fit therein, as shown, and then the seat-block, with the bolt in it, is to be soldered or brazed fast to the axle, whereby the same result is accomplished; or the bolt C' may be placed in the mold and the seat-block B be cast thereon, and then the latter be soldered or brazed to the axle, as above described. I, however, prefer to use the eyebolt, as it is simpler and stronger. A collar, a, is shrunk or otherwise fastened on the axle at the inner end of the spindle D, for the hub of the wheel to bear against, and a nut applied at its outer end, in the usual manner. If preferred, however, the collar a and the seat-block B may be cast in one piece, they being connected by a small strip, c, as shown in Figs. 4 and 5, the latter representing the piece detached, and the former showing it applied to the axle. The collar a may be cast directly on the side of the block B without the connecting part c; but it is customary to make the body of the carriage somewhat narrower than the space between the wheels, to prevent it from hitting the latter, and to give a neater appearance, and hence the use of the strip c, whereby, when made in this way, the seat-block is thrown inward, away from the wheel, the proper distance.

Although I have shown but one end of the axle, it will, of course, be understood that the opposite end is made in the same way, it being a duplicate, and, therefore, not necessary to be shown. It is obvious that my improvement may be applied to other carriages, though it is specially designed for children's carriages.

Having thus described my invention, what I claim is—

The axle for children's carriages, consisting of the rod A and the seat-blocks B, secured thereon, whereby the blocks are secured to the axle without making holes through the latter, substantially as set forth.

HENRY W. WARNER.

Witnesses:

J. H. SANDERSON,
HENRY H. WELLS.