

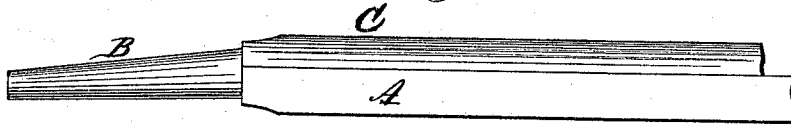
M. CHAPIN.

Improvement in Axles for Vehicles.

No. 128,852.

Patented July 9, 1872.

*Fig. 1.*



*Fig. 2.*



*Witnesses*

*John A. Ellis.*  
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*Marvin Chapin*  
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## UNITED STATES PATENT OFFICE.

MARVIN CHAPIN, OF ERIE, PENNSYLVANIA.

## IMPROVEMENT IN AXLES FOR VEHICLES.

Specification forming part of Letters Patent No. 128,852, dated July 9, 1872.

## SPECIFICATION.

*To all whom it may concern:*

Be it known that I, MARVIN CHAPIN, of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Carriage and Wagon Axles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of an axle for vehicles, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 represents a side elevation, and Fig. 2 is a cross-section, of my axle.

A represents the main body of the axle, formed with a spindle, B, on each end. The axle A is made in such a manner that its cross-section resembles an X, the concave portions

being on the upper and lower sides of the axle, and the front and back perpendicular. The wooden axle C is then fastened on the top of the metal axle in the usual manner.

I am aware that metal axles have been made concave on the upper side and the wooden axle placed in said concave; but by making the metal axle concave on both the upper and lower sides the amount of metal is reduced, lessening the weight without in any way impairing its strength.

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

An axle for vehicles, when constructed as set forth—that is to say, a solid piece or bar of metal fluted above and beneath its center, and having parallel sides, as described, and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

MARVIN CHAPIN.

Witnesses:

A. J. FOSTER,  
J. I. MILLER.