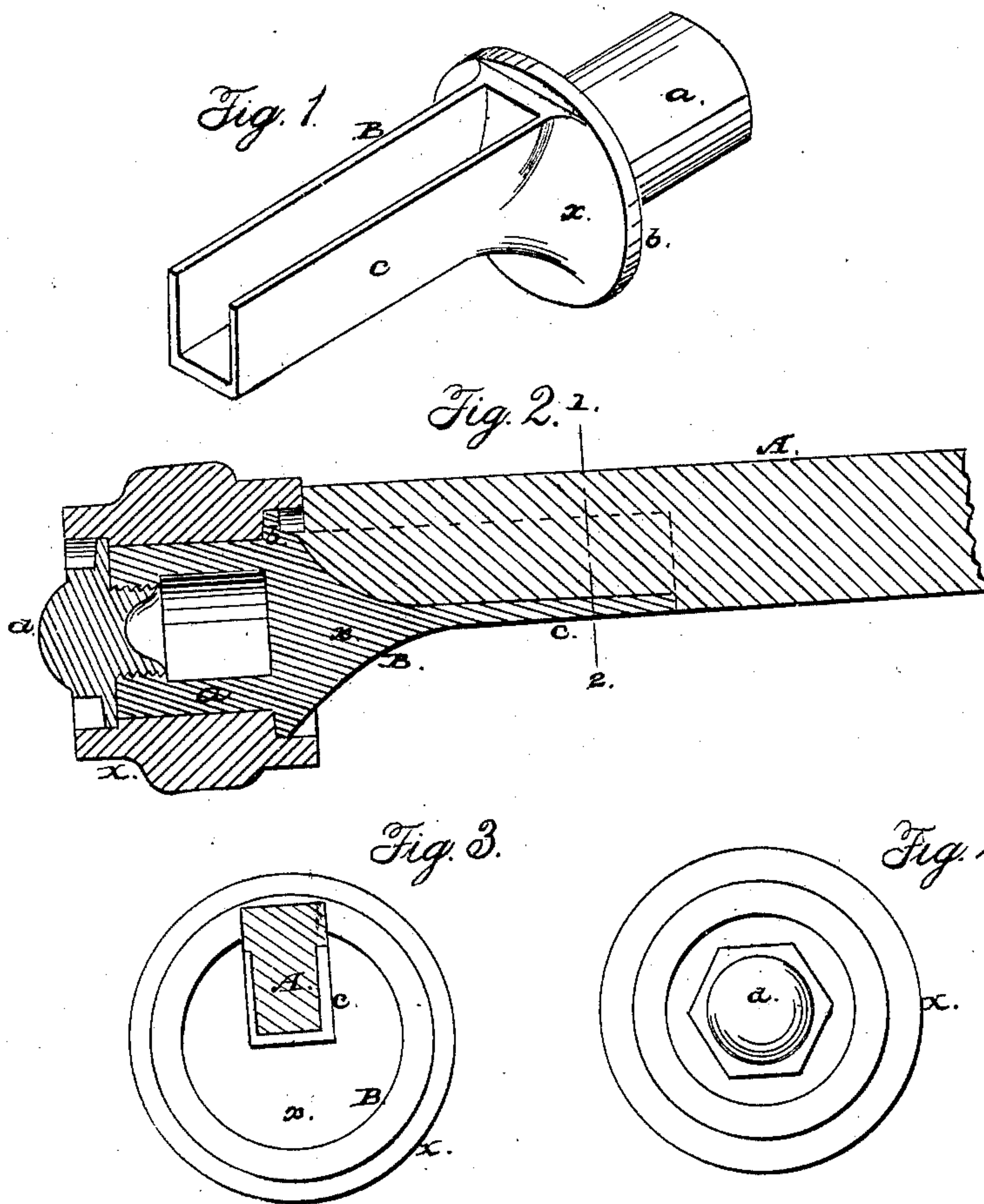


J. B. WILSON.

Axle.

Patented Sept. 24, 1867.

No. 69,147.



Witnesses:
Wm Albert Steel
S K Hoxie Godwin

Inventor:
J B Wilson
By his attorney
H H Cowan

United States Patent Office.

JOSEPH B. WILSON, OF MAY'S LANDING, NEW JERSEY, ASSIGNOR TO
ELEANOR WILSON AND ALLEN T. WILSON, OF THE SAME PLACE.

Letters Patent No. 69,147, dated September 24, 1867.

IMPROVEMENT IN AXLES FOR VEHICLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. B. WILSON, of May's Landing, county of Atlantic, State of New Jersey, have invented an Improvement in Axles for Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the same.

My improved axle consists of a central wooden shaft having metallic ends, constructed for attachment to the shaft and for the reception of the hubs of the wheels, as fully described hereafter, the said axle being elastic, strong, light, and readily made, and repaired at a much less expense than is required to construct or repair the ordinary iron axles.

In order to enable others skilled in the art to make and apply my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a perspective view of part of my improved axle for vehicles.

Figure 2, a longitudinal section, showing part of the axle and the hub of a wheel.

Figure 3, a section on the line 1 2, fig. 1; and

Figure 4, an end view.

A is a portion of the central wooden shaft, and B is one of the metallic end, of the axle, each of the said ends consisting of the journal *a*, collar *b*, and projection or arm *c*, the latter being recessed for the reception of the end of the shaft, which is secured in its place by bolts or clips. The journal *a* is hollow, and is larger in diameter than the journals of axles of the same class made in the ordinary manner, and into the end of the journal screws a cap, *d*, which, in connection with the collar *b*, serves to retain the hub X of the wheel in its position. The arm *c* projects from the upper side of the collar *b*, its upper edge being level with the upper edge of the journal, while the strength of the arm at the point where it joins the collar is increased by a mass, *x*, of metal of the shape shown in the drawing. Inasmuch as the journal *a* is hollow, it is stronger than solid journals containing the same amount of metal, while the increase in the size of the journal gives greater steadiness to the wheel. The arm *c*, with its recess for the reception of the end of the shaft A, is strong, light, and may be easily and securely fastened to the shaft, while, owing to the situation of the arm (near the upper edge of the collar) and the strength imparted by the increased thickness of the metal at the point *x*, the breaking of the axle at this point is rendered almost impossible.

An axle consisting of a central wooden shaft with metallic ends, connected as above described, is light, sufficiently elastic to absorb the slight shocks imparted to it, and may be made and repaired with much less labor and at a much less expense than is required to construct or repair the ordinary metal axles.

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

1. An axle consisting of a central wooden shaft, A, and metal ends B B, having hollow arms *c*, constructed for the reception of the ends of the said shaft, substantially as described.

2. The metal end B, consisting of a hollow journal, *a*, collar *b*, and an arm, *c*, when the said parts are constructed and arranged in respect to each other, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOS. B. WILSON.

Witnesses:

CHARLES E. FOSTER,

W. J. R. DELANY.