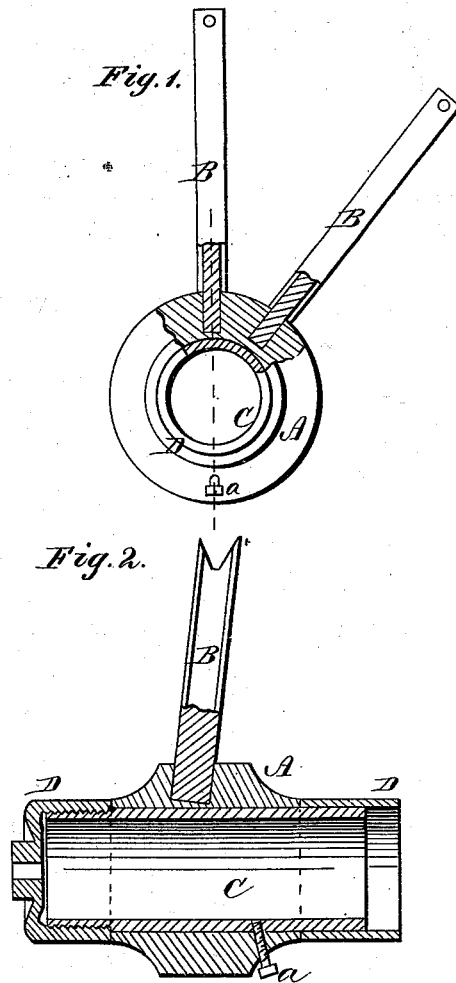


E. BALL.  
Vehicle-Hub.

No. 168,210.

Patented Sept. 28, 1875.



WITNESSES

*Henry N. Miller*  
*C. L. Ewert.*

INVENTOR

*Ephraim Ball,*  
*per* *Alexander Mason*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

EPHRAIM BALL, OF CLARKSVILLE, TENNESSEE, ASSIGNOR TO THE CLARKSVILLE IRON WAGON MANUFACTURING COMPANY, OF SAME PLACE.

## IMPROVEMENT IN VEHICLE-HUBS.

Specification forming part of Letters Patent No. 168,210, dated September 23, 1875; application filed March 6, 1875.

### CASE A.

*To all whom it may concern:*

Be it known that I, EPHRAIM BALL, of Clarksville, in the county of Montgomery and in the State of Tennessee, have invented certain new and useful Improvements in Wheels for Vehicles; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction of a metallic hub for wheels 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 is an end view of my hub, partly in transverse section. Fig. 2 is a longitudinal section of the same.

A represents the hub, and B the spokes. The spokes are made of wrought-iron or steel, and laid in the mold, so as to be cast solid in

the hub A. Through the hub is passed a pipe-box, C, and held therein by means of a set-screw, *a*. This pipe-box projects beyond both ends of the hub sufficiently far to receive a wrought-iron band, D, at each end.

These wrought-iron bands may be either shrunk on the pipe-box or screwed on.

In Fig. 2 I have shown the front band screwed on, and the back band shrunk on; but either mode may be used, as may be deemed of most advantage.

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

The combination of the hub A, box C, with wrought-iron bands D D, and the metallic spokes B, cast solid in the hub, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of January, 1875.

EPHRAIM BALL.

Witnesses:

A. HOWELL,  
G. L. ALLEY.