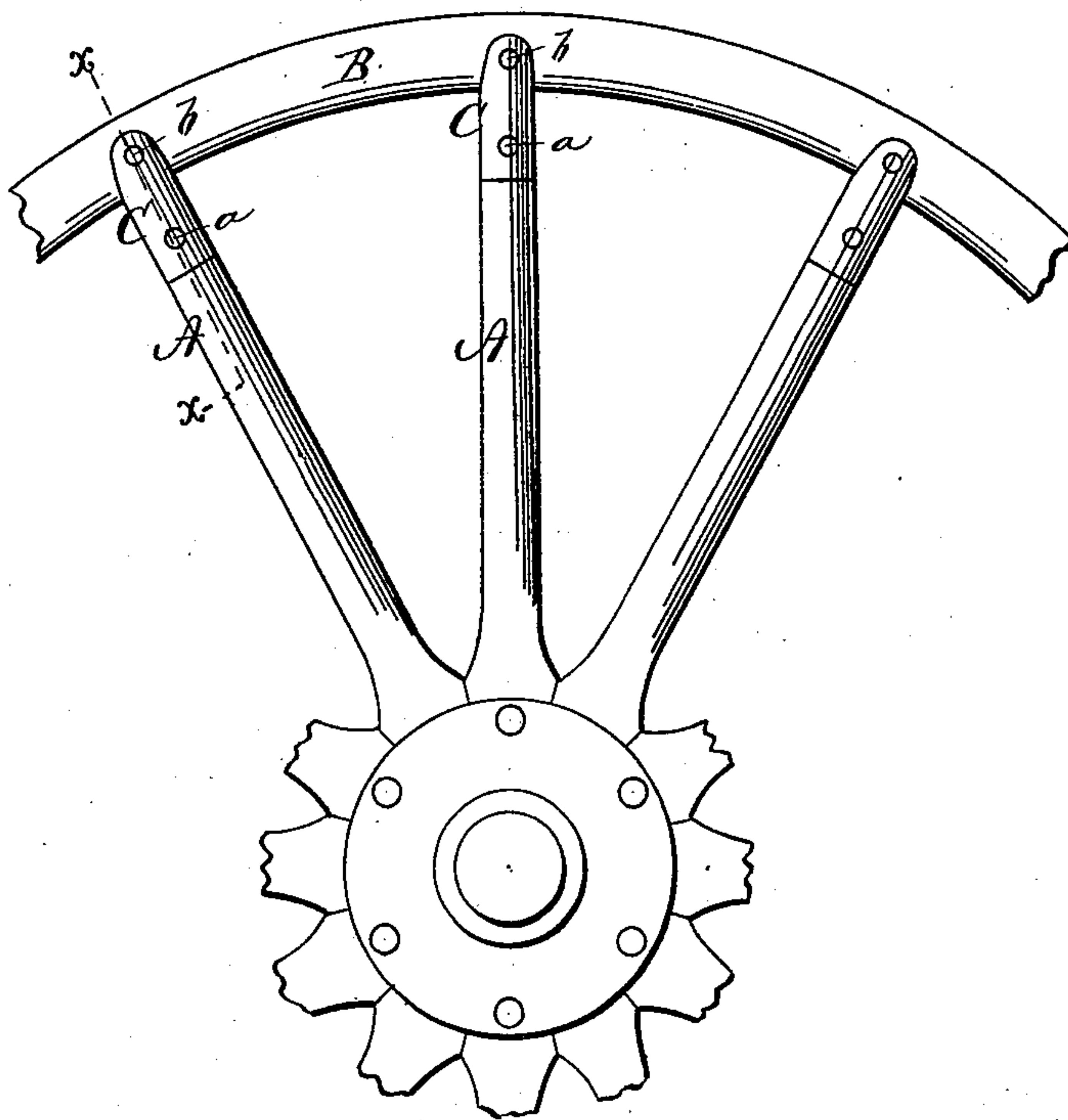


E. BALL.  
Vehicle-Wheel.

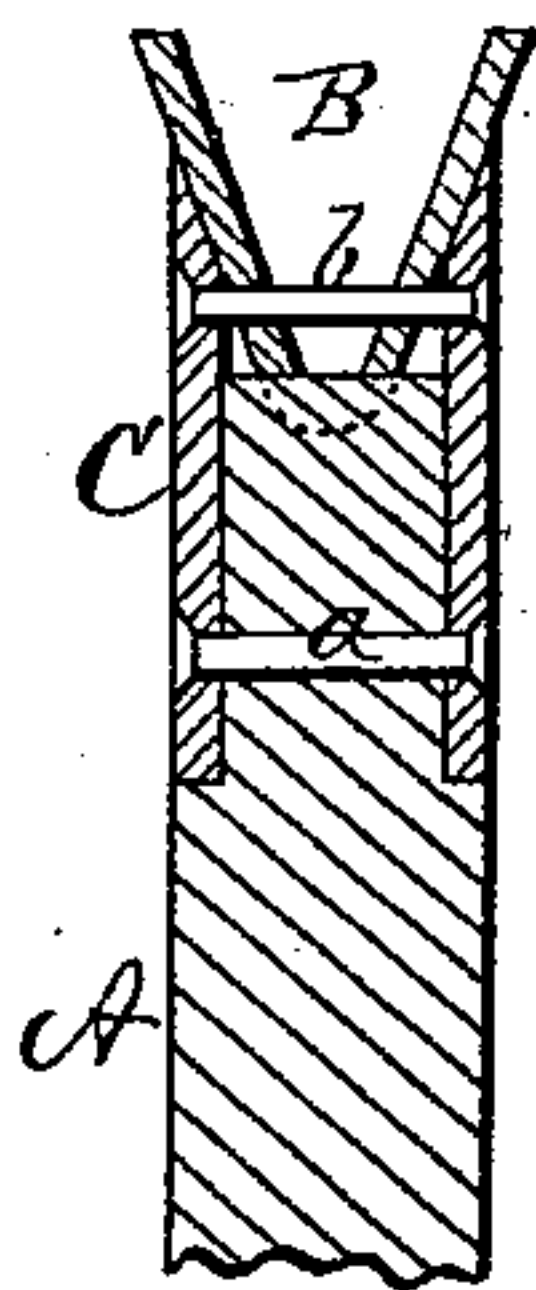
No. 167,971.

Patented Sept. 21, 1875

*Fig. 1.*



*Fig. 2.*



WITNESSES

Henry N. Miller  
C. L. Evers

INVENTOR

Ephraim Ball  
per Abrahamson & Mator

Attorneys

# UNITED STATES PATENT OFFICE.

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

## IMPROVEMENT IN VEHICLE-WHEELS.

Specification forming part of Letters Patent No. **167,971**, dated September 21, 1875; application filed  
March 6, 1875.

### CASE B.

*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 combination of a wooden spoke, metallic felly, and a socket or ferrule for uniting the same together, 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 a side view of a part of a wheel embodying my invention. Fig. 2 is a section through the line *x x*, Fig. 1.

A A represent wooden spokes, of any suit-

able shape or form, and B is the metallic felly, constructed substantially in the V-shaped form shown. On the end of each spoke A is placed a metallic socket or ferrule, C, which is firmly riveted thereto, as shown at *a*. The outer end of the socket or ferrule C is formed so as to fit over and grasp the ferrule B, to which it is then firmly riveted, as shown at *b*, thus uniting the wooden spokes and metallic felly.

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

The combination of a wooden spoke, A, metallic felly B, and a metallic socket or ferrule, C, placed upon and riveted to the end of the spoke, and its outer end fitting over and riveted to the felly, 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.