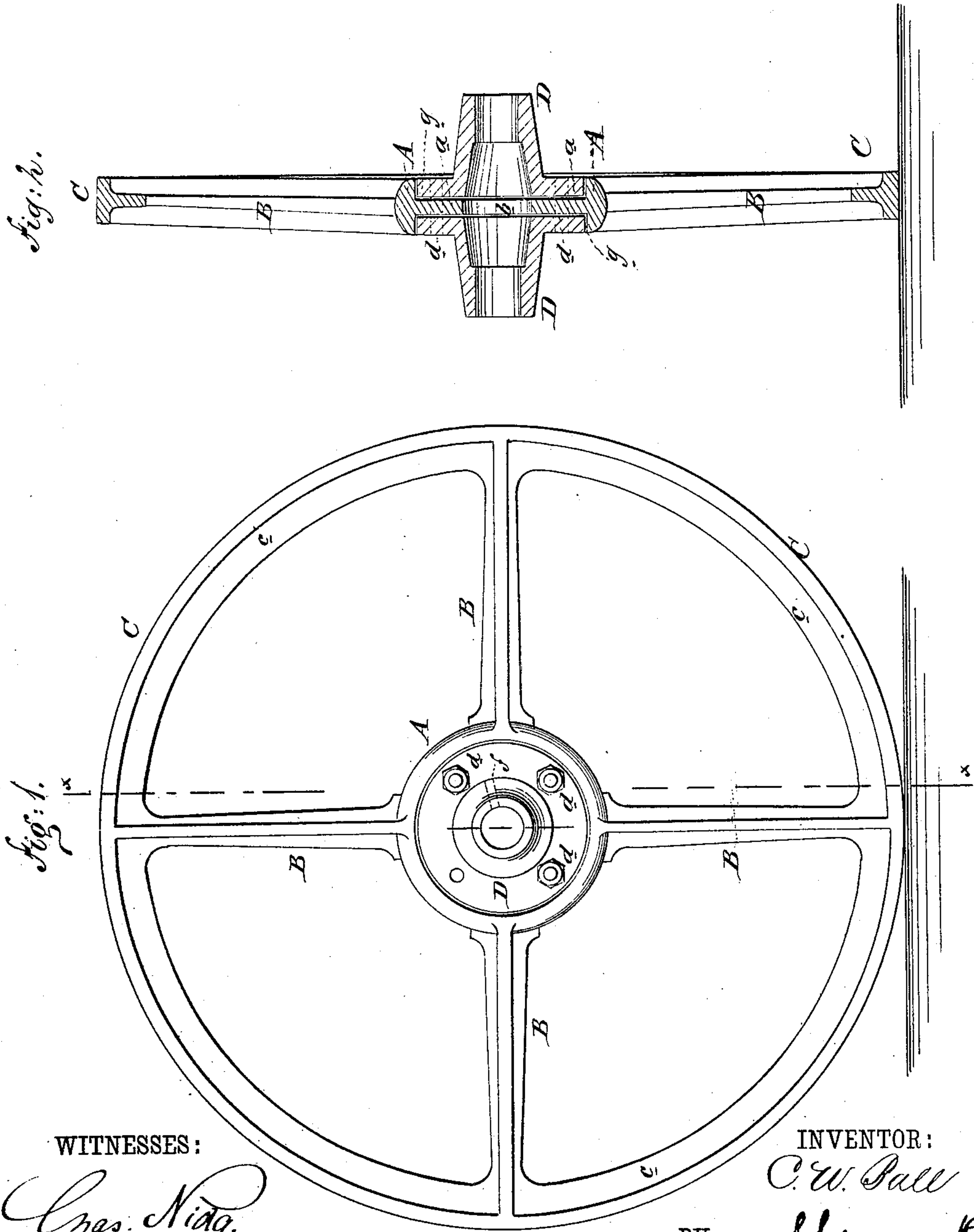


C. W. BALL.  
Vehicle Wheel.

No. 230,990.

Patented Aug. 10, 1880.



WITNESSES:

*Chas. Nidaq.*  
*C. Sedgwick*

INVENTOR:

*C. W. Ball*

BY

*Munn & Co*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES W. BALL, OF MACON, ILLINOIS.

## VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 230,990, dated August 10, 1880.

Application filed January 8, 1880.

*To all whom it may concern:*

Be it known that I, CHARLES W. BALL, of Macon, in the county of Macon and State of Illinois, have invented a new and Improved Vehicle-Wheel, of which the following is a specification.

Figure 1 is a front elevation of the wheel. Fig. 2 is a vertical sectional elevation of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to construct a light, durable, and easily-adjusted vehicle-wheel cast from steel or other metal with hub, spokes, and felly all in one piece.

In the drawings, A represents the wheel-hub, provided with an inner web, *a*, through which is the bore *b*. B B are the spokes, of which there may be any required number, and C is the felly, strengthened by the inner flange, *c*. All these parts are cast in one piece from any metal, but preferably from steel.

The end boxes, D D, are set within the sockets or recesses *g g* of the hub A, against the web *a*, and are bolted or riveted thereto by bolts or rivets *d d*. The bores of these end

boxes, D D, are enlarged inwardly, and an oil-hole, *f*, communicates therewith for the convenience of oiling the axle or spindle, and the said bores are smaller than the opening in the web *a*, in order that the said end boxes may take all the wear of the axle or spindle.

By having the end boxes separate from the hub, and the opening or bore in the hub-web sufficiently large, end boxes to fit any sized axles or spindles may readily be united to the wheel, thus saving much trouble and labor in fitting and repairing wheels and their hubs.

I am aware that the web of a car-wheel has been clamped between the two sections of its hub; but

What I claim as new and of my invention is—

A casting for wheels, consisting of the ring or hub A, having web *a* and recesses *g g*, the spokes B, and the continuous felly C, the webbed ring or hub being adapted to receive flanged spindle-boxes, as shown and described.

CHARLES WESLEY BALL.

Witnesses:

THOMAS DAVIS,  
J. D. HEMPHILL.