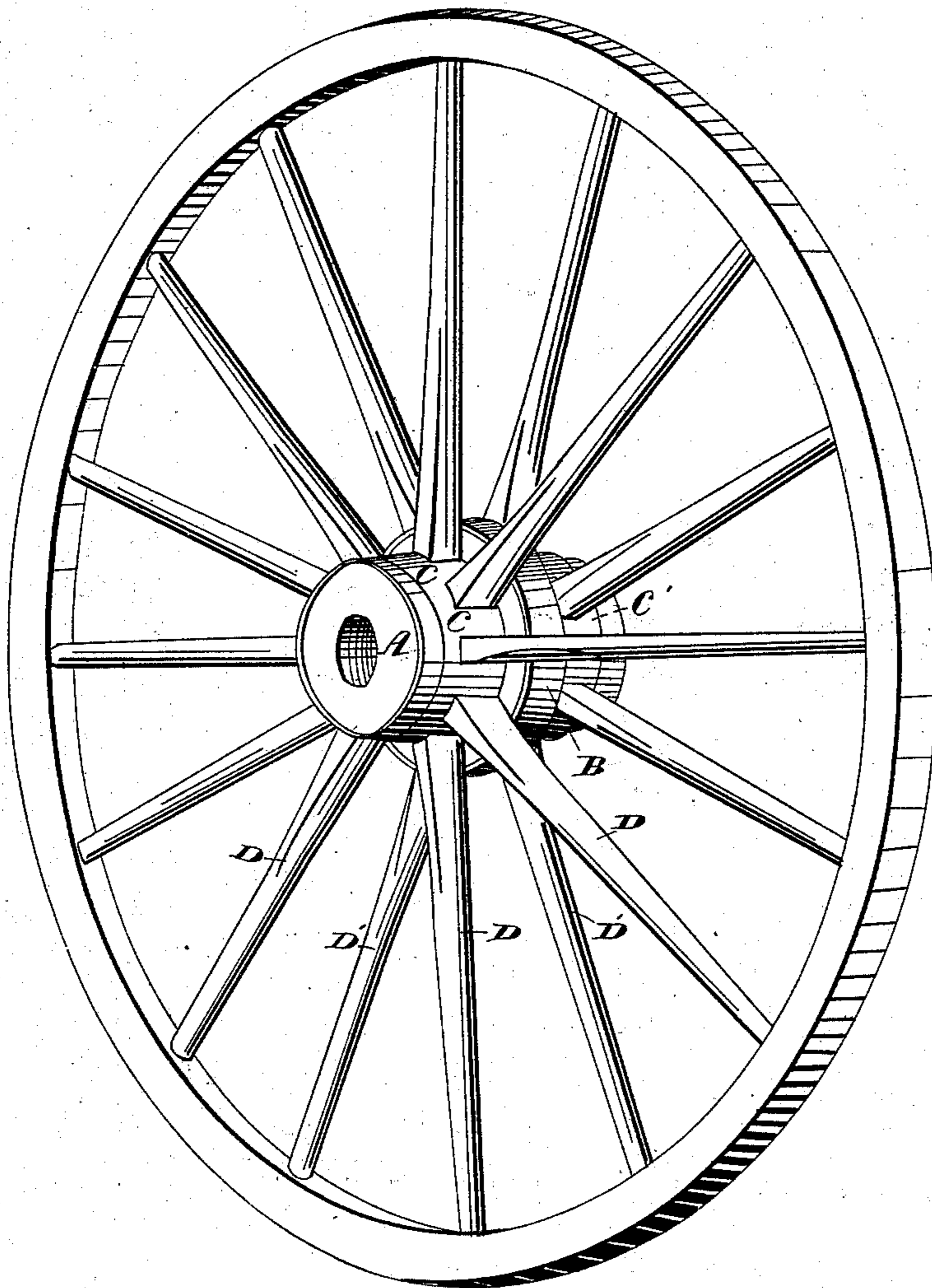


J. CARLIN.  
Carriage-Wheel.

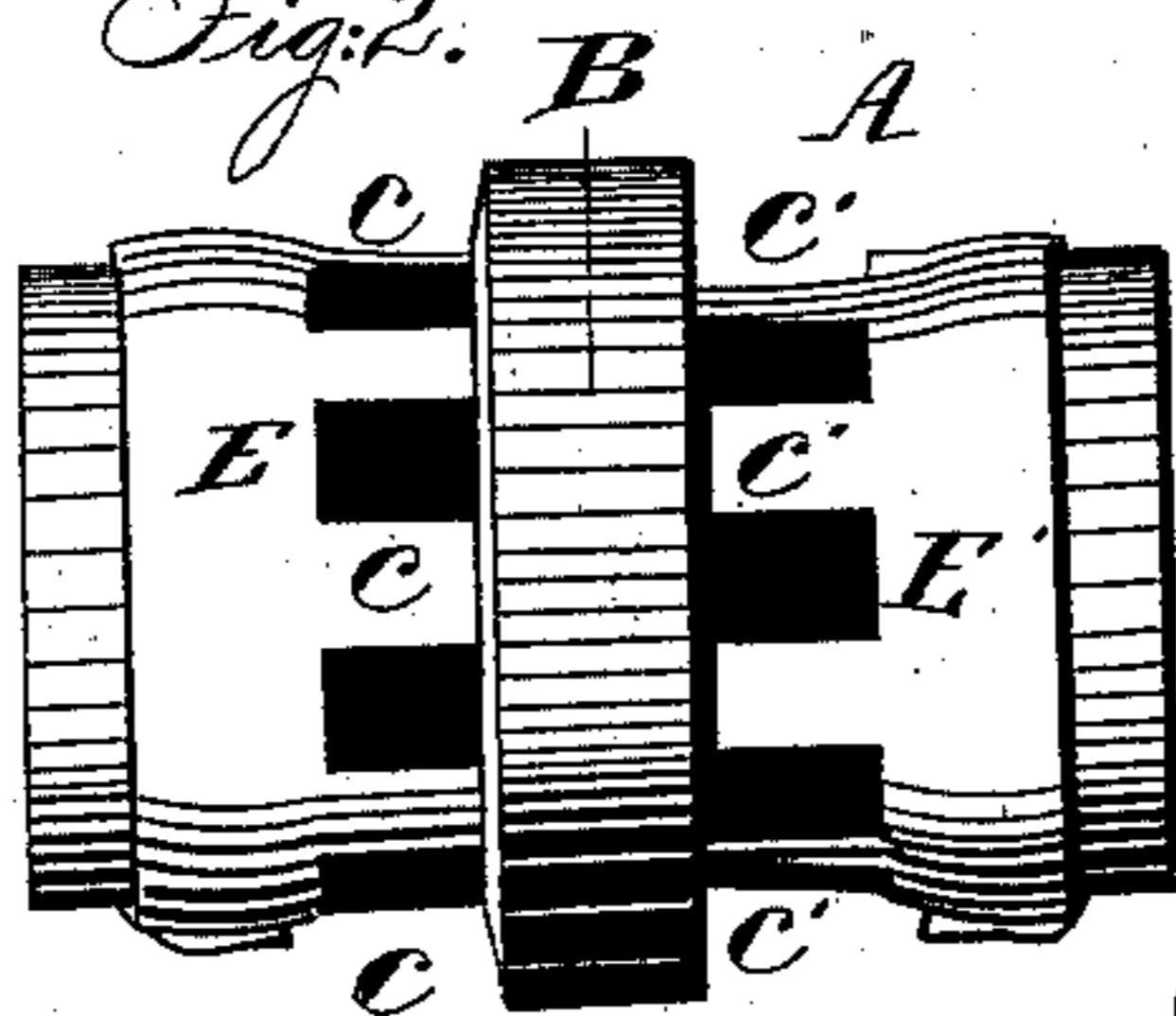
No. 56 901.

Patented Aug. 7, 1866.

*Fig. 1.*



*Fig. 2.*



*Witnesses*  
*Frank Millward*  
*James H. Layman*

*Inventor*  
*Joseph Carlin*  
*By Hugh Ross*  
*Atty*

# UNITED STATES PATENT OFFICE.

JOSEPH CARLIN, OF CINCINNATI, OHIO.

## IMPROVEMENT IN WHEELS.

Specification forming part of Letters Patent No. **56,901**, dated August 7, 1866.

*To all whom it may concern:*

Be it known that I, JOSEPH CARLIN, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Wagon-Wheels; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a mode of constructing the wheels of wagons and carriages, which, without additional cost or weight, greatly increases their strength.

Figure 1 is a perspective view of a wheel embodying my invention. Fig. 2 is a side view of the hub.

I form my hub A with a central collar or fillet, B, from which the periphery of the hub flares toward each end, so as to present square abutments C C', for the shoulders of two series of alternately-inclined spokes, D D', made to straddle and hug the collar B and to occupy two sets of mortises, E E', of which those of one set are precisely opposite the spaces in the other set.

Among a number of decided advantages my wheel possesses over those of the common

forms with convex hubs the following may be cited: The concave or outwardly-flaring form of the hub in the plane of its axis affords a bearing for the spokes precisely at right angles to their lengths, and consequently in the most advantageous position to resist the strains incident to use.

The central collar or fillet, in addition to its office of binding the hub, serves as a support or bearing for the spokes on the side and at the place where they most commonly give way.

These qualities combined enable the use of a smaller, lighter, and more slightly hub and lighter spokes.

I claim herein as new and of my invention—

The arrangement of hub A, having the described concave or dished periphery C C' and central collar, B, which supports on their inner sides two sets of straddling spokes, F F', substantially as and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

JOS. CARLIN.

Witnesses:

GEO. H. KNIGHT,  
JAMES H. LAYMAN.