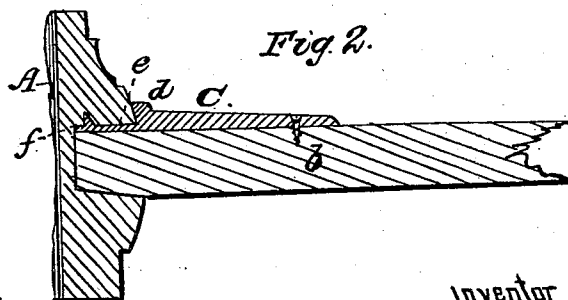
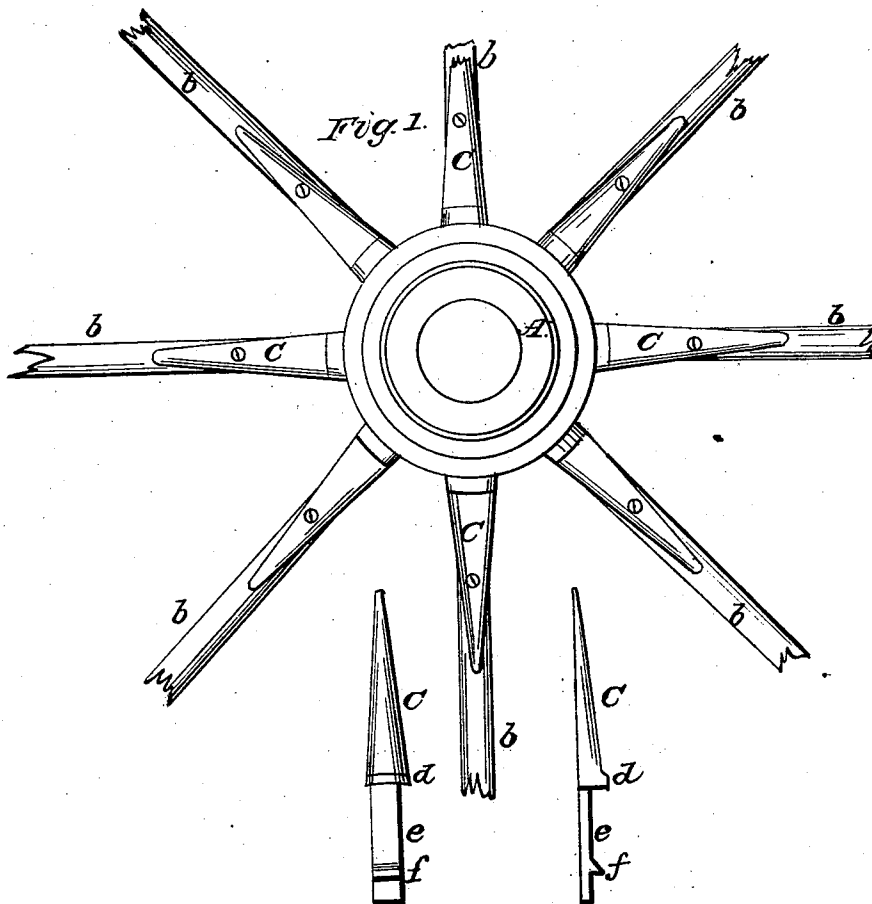


C. CLARKE.
Carriage Wheel.

No. 81,141.

Patented Aug. 18. 1868.



Witnesses
J. J. Hayes
C. R. Beadler

Inventor
Charles Clarke
By W. Beadler

UNITED STATES PATENT OFFICE.

CHARLES CLARKE, OF CORAL, ILLINOIS.

IMPROVEMENT IN CARRIAGE-WHEELS.

Specification forming part of Letters Patent No. **81,141**, dated August 18, 1868.

To all whom it may concern:

Be it known that I, CHARLES CLARKE, of the town of Coral, county of McHenry, and State of Illinois, have invented a new and Improved Method of Strengthening the Spokes of Carriage-Wheels, and securing them in the hub; and I do hereby declare the following is a full and exact description thereof, reference being had to the accompanying drawings, and the figures of reference marked thereon.

This invention consists in certain improvements in the construction of wagon-wheels, by which the spoke may be more readily and securely fixed in the hub and firmly braced against all liability of dishing.

In order that those skilled in the art to which my invention pertains may be able to construct and apply my device, I will proceed to set forth more fully its construction and arrangement.

In the drawings, Figure 1 represents a side view of a wheel constructed with my improvement, the rim and outer ends of the spokes being broken away; and Fig. 2 is a view of a vertical longitudinal section through hub, spoke, and brace.

The same letters refer to identical parts in both the figures.

The hub and spoke of the wheel are of the ordinary construction, it being required only that in all cases where my improvement is applied the mortise shall be slightly inclined on its inner end, with a corresponding shape of tenon on the end of the spoke.

In the drawings, A is the hub, and *b b b* the spokes. C represents the brace or stay. It is constructed of iron or any other suitable metal, and of size proportioned to the dimensions of the wheel and strength required. The inner surface of the brace, which is the part coming in contact with the spoke, is made a straight plane surface.

On the outer side the brace is made thinner at the lower end, and is provided with a shoulder, *d*, so inclined as to fit snugly over the inclined portion of the hub.

The lower portion of the brace enters the hub. Its width is made to correspond exactly to the width of the mortise, and its thickness is determined by the amount of strength required.

On the outer side of the metallic tenon *e*, suitably near the end, is a spur or chisel-point, *f*. Its bevel-surface is on the upper side, for purpose hereinafter explained.

The outer surface of the part extending along the spoke may be made either ornamental or plain, and shaped in any suitable manner. The upper end may also be perforated with as many holes as are deemed necessary, for the admission of screws to hold the brace to the spoke. The construction of the exterior surface may be varied.

The shoulder *d* may be inclined or at right angles, or may be extended as a flange.

In the application of the brace to the hub, I first place the brace in the mortise, bringing the shoulder *d* outward and against the periphery of the hub, and the spur up against the outer end of the mortise. I then place the spoke in its proper position, the plane side against the brace, and drive home the tenon. The inclined side of the tenon, acting against the corresponding incline in the mortise, wedges the brace against the opposite end of the mortise, and drives the spur snugly into the wood. The inclined upper surface of the spur draws down the brace on the shoulder *d* closely against the hub. Screws or any other suitable means can afterward be applied to hold the brace to the spoke at the upper end.

It will be evident that by the application of this device the spoke is held securely in its place, and prevented from working in and out in the mortise. At the same time the wheel is firmly braced against dishing, or the strong side sway to which wheels are subjected in turning rapidly.

My invention is cheaply made and easily applied, and, without appreciable addition to the weight of the wheel, adds strength at the points exactly where it is most needed.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The brace C, having the shoulder *d* and spur *f*, all constructed as described, and applied to a wheel, substantially as and for the purpose set forth.

CHAS. CLARKE.

Witnesses:

J. A. PARISH,
J. H. SLAVIN.