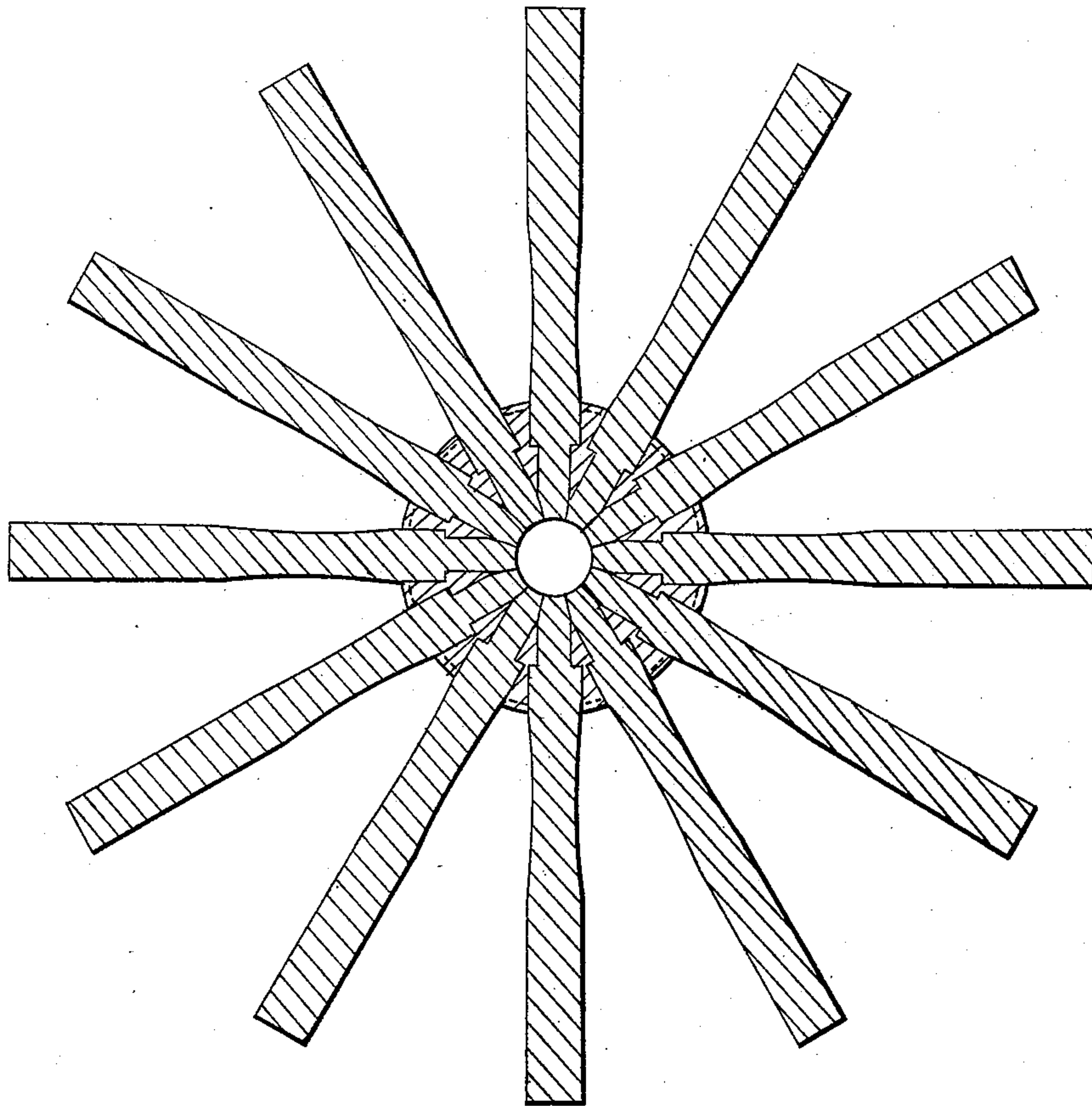


J. MARIS.  
Hub and Spoke.

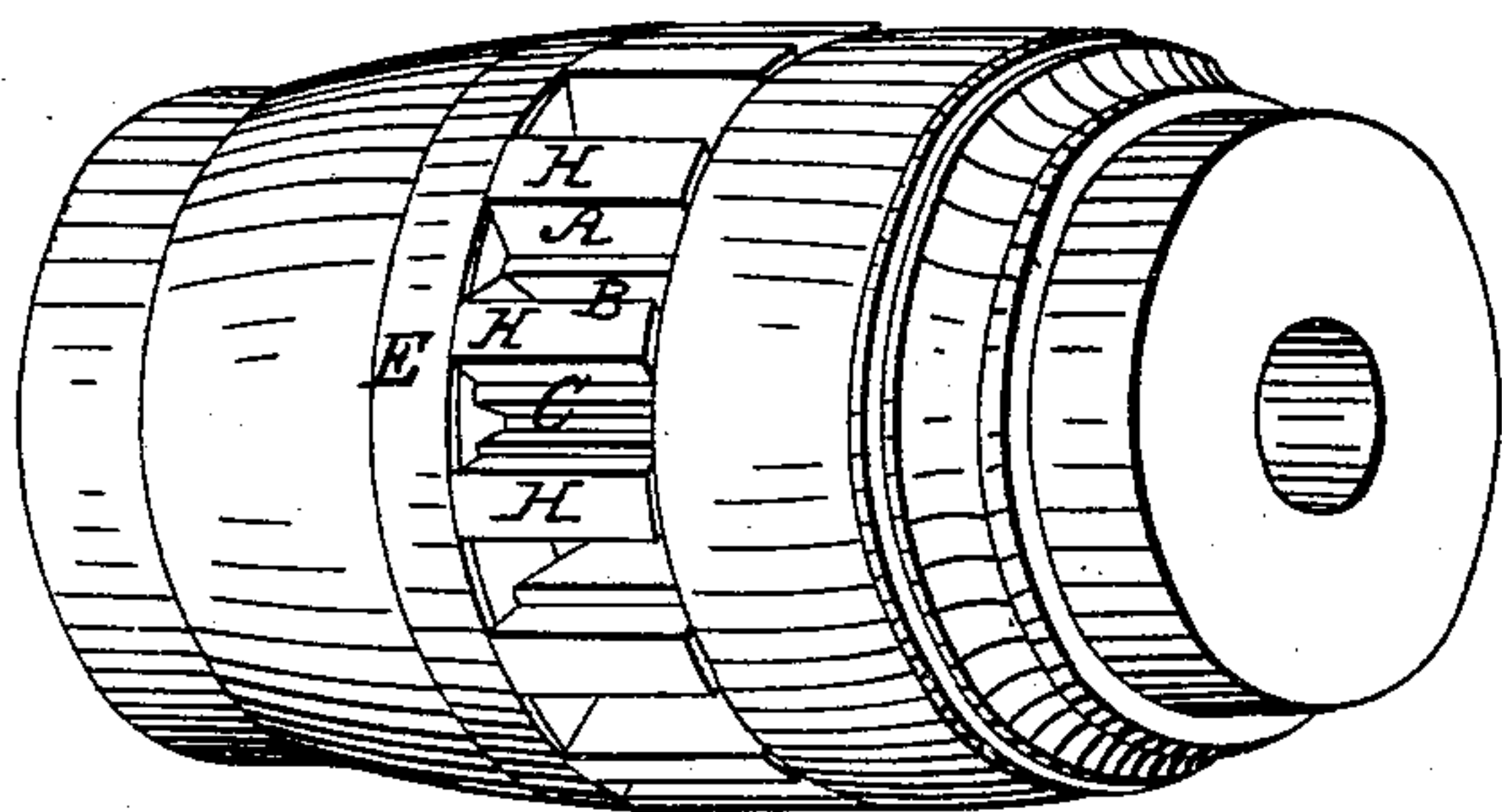
No. 89,322.

Patented April 27, 1869.

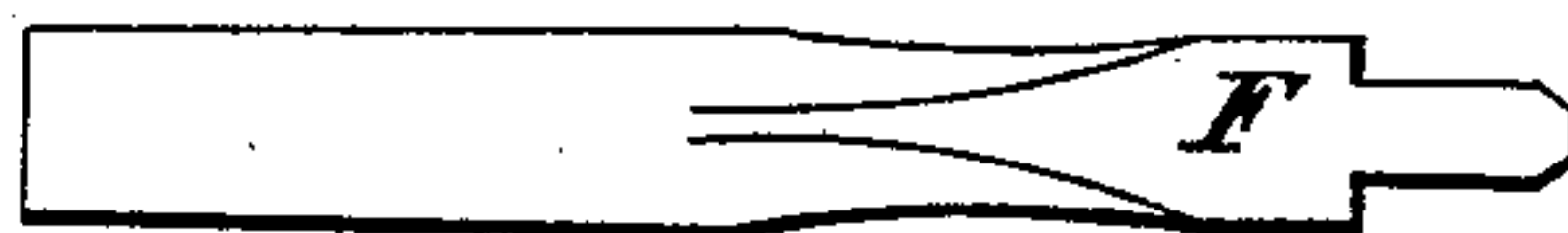
*Fig. 4.*



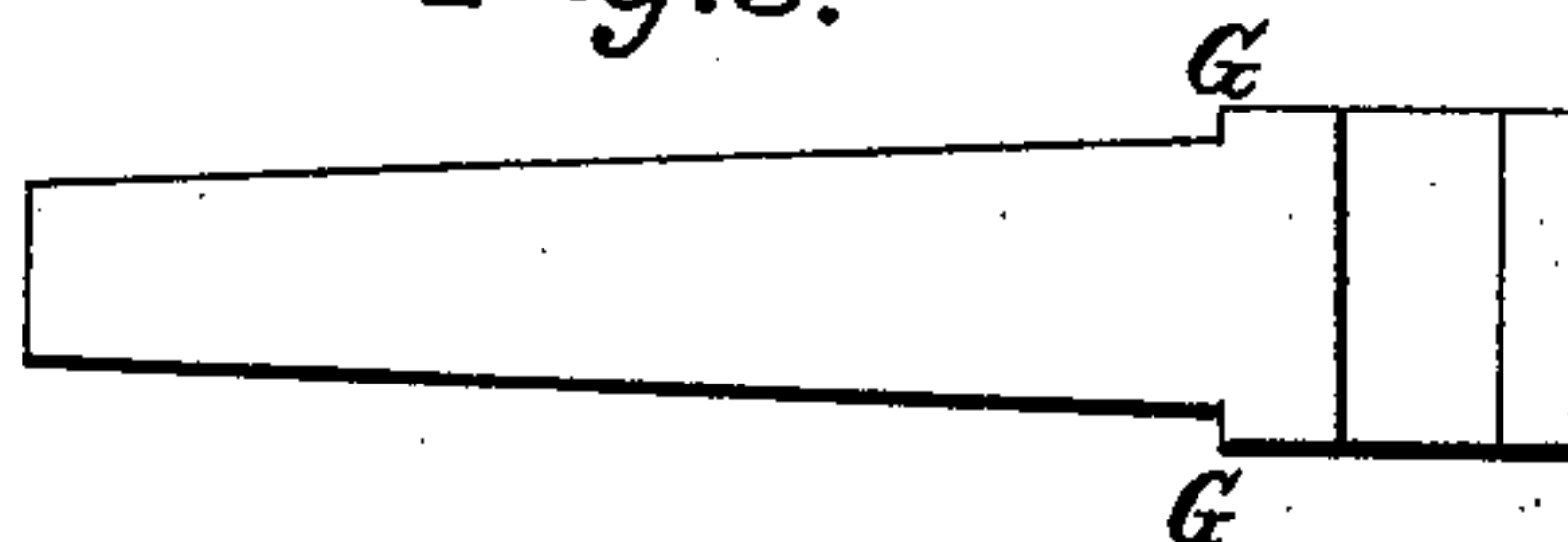
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

C. D. Rathbone.  
E. B. Read.

Inventor:

Jared Maris.

# United States Patent Office.

J A R E D M A R I S, O F M A R I E T T A, O H I O.

*Letters Patent No. 89,322, dated April 27, 1869.*

## IMPROVEMENT IN HUBS AND SPOKES FOR CARRIAGE-WHEELS.

*The Schedule referred to in these Letters Patent and making part of the same.*

Know all men that I, JARED MARIS, of Marietta, in the county of Washington, State of Ohio, have invented a new and useful Improvement in Wagon-Wheels, which is more particularly and fully described as follows, reference being had to the accompanying drawings and specifications, in which—

Figure 1 is a perspective view of the hub, provided with double mortises to receive double-tenoned spokes.

Figure 2 represents a side view of a spoke, with double tenon to fit the double mortise in the hub, fig. 1.

Figure 3 represent a view of spoke, with shoulders or notches to receive bands to keep them in place.

Figure 4 represents a plane sectional view of the hub when filled with spokes.

A, fig. 1, represents the outer or wide mortise in the hub.

B, fig. 1, represents the inner or bottom mortise.

C, fig. 1, represents the shoulder or offset in the mortise, upon which the shoulder in the tenon of the spoke rests.

E, fig. 1, represents the band which covers or overlies the notches or shoulders in the spokes and binds them in their places.

F, fig. 2, represents the double tenon, which forms the shoulder that rests on the offset or bearing in mortise C, fig. 1.

G G, fig. 3, represents the shoulders or notches to secure the band E, fig. 1.

H H represent the portions of the hub included between the spokes. These portions of the hub are made to project above the remainder thereof to a height equal to the thickness of the bands E, which are driven thereon, so that the formation of recesses between the spokes and the bands E, to catch and re-

tain mud and dirt, is prevented. The spaces H, thus made flush with the bands, will also present a neat, finished appearance, not otherwise attained.

Having thus described my invention,

I claim therein as new, and desire to secure by Letters Patent—

1. A wheel-spoke, so enlarged at its base as to form projecting offsets or shoulders G, on one or both sides thereof, in the line of the axis of the hub, wherein they are to be inserted, for the purpose of allowing a wider base for the spoke, without a corresponding width outside of the hub, substantially as herein set forth.

2. Bands E, in combination with a hub, and with shoulders G formed upon the spokes F, in the line of the axis of the hub, substantially as herein described.

3. In combination with a wheel-spoke provided with projecting offsets, or shoulders G, as above described, the double mortise A B, so driven in the hub as to make a bearing, C, therefor, below the surface of the hub, for an inner shoulder on the spoke, substantially as herein set forth.

4. The enlargement of that portion of the circumference of the hub included between the spokes, so that the spaces H H between the spokes shall be flush with the outer surface of the bands E, driven upon the hub against the spokes, substantially as and for the purpose herein set forth.

March 3, A. D. 1869.

JARED MARIS.

Witnesses:

E. B. READ,

JONAS M. FULLER.