

H. E. VICK.
Improvement in Carriage Wheel Hubs.

No. 121,694.

Patented Dec. 5, 1871.

Fig. 1.

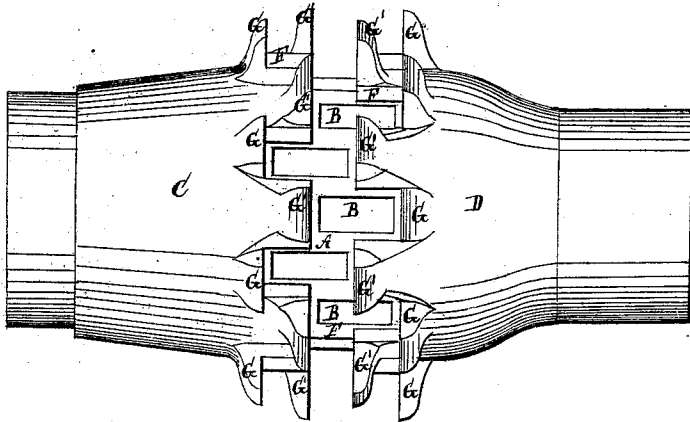


Fig. 2.

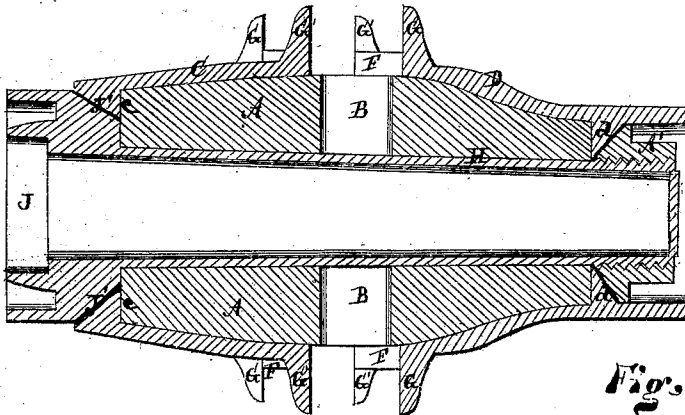


Fig. 3.

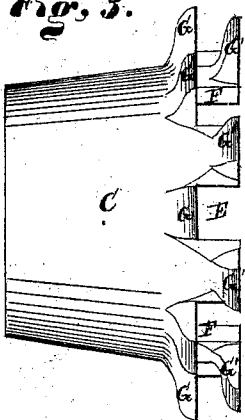


Fig. 5.

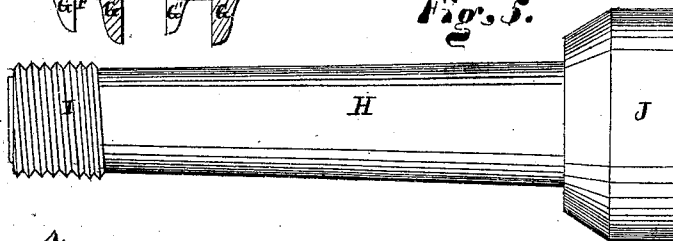
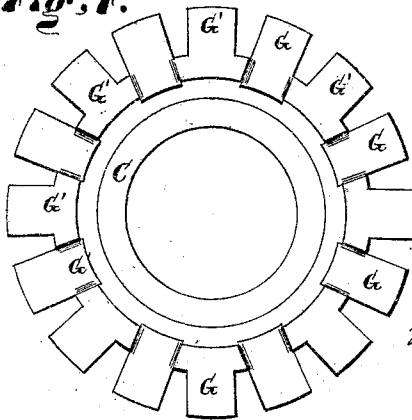


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE

HOLLAND E. VICK, OF ALLIANCE, OHIO.

IMPROVEMENT IN CARRIAGE-WHEEL HUBS.

Specification forming part of Letters Patent No. 121,694, dated December 5, 1871.

To all whom it may concern:

Be it known that I, HOLLAND E. VICK, of Alliance, in the county of Stark and State of Ohio, have invented a certain new and Improved Carriage-Wheel Hub; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

Figure 1 is a side view of the hub. Fig. 2 is a longitudinal transverse section. Figs. 3, 4, and 5 are detached sections.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a carriage-wheel hub; and the object thereof is to combine a wooden core or hub, in which the spokes are secured by mortise-joints, with a metal shell, or a pair of thimbles, constituting a shell, and which thimbles are secured to the core and connected to each other by means of the axle-box, having on its posterior end a chambered head and on the other a nut.

A further and more full description of the hub is as follows: In the drawing, Fig. 2, A represents the wooden core or hub referred to, and B the mortises in which the tenons of the spokes are inserted. To each end of said core is fitted a thimble, C D, Fig. 1, in the edge of which are formed square notches E, Fig. 3, corresponding in shape to the mortise in the core, and in depth equal to about one-half the length of said mortises, and with which they are arranged in co-relation, as shown in Fig. 1. In the chamber of each thimble, near the outer ends, is a circular flange or rim, *c d*, Fig. 2, which extends from and forms a part of each thimble. In said Fig. 1 it will be seen that the notches form the sides and ends of about half the length of the mortises, and which add to the depth of said mortises by their flange or web F, raised above the surface of the thimble and extending on each side to the depth of the notches. From the base or bottom of the notches project radial lugs G, and also lugs G' from the projections formed by the contiguous sides of the notches, as shown in the drawing, in which it will be seen that a lug stands at each end of the mortises B, and whereby the shoulders or base of the spokes are braced and supported laterally. The relative position of the two

sections or thimbles C D to each other and to the core A, and also their adjustment to the mortises B, is shown in Fig. 1. The thimble thus formed and adjusted to the core makes supplementary extensions to the depth of the mortises in the core for holding and strengthening the connection of the spoke with the hub. H, Fig. 2, is the axle-box, of which Fig. 5 is a detached view. On one end of said box is cut a male screw, I, whereas on the opposite end is a hollow head, J.

The above-described hub is put together as follows: The spokes are fitted to the wooden core by tenons in the usual way. The thimbles C D are then placed on over the ends of the core or hub, one on each side of the spokes, against which they are clamped or drawn tightly by means of the axle-box, which is inserted in the hub, as shown in Fig. 2, in which it will be seen that the head J fits closely in the end of the thimble C, seen at J', Fig. 2, on the opposite end of which is screwed a nut, A', which, on being screwed tightly against the flange or rim *d* of the thimble D, draws the two thimbles toward each other over the hub A, thereby clamping the base of the spokes between the lugs G and G', which are thereby strongly braced in a lateral direction, and supported circumferentially by the flanges or webs F and the edge of the lugs. As aforesaid, the mortises are so arranged as to be in and out or "staggered" in relation to each other, thereby causing the end of the mortise to be terminated about midway that of the next in order. By this arrangement of the mortises additional strength is given to the sides of the spokes by means of the lugs G', thus adding materially to the strength of the wheel. A wheel thus constructed is neat, strong, and durable, and which embraces the advantages of the wooden hub without its great thickness, and the strength of the iron without much additional weight. The hub is of small diameter, and, therefore, has the appearance of lightness, but which, however, is strong, as the lugs give great bracing strength at the insertion of the spokes in the hub.

In practice the wheel is set up as follows: The shells or collars C D are first placed on over the core and secured thereto by the axle-box and nut A', above described. The spokes are then fitted and driven into the mortises of the core, which is prevented from cracking by being bound tightly

by the collars or shells. In this way the tenons of the spokes are made to fit much tighter than when driven in before the collars are put on.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The thimbles C D, having rims or flanges *c d* in the chambers thereof, in combination with the wood hub A and axle-box H, provided with a head, J, at one end, and a screw, I, at the other, as and for the purpose substantially set forth.

2. The thimbles C D having mortise notches

E therein, lugs G G, and webs F, and provided with a rim or flange, *c d*, in combination with the core A inclosed within said thimbles, and secured together by means of the pipe-box and screw thereon when the spokes are in place, as and in the manner substantially described.

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Witnesses:

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