

H. H. FETTA.

Improvement in Wheels for Vehicles

No. 130,851.

Patented Aug. 27, 1872.

Fig. 1.

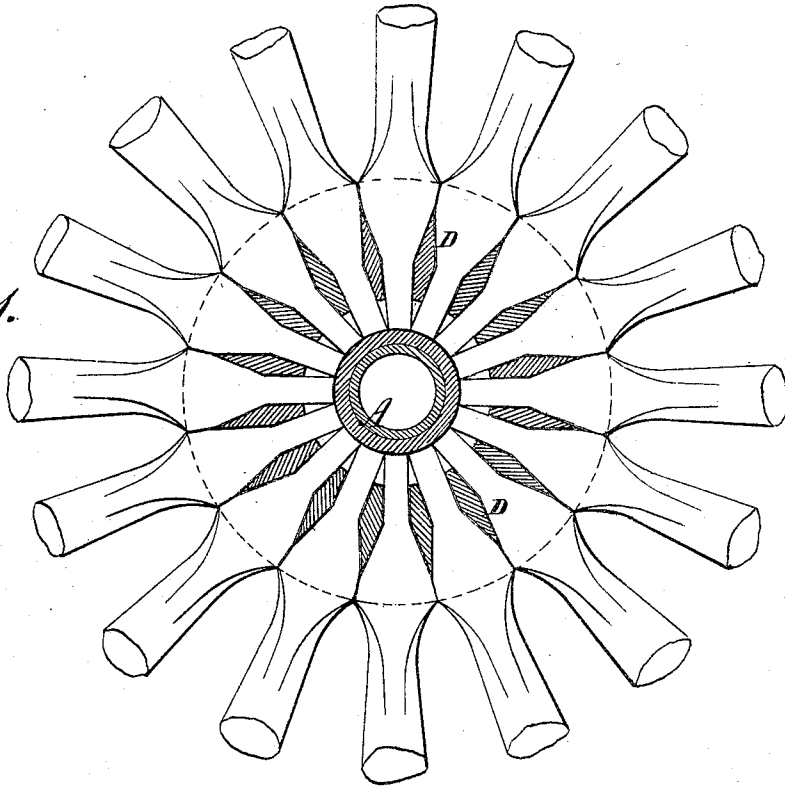
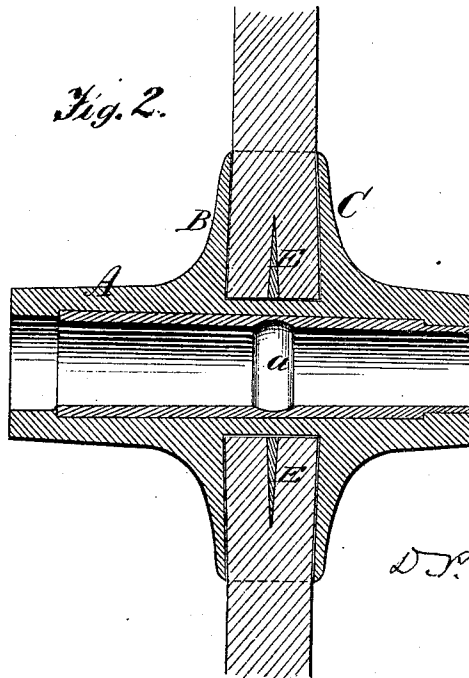


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN WHEELS FOR VEHICLES.

Specification forming part of Letters Patent No. 130,851, dated August 27, 1872.

Specification describing a certain Improvement in Carriage-Wheels, invented by HENRY H. FETTA, residing at Richmond, in the county of Wayne and State of Indiana.

The nature of my invention consists in providing a carriage-wheel the hub or nave of which consists of a single piece of cast metal, with mortises for the reception of the tenons of the spokes, and annular vertical flanges to sustain the spokes against lateral thrust or strain, the mortises being made tapering in the line of the axis of the hub, so that by inserting wooden wedges in slits in the ends of the spoke-tenons the latter, in driving the spokes home, may be spread so as to firmly wedge in the mortise to prevent withdrawal and liability of becoming loose by reason of shrinkage. The spokes are also so formed and arranged that all the tenons shall be in close contact with one another both above and below the metallic divisions between the mortises of the hub.

Figure 1 is a sectional elevation of the wheel-hub in a plane at right angles to its axis. Fig. 2 is an axial section thereof.

The same letters of reference are employed in both figures in the designation of identical parts.

The hub A consists of a single piece of cast metal, in the eye of which a suitable recess is formed for the reception of Babbitt or other non-frictional metal, which is cast into said recess and forms the bearing-surface for the journal of the axle. An annular groove, *d*, is formed in this bearing to serve as a reservoir for lubricating material. The hub has two circumferential flanges, B and C, upon its exterior surface, which are connected by a series of ribs, D, the spaces between which constitute the mortises in which the spokes are inserted. These ribs or divisions D terminate some distance from the periphery of the flanges B and C, coming to an edge, and their lower edges are also separated from the metal at the bottom of the

mortises, as clearly shown in Fig. 1. The double wedge-shaped form of the divisions illustrated is preferred, but they may be made of different form, in cross-section. The tenons of the spokes are made so as to touch from the circumference of the flanges to the outer edge of the divisions D, their sides to this end being made to taper radially. From the points of contact with the outer edges of the divisions they are tapered to fit the sides of the latter inward to its apex. Thence the tenons have parallel sides reaching to, or nearly to, the metal at the bottom of the mortises, where they come into close contact with one another so as to form an arch around the hub. The space at the bottom of the mortises, measured in the direction of the axis of the hub, is greater than that at the top, as seen in Fig. 2, for the purpose of permitting the tenons to be wedged in the mortises. This is accomplished by slitting the ends of the tenons and inserting wedges E in the slits before driving the spokes, in doing which the butt end of the wedges, coming in contact with the bottom of the mortises, causes the wedge to be driven into the tenon, spreading and tightly wedging it in the mortise for the purposes mentioned.

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

The herein-described carriage-wheel, composed of the metallic hub A, having divisions D, flanges B and C, tapering mortises, and spokes the tenons of which are wedged in the mortises, as described, and form arches around the interior and exterior edges of the divisions D, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY H. FETTA.

Witnesses:

D. P. HOLLOWAY,
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