

G. TOZER.
Vehicle-Wheel Hub.
No. 225,498. Patented Mar. 16, 1880.

Fig. 1.

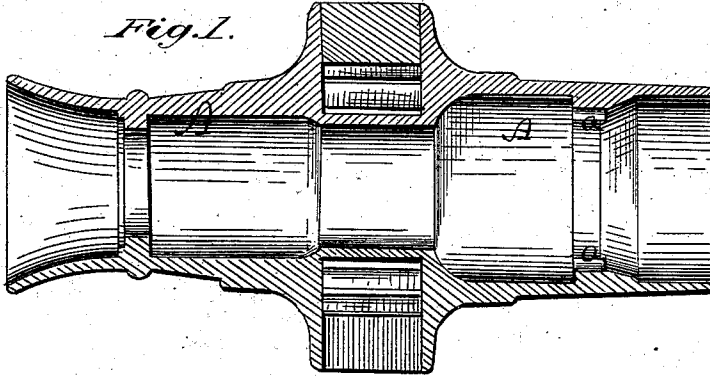


Fig. 2.

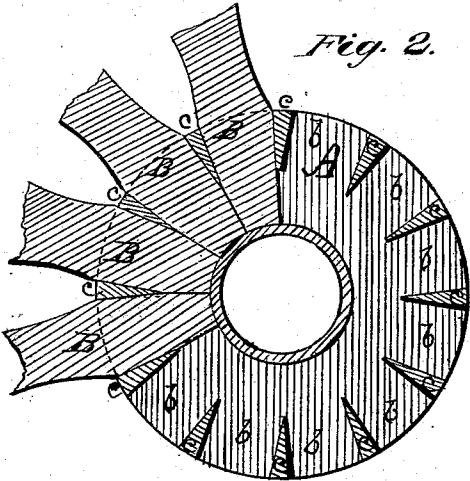


Fig. 3.

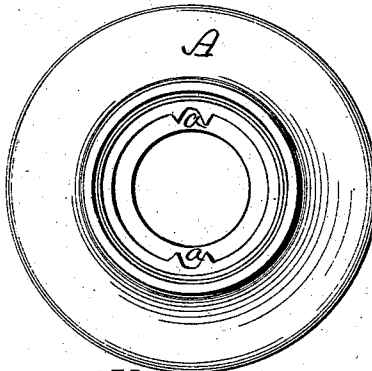


Fig. 4.

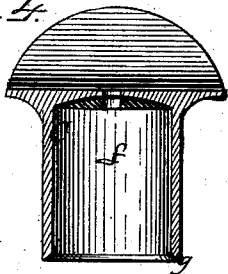
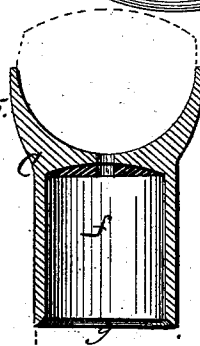


Fig. 5.



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Fig. 6.

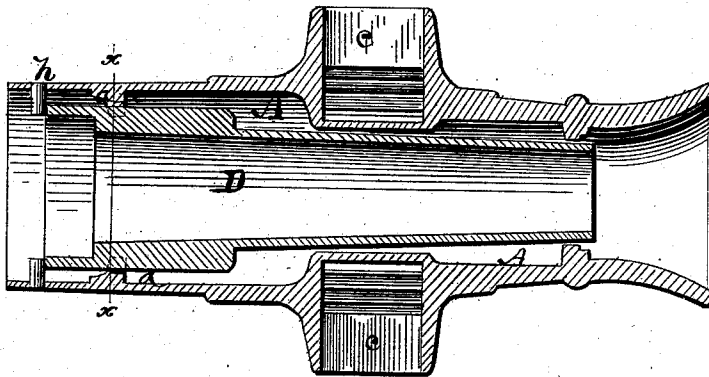
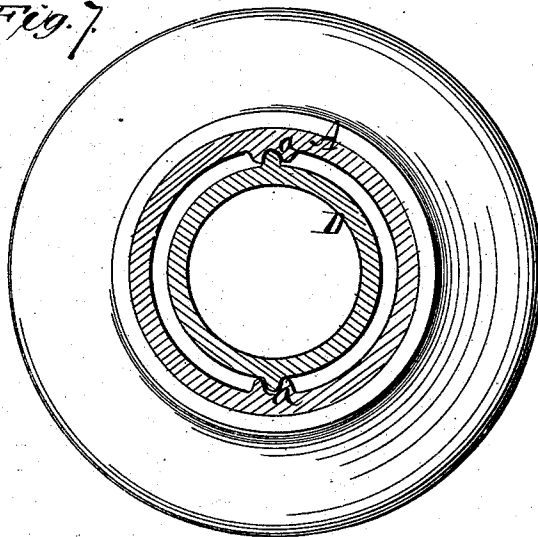


Fig. 7.



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UNITED STATES PATENT OFFICE.

GILBERT TOZER, OF HURD, PENNSYLVANIA.

VEHICLE-WHEEL HUB.

SPECIFICATION forming part of Letters Patent No. 225,498, dated March 16, 1880.

Application filed March 31, 1879.

To all whom it may concern:

Be it known that I, GILBERT TOZER, of Hurd, Clearfield county, Pennsylvania, have invented an Improvement in Carriage-Wheels; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a central longitudinal section of the improved wheel-hub; Fig. 2, a central cross-section thereof, showing also a part of the spokes in place; Fig. 3, an inner end view of the hub; Fig. 4, a central section, in the plane of the wheel, of the spoke-and-felly socket; Fig. 5, a central section of the same in a plane at right angles to the section in Fig. 4; Fig. 6, a longitudinal section, as in Fig. 1, but showing an ordinary wooden hub-box inserted in the hub; Fig. 7, a cross-section of the same in a plane indicated by the line *xx*, Fig. 6.

Like letters designate corresponding parts in all of the figures.

My invention consists in an improved malleable cast-iron hub, very light and of good form and appearance, particularly adapted to light buggies and other vehicles, being formed to receive the ordinary boxing used with wooden carriage-hubs. The spoke-mortises thereof are formed with wedge-shaped partitions between, coming to an edge, or nearly so, toward the center of the hub, and from thence the space being all occupied by the mortise-cavities except a thin partition around the central axle-bore. By this construction the spoke-tenons are of the full width of the spokes, are less tapering, so that they fit more securely in the mortises, and they touch each other and mutually sustain themselves within the wedge-shaped partitions without producing any strain on the hub; but this construction of the spoke-mortises in the hub I do not claim of itself.

In Figs. 1 and 3 it is seen that the malleable-iron hub *A* is cast in one piece, thin and light, and the axle-bore is formed to receive the ordinary wooden hub-boxing *D*, Figs. 6 and 7, without requiring any fitting or special construction to admit and secure them in place, there being simply notches *aa* cast in the bore to receive the feathers of the boxes and prevent their turning in the hub.

The box *D*, if desired, may be kept from slipping endwise by a stop, *h*, Fig. 6, or any convenient means.

In Fig. 2 is most clearly shown the spoke-mortises *b b*, occupying all the circumference of the hub except the wedge-shaped partitions *c c* between them, which partitions come to an edge, or nearly so, at their inner extremities. They thus allow the spokes *B B* to fit between, with their full width at their outer parts, and to touch each other within the partitions, and thereby to bear and brace against one another. The mortises being only a little tapering, there is little or no tendency in the spokes to draw or work out of the mortises, nor to push in beyond the limit desired.

I make a spoke-and-felly socket, *C*, as shown in Figs. 4 and 5. The socket *f*, that receives the tenon of the spoke, is made uniform in size or diameter, and not tapering, and at the outer edge, *g*, it is beveled inward, as shown, to receive the spoke-tenon, obliquely shouldered to fit the same, as indicated in Fig. 5.

The advantages of this form of the socket are that the tenons fit more securely without any fastening device and without any tendency to draw out, and the inner bevel to the edge makes a good joint without special care to fit the same, and yet the joint does not show, even when imperfectly fitted, and there is no liability of the paint or varnish cracking at and showing the joint. This socket also may be made of malleable cast-iron.

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

A carriage-wheel hub cast in a single piece of malleable iron, formed to surround a spoke-mortise cavity, with wedge-shaped spoke-separating partitions *c c* in the outer circumference thereof, and formed with notches *aa*, and shaped and adapted to receive the ordinary wooden hub-boxes, substantially as herein specified.

The above specification of said invention signed and witnessed at Hurd, Pennsylvania, this 24th day of March, A. D. 1879.

GILBERT TOZER.

Witnesses:

G. W. VERNES,
ISAAC MARKLE.