J. HUBER.

VEHICLE WHEEL.

No. 183,569. Patented Oct. 24, 1876.

Fig. 1.

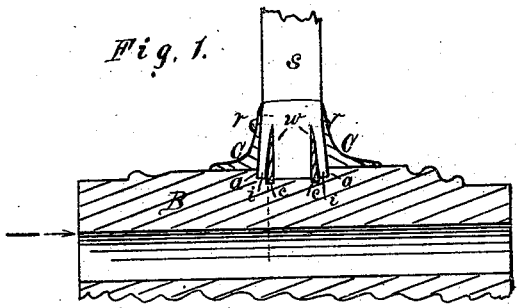


Fig. 2.

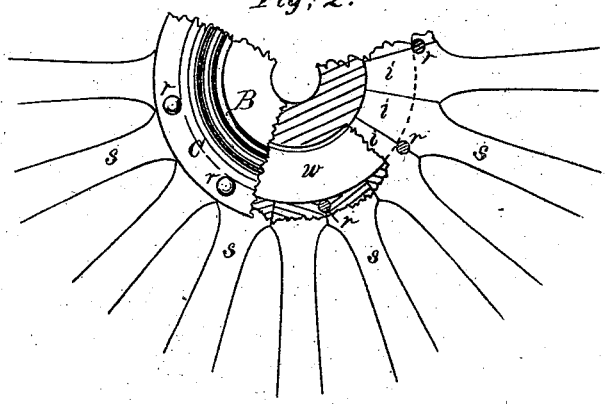
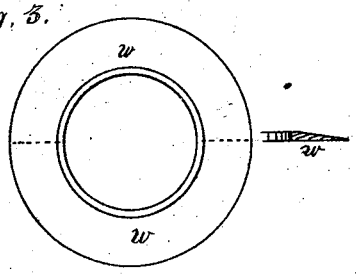


Fig. 3.



Witnesses.

J. M. Howe.

Peter Dix

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UNITED STATES PATENT OFFICE.

JOSEPH HUBER, OF ROCHESTER, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN H. PETTIT, OF SHORTSVILLE, NEW YORK.

IMPROVEMENT IN VEHICLE-WHEELS.

Specification forming part of Letters Patent No. **183,569**, dated October 24, 1876; application filed June 17, 1876.

To all whom it may concern:

Be it known that I, JOSEPH HUBER, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Vehicle-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a longitudinal section of one-half of the hub, showing the annular wedges. Fig. 2 is a transverse sectional view of a portion of the hub and wheel. Fig. 3 is a side elevation and sectional view of one of the annular wedges.

This invention relates to that class of carriage-wheels in which metal collars are employed, between which the ends of the spokes are secured, and it is more especially intended to be applied to very light hubs. It consists in a peculiar formation of the metallic collars, whereby an annular dovetail-shaped space is provided between them, for the reception of the spoke ends, to be used in connection with one or more annular wedges.

There is a slight recess or channel turned in the hub B, as shown, from *a* to *a*, into which to drive the end of the spokes *s*. The shoulders of this recess may be turned dovetailing, to correspond with the bevel or dovetail face of the collars C, as shown, or they may be made vertical from the cylindrical face of the collar. I also preferably turn shallow channels *c* in the bottom of the broad channel, to receive the inner edge of the annular wedges *w*. These wedges I prefer to make each in two parts—that is, of semicircles—for convenience in applying them to the hub.

The wedges may be as much wider than shown as to cause the clamping-rivets *r* to pass through their outer or thin edge, if desired; but I prefer them about in the proportion shown.

The collars C are forced to their proper position upon the hub, as shown in Fig. 1. Their inner faces may be given any desired amount of bevel, and the wedges should be shaped to correspond. The wedges are then placed in position each with its beveled side outward, or toward the collar on its side. The edges of the hub end of the spokes are dressed parallel, and two thin saw-kerfs made in that end, one near each edge. Then, as the spokes are driven into their place in the annular space between the collars, the wedges *w* force the lower or inner end of the lips *i* of the spokes outward, as shown in Fig. 1, thereby forming the dovetail-shaped head, and causing it to snugly fill the space between the collars. After the spokes are all inserted, the hydrostatic pressure is applied to the collars, to force them as snugly as possible toward each other and against the spokes, in the usual manner, and the rivets *r* inserted.

A portion of the lips *i* is broken away in Fig. 2, to expose a section of one of the wedges *w*. Only a short segment of the rear collar C is shown in said figure.

It will be seen that, by letting the inner edge of the wedges have a bearing in the hub, as shown in Fig. 1, the rigidity of the wheel and its effectiveness in resisting side thrusts against the wheel are very much increased; also, by providing most of the spoke-bearing and the dovetail between the collars C, the hub of a given size is greatly strengthened.

It might be found practical to employ but one wedge, in which case both sides of it should be inclined, or only one of the collars C should be beveled.

The saw-kerfs in the end of the spoke should be deep enough to receive the width of the wedge.

What I claim as my invention is—

As an improvement in vehicle-wheels, the wooden hub B, having a slight annular recess, *a*, separate metallic collars C C, formed as shown and described, so as to provide an annular dovetail space to receive the inner ends of the spokes, one or more annular wedges, *w*, and the rivets *r*, as and for the purposes set forth.

JOSEPH HUBER.

Witnesses:

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