

Patented April 20, 1875.

A technical drawing of a mechanical assembly, likely a pump or engine component, shown in a perspective view. The assembly consists of three main parts: a central cylindrical body labeled *A*, a front flange labeled *B*, and a rear flange labeled *B'*. The front flange *B* has a central circular opening and is marked with *c* at the top and bottom edges, and *b* on the side. A small circular feature on the side of *B* is labeled *c**b*. The central body *A* has a small rectangular slot on its side labeled *a*, and a small semi-circular feature at the top labeled *a*. The rear flange *B'* is marked with *b'* at the top and bottom edges, and *b'* on the side. A small circular feature on the side of *B'* is labeled *b'*. The drawing uses hatching to indicate the cylindrical surfaces and the internal structure of the flanges.

Figure 4 is a circular diagram. It consists of a large outer circle and a smaller inner circle, creating a ring. Three segments of this ring are shaded with diagonal lines and labeled with the letter 'b'. These segments are located at the top, bottom-left, and bottom-right of the ring. The remaining large portion of the ring is unshaded and labeled with the letter 'B' at the bottom center.

A diagram of a rectangular block with diagonal hatching. The block is labeled with 'A' at the bottom left corner, 'B' at the top left corner, 'C' at the top center, 'a' at the bottom center, and 'b' at the top right corner. A small arrow points from 'b' to the top right edge of the block.

John Curtis
By Knight & Co. Attys.

J. CURTIS.
Wheel for Vehicles.

No. 162,222.

Patented April 20, 1875.

FIG. 5.

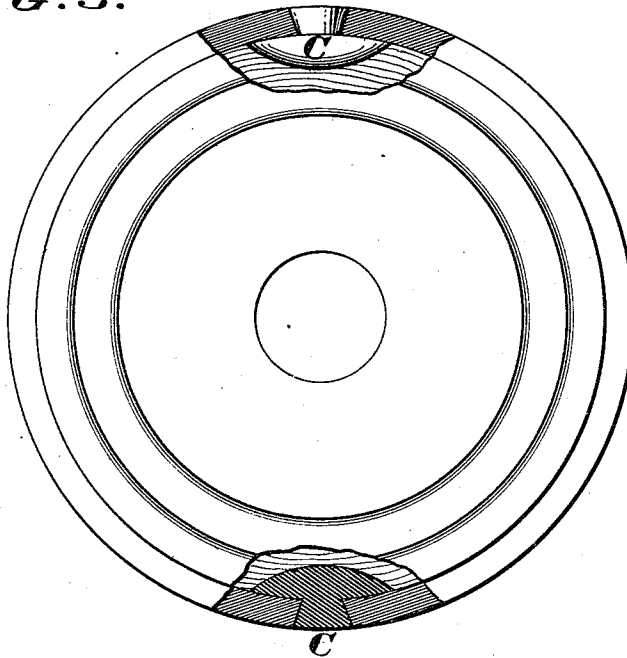
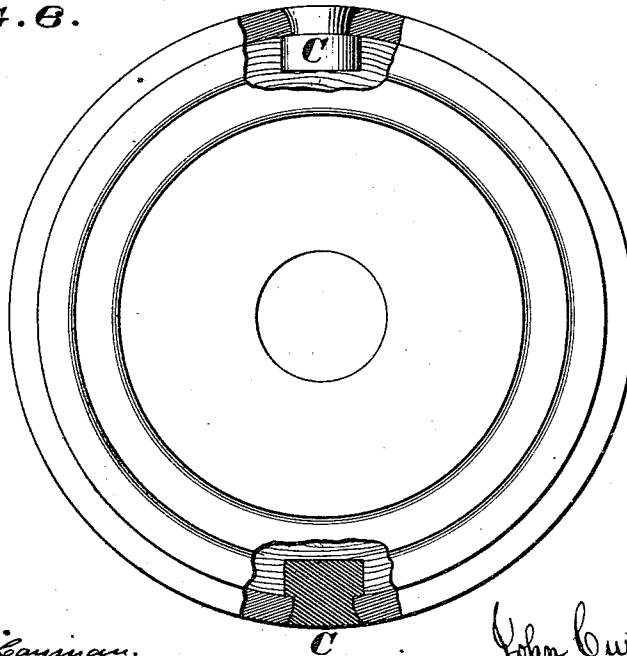


FIG. 6.



Attest.
 Jas. H. Gayman,
 Henry Tanner.

John Curtis
Attorney at Law.

UNITED STATES PATENT OFFICE

JOHN CURTIS, OF CINCINNATI, OHIO.

IMPROVEMENT IN WHEELS FOR VEHICLES.

Specification forming part of Letters Patent No. **162,222**, dated April 20, 1875; application filed October 12, 1874.

To all whom it may concern:

Be it known that I, JOHN CURTIS, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Manufacture of Hubs for Carriage-Wheels, of which the following is a specification:

My invention relates to a cheap, quickly-applied, and effectual device for securing the metallic bands upon a wooden hub; and consists in the provision in the band of one or more gates or orifices, which preferably flare radially outward and inward from at or near the mid-thickness of the band, and which communicate, when in place upon the hub, with cavities in the latter's periphery, corresponding in position with said orifices, thus forming matrices or pockets for the reception of fusible-metal plugs or keys, whereby the band is permanently held or fastened upon the hub, equally against circular and longitudinal displacement.

In the accompanying drawing, Figure 1 is a perspective view of a wooden hub whose bands are prepared for attachment on my plan, one band being shown in position and locked, and the other band being loose. Fig. 2 is a transverse section, showing one empty and three filled matrices, two of the plugs being in section. Fig. 3 is an end view of a band with three gates, all shown in section. Fig. 4 is a section on line *xx*, to a scale somewhat larger than that of the preceding figures. Figs. 5 and 6 represent modifications of my invention.

The hub A and bands B B' may be of any customary or approved form, except as to their excavations *a* and *b*, of which those (*b*) in the bands preferably flare from at or about the mid-thickness of the band in the manner

represented. The entire suit of excavations may be expeditiously and cheaply made by means of revolving bits. The band, having been driven or shrunk on in the usual way, is firmly and permanently locked in position by simply pouring into the excavation some readily fusible metal, such as an alloy of lead, antimony, and bismuth, so as to fill said excavation with plugs C. After the excavations have been filled, the projecting sprues of metal are filed or turned down, so as to be flush with the periphery of the bands, thereby causing the latter to present a perfectly smooth and uniform surface, and so that when the bands have been painted and varnished the retaining devices shall be entirely concealed. The above mode of locking, while similar in effect, is preferable to wood-screws, because not liable to be shaken out with use. As the plugs occupy only a small portion of the circumference of the hub, the subsequent displacement of the bands, either by slipping off or revolving upon the hub, is rendered impossible.

While describing the preferred form of my invention, I reserve the right to modify the same in non-essential particulars; for example, my plugs may take the form shown in Figs. 5 and 6.

I claim as a new article of manufacture—

The combination of excavated wooden hub A *a* and bands B, having openings *b* to receive fusible-metal plugs C, as set forth.

In testimony of which invention I hereunto set my hand.

JOHN CURTIS.

Attest:

GEO. H. KNIGHT,
O. P. CAYLOR.