C. O. WILDER.
Vehicle-Wheel.

No. 205,161. Patented June 18, 1878.

Fig. 1.

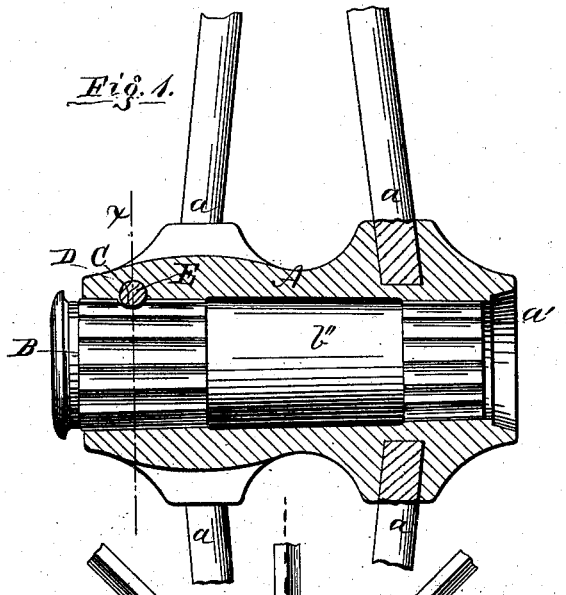


Fig. 2.

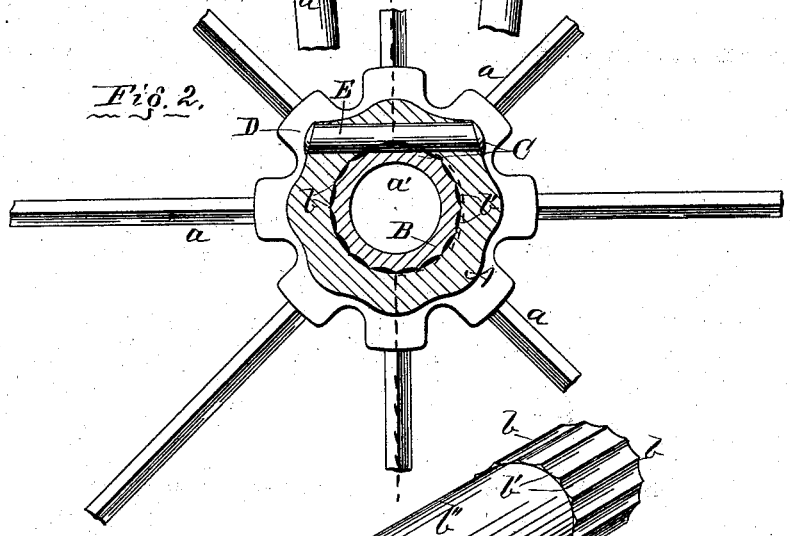
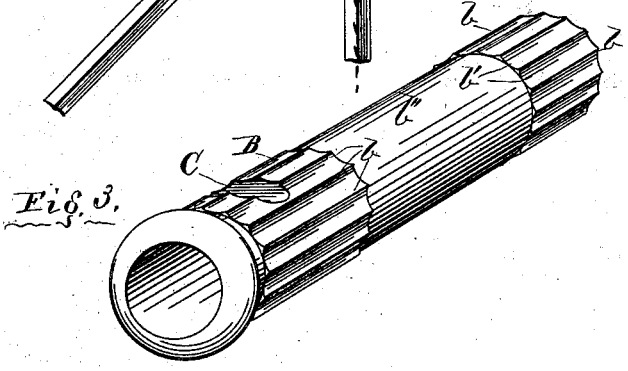


Fig. 3.



Witnesses:
M. H. Barringer.
A. W. Callum

Inventor:
Charles O. Wilder,
By W. B. Richards,
Atty.

UNITED STATES PATENT OFFICE.

CHARLES O. WILDER, OF RACINE, WISCONSIN, ASSIGNOR OF ONE-HALF HIS RIGHT TO WEIR PLOW COMPANY, OF MONMOUTH, ILLINOIS.

IMPROVEMENT IN VEHICLE-WHEELS.

Specification forming part of Letters Patent No. **205,161**, dated June 18, 1878; application filed March 29, 1878.

To all whom it may concern:

Be it known that I, CHARLES O. WILDER, of Racine, in the county of Racine and State of Wisconsin, 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, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a longitudinal sectional view of my improved wheel-hub. Fig. 2 is a transverse sectional view in the line *x x* in Fig. 1. Fig. 3 is a perspective view of the pipe-box.

My improvements relate to wheels of the class having metallic hubs with metallic pipe-boxes removably secured in the hub.

The objects of my invention are to provide simple and effective means whereby the pipe-boxes may be firmly secured in place, and may be readily and easily removed for replacement by new boxing when worn.

The invention consists in a metallic wheel-hub, constructed substantially as hereinafter described, with a pipe-box tapering in form, having fluted ends and central depressed portion, a keyway and key-bolt for securing the parts together, all as hereinafter more fully set forth, the diameter of the fluted portion of the hub-box being greater than the inner periphery of the hub, so that the driving of the box into the hub crushes the thin edges or splines of the fluted portion, and thereby forms a tight metallic joint.

Referring to the parts by letters, each letter indicating the same part in the different views, letter A represents a wheel-hub with the inner ends of the spokes *a* secured therein in casting or making the hub; but the hub may be of any ordinary construction, of metal, with a central bore or opening, *a'*, which is preferably made slightly tapering, as shown at Fig. 1, for the reception of a pipe-box, B, which is slightly tapering to correspond therewith.

The exterior surface of the box B has sharp thin splines *b* longitudinally thereon, formed by making grooves *b'* or fluting its surface, and has a groove or keyway, C, near one end and transversely with said box.

D is a hole or keyway made transversely through the shell or hub A. E is a cylindrical key.

The central exterior portion *b''* of the box B should be, preferably, made smaller than the end portions, as shown at Fig. 3, so that the splines *b* will be shortened, and thereby yield the more readily to allow the box B to be drawn closely into its seat, as hereinafter described.

The boxes B are of such size that in seating them in the hub the splines *b* impinge against the walls of the hub before the groove C fully coincides with the hole D, and the key-bolt E may be driven through the way D and way C to draw the box to its seat, the thin short splines *b* yielding and permitting it to do so without any special preparation of the parts by filing or turning.

The key-bolt E may be slightly riveted when driven home, so as not to interfere with its removal when desired, and it will be seen that it will secure the box B firmly in place both against longitudinal and angular displacement in its relation to the hub.

What I claim as new is—

A metallic wheel-hub, constructed as described, with a pipe-box tapering in form and having fluted ends *b* and central depressed portion *b''*, keyway C D, and key-bolt E, the diameter of the fluted portion of the hub-box being greater than the inner periphery of the hub, so that the driving of the box into the hub crushes the thin edges or splines of the fluted portions, and thereby forms a tight metallic joint, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

CHARLES O. WILDER.

Witnesses:

C. H. MINER,

E. C. DEANE.