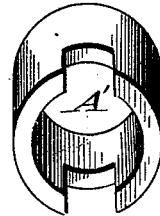
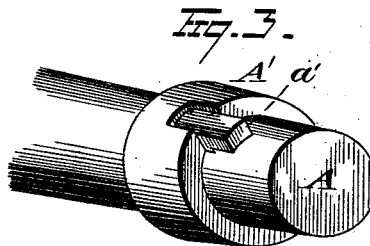
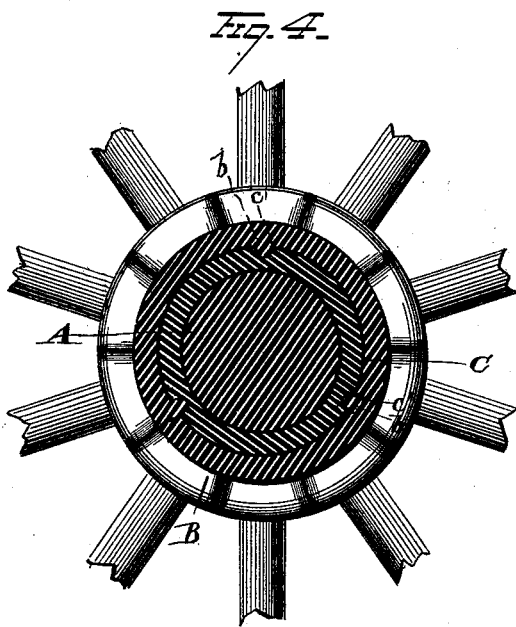
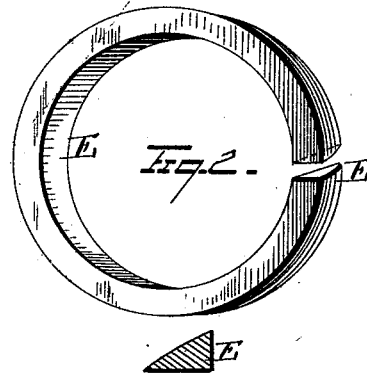
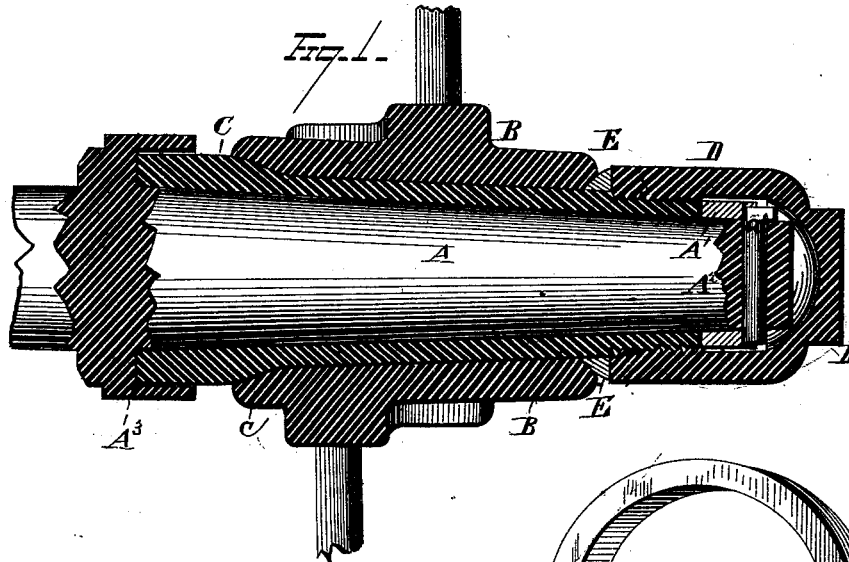


N. P. BOWSHER.
Vehicle-Wheel Hub

No. 215,086.

Patented May 6, 1879.



WITNESSES
E. J. Nottingham
L. D. Seymour

INVENTOR
Nelson P. Bowsher
By *Seigett & Seigett* ATTORNEYS

UNITED STATES PATENT OFFICE.

NELSON P. BOWSHER, OF SOUTH BEND, INDIANA, ASSIGNOR TO SOUTH BEND IRON WORKS, OF SAME PLACE.

IMPROVEMENT IN VEHICLE-WHEEL HUBS.

Specification forming part of Letters Patent No. **215,086**, dated May 6, 1879; application filed October 10, 1878.

To all whom it may concern:

Be it known that I, NELSON P. BOWSHER, of South Bend, Indiana, have invented certain new and useful Improvements in Hubs, (cast;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to a new and useful improvement in cast-iron hubs, and the parts by which they are connected with the spindle, designed for use more particularly in sulky-plows, though equally applicable in all localities where cast-iron hubs are employed.

My invention consists in combining with the cast-iron hub a conical boxing made to extend through the hub from the inside, said boxing provided upon its outer end with a screw-thread to receive a screw-cap.

The spindle is made to project through the boxing, and is provided at its end with a ring and linchpin for holding the wheel on the spindle, and between which and the end of the boxing washers may be placed. A split wedge-ring is then inserted in the outer end of the hub, between the hub and the boxing. This wedge-ring is driven snugly in its seat, and the parts all held securely in place by a screw-cap, which is run upon the outer end of the boxing, all substantially as hereinafter set forth and claimed.

In the drawings, Figure 1 is a longitudinal central section of a hub and its connecting parts embodying my invention. Fig. 2 is a separate view of the split wedge-ring; Fig. 3, a separate view of the ring adjacent to the linchpin. Fig. 4 is a sectional view by a plane perpendicular with the spindle, showing the projection from the boxing and corresponding recesses in the hub, whereby the boxing is made to move with the hub, and is prevented from having any motion in the hub.

A is an axle-spindle. B is the cast-iron hub; C, the boxing, which fits within the hub and upon the spindle. The boxing C is preferably made tapering at *c*, so as to find a firm bearing in the inner end of the hub; and it is provided at any convenient point with recesses

c', which are designed to receive lugs *b*, which are cast upon the interior of the hub, so that the boxing shall not turn within the hub.

The boxing, moreover, is made to taper from end to end, being smaller at its outer than at its inner end, in order that the boxing may not be forced out through the hub. The boxing is provided on its outer end with a screw-thread to receive the screw-cap D.

A¹ is a loose ring, adapted to slip upon the end of the spindle, and is held in place and prevented from turning by a linchpin, *a'*.

If desired, metallic or leather washers may be inserted between the ring A¹ and the end of the boxing at A², and so also at the inner end of the boxing at A³.

E is a split wedge-ring, which is made to fit in between the outer end of the hub and the adjacent boxing. This wedge-ring is intended to center the hub upon the boxing, and to hold them firmly in their proper relations to each other. This wedge-ring E is forced into position and held there by a screw-cap, D.

By this construction it is apparent that the wear is removed entirely from the cast-iron hub, and is thrown entirely upon the spindle and boxing. Should the boxing become worn or broken it may be readily removed by simply loosening the cap D and another boxing be inserted in its place, thus making the wheel as good as new.

Moreover, the construction is such that grit is kept out from the working parts, and the parts are all readily accessible when it is desired to renew the washers or to oil the parts.

This mechanism is designed more especially for use in sulky-plows, though, as before stated, it is clearly well adapted in any locality where cast-iron hubs are employed.

I am aware that wedge-shaped rings have heretofore been employed for securing a hub from longitudinal displacement on the axle-box, and hence I make no claim to such feature, broadly considered.

What I claim is—

1. The combination, with a tapering axle-box having screw-threaded outer end, and a cast-iron hub fitted to said box, of a split wedge-shaped ring, seated against a tapering seat formed on the end of the axle-box, and an internally screw-threaded cap, which completely

incloses the outer end of the axle-box, and also holds the wedge-shaped ring snugly against the hub, substantially as set forth.

2. The combination, with a spindle, an axle-box, and a ring held against the outer end of the axle-box by a linchpin extending through the spindle, of a cast-iron hub, a wedge-shaped ring, and a screw-threaded cap, the latter serving to hold the hub in place, to obviate the accidental displacement of the linchpin,

and prevent the admission of dust or grit between the spindle and axle-box, substantially as set forth.

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

NELSON P. BOWSHER.

Witnesses:

GEO. PFLEGER,

L. PINE.