J. M. WHITING.
VEHICLE-HUBS.

No. 195,862. Patented Oct. 2, 1877.

Fig. 1.

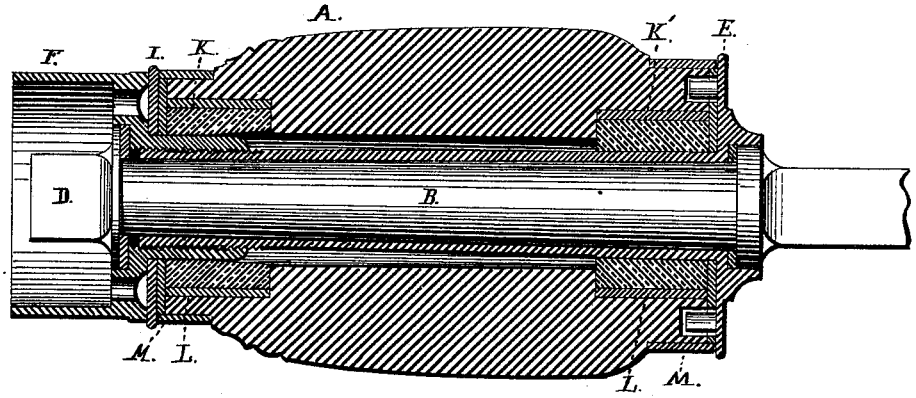


Fig. 2.

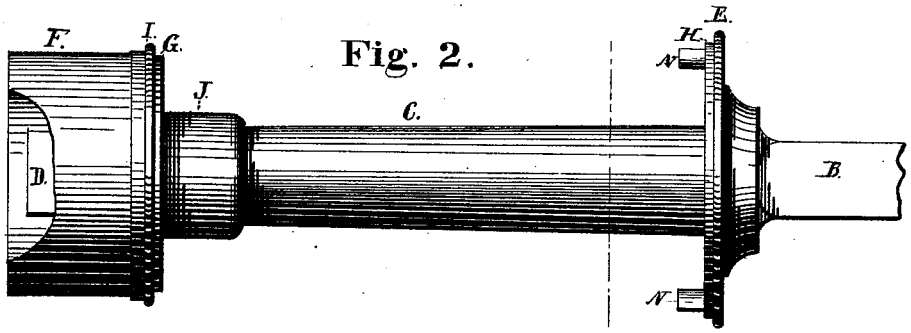


Fig. 3.

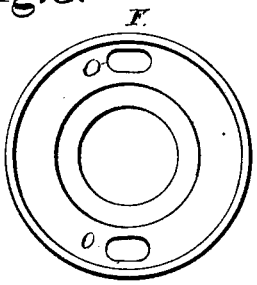
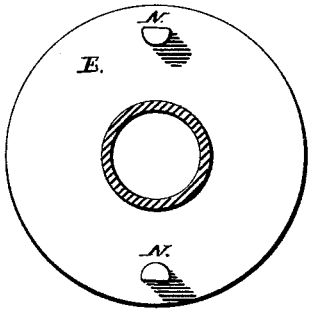


Fig. 4.



WITNESSES.

Eugene F. Warner

Walter B. Wimert

INVENTOR.

James M. Whiting

UNITED STATES PATENT OFFICE.

JAMES M. WHITING, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN VEHICLE-HUBS.

Specification forming part of Letters Patent No. **195,862,** dated October 2, 1877; application filed June 30, 1877.

To all whom it may concern:

Be it known that I, JAMES M. WHITING, of Providence, in the State of Rhode Island, have made certain new and useful Improvements in Carriage-Hubs; and I do hereby declare that the following specification, taken in connection with the drawing, making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a section of hub, showing axle-arm. Fig. 2 shows the hub-box upon the axle-arm with front and back caps. Fig. 3 shows end view of front cap. Fig. 4 shows inside of back cap.

My invention relates to a class of hubs in which the hub-box is provided with a rubber packing, and has for its object the preservation of the hub during the introduction of the hub-box, and the subsequent protection of the packing from the oil; and consists in the improvements hereinafter set forth.

The forcing of the tapering hub-box into the rubber packing not unfrequently splits the hub between the metallic bands which are driven on and surround it at either end, thus rendering the hub entirely worthless, and causing a material loss of labor and stock.

Another difficulty in the use of hubs of this class has been the liability of the oil, by reason of the narrowness of the flange upon the axle-arm, to leak out at the back and run in between the rubber and the hub-box, the injurious effect of which it is not necessary to describe.

In the drawing, A is the hub; B, the axle-arm; C, the hub-box, and D the nut. The hub-box C is constructed with a flange or plate, E, at one end equal in diameter to the hub, while the other end has a screw-thread cut thereon to receive the front cap or end piece F.

G and H are rubber packings, and I a metallic plate loose upon the extended collar J of the cap F.

K K′ are rubber packings upon the inside of the hub. L L are metallic rings, within which the rubber packing is forced, and M M are metallic rings driven onto each end of the hub, the outer edges of which project slightly from the wood. The metallic rings L L are first introduced and fitted to the inside of the hub, after which the rubber packing is driven in. The tapering hub-box is then driven in at one end, and the tapering collar J screwed in at the other. It will now be readily seen that the rings L L must sustain the strain which would in their absence be brought upon the hub itself, and that the latter will be relieved from all liability to split during the operation.

The plate E, covering as it does the entire end of the hub, and having upon its inner face a rubber packing, H, effectually prevents any escaping oil from coming in contact with the packing K′. The plate, and consequently the hub-box, are prevented from turning, in case the latter should work in the packing, by means of two dowel-pins, N N, extending into the hub.

The front cap F is screwed onto the hub-box by means of a suitable wrench fitting into the slots O O, and rotates upon the loose plate I, which preserves the packing G from injury.

The packings G H, as the parts are drawn together, are forced against the ends of the hub and within the projecting edges of the rings M M.

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

The combination of flanged hub-box E C, hub A, cap F, packings G, H, K, and K′, and rings L L, substantially as set forth.

JAMES M. WHITING.

Witnesses:
EUGENE F. WARNER,
WALTER B. VINCENT.