M. CHAPIN.

Hubs and Axles for Vehicles.

No. 135,689. Patented Feb. 11, 1873.

Fig. 1.

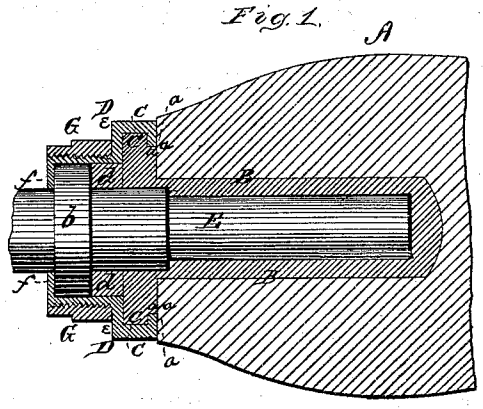
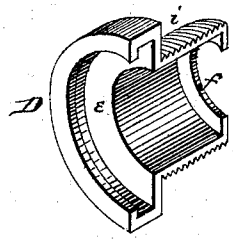


Fig. 2.



Witnesses
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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

MARVIN CHAPIN, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN HUBS AND AXLES FOR VEHICLES.

Specification forming part of Letters Patent No. **135,689**, dated February 11, 1873.

To all whom it may concern:

Be it known that I, MARVIN CHAPIN, of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Carriage-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a coupling for connecting the wheel and axle, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal section, showing my invention; and Fig. 2 is a perspective view of a part of the coupling.

A represents the hub of a carriage-wheel with axle-box B. On the inner end of the box B is cast, screwed, or otherwise firmly affixed a flange, C, which forms a groove, *a*, between it and the end of the box and hub; or a heavy band screwed on the end of the hub may be used for the same purpose; or the attachment may be made on the rim of the box without coming up to the full size of the hub. E represents the axle, provided with the usual collar *b*, between which and the end of the hub a washer, *d*, is inserted.

The coupling to connect the axle E with the hub A consists of a hollow cylinder, D, bisected longitudinally, and provided with exterior screw-threads *i*, extending from the outer end inward up to the shoulder *e*. The inside of this shoulder *e* fits up against the outside of the flange C, said flange fitting in a groove made around the interior at the inner end of the cylinder. At the outer end of the cylinder D is an inward-projecting flange, *f*, which fits against the outside of the collar *b* on the axle. A thin nut, G, is then screwed over the bisected cylinder D, making a solid tube, forming a firm fastening or coupling for connecting the wheel and axle, which keeps out dirt and sand from the box and axle-bearing, and also admits of the closing of the front end of the box and hub, leaving it clean and free from axle-grease.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The bisected cylinder D, provided with screw-threads *i*, shoulder and groove *e*, and flange *f*, and used in combination with the flange C on a hub, collar *b* on an axle, and the nut G, the axle E and box B extending but partially through the hub A, all 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.

MARVIN CHAPIN.

Witnesses:

A. J. FOSTER,

D. S. SIMMONS.