(No Model.)

A. A. MINOR.

VEHICLE HUB.

No. 478,287. Patented July 5, 1892.

Fig. 1.

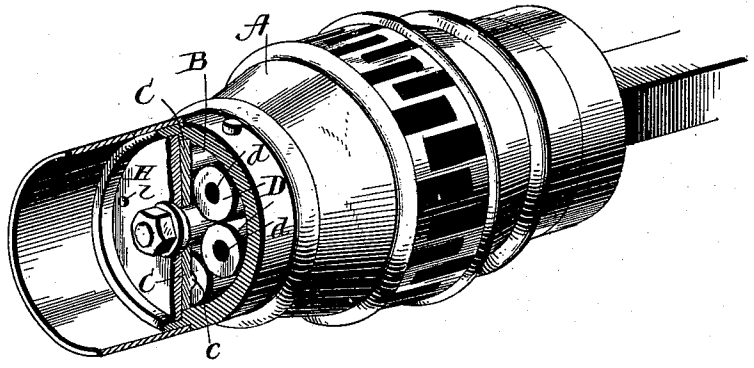


Fig. 2.

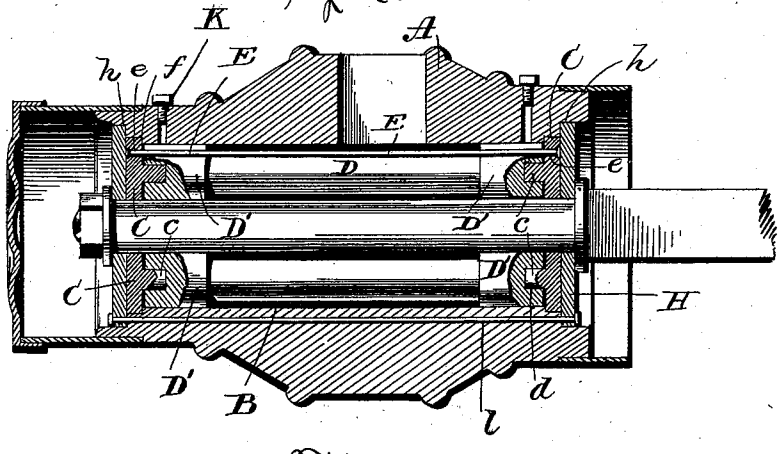


Fig. 3.

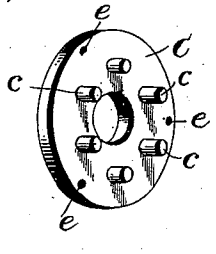
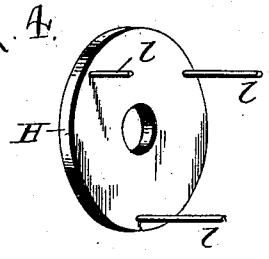


Fig. 4.



Witnesses
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P. J. Rogers.

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by Franklin H. Hough
his attorney

UNITED STATES PATENT OFFICE.

ALFRED AUGUSTUS MINOR, OF EGG HARBOR, WISCONSIN.

VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 478,287, dated July 5, 1892.

Application filed November 16, 1891. Serial No. 412,078. (No model.)

To all whom it may concern:

Be it known that I, ALFRED AUGUSTUS MINOR, a citizen of the United States, residing at Egg Harbor, in the county of Door and State of Wisconsin, have invented certain new and useful Improvements in Vehicle-Wheel Hubs; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in vehicle-hubs; and it relates more particularly to that class of vehicle-hubs in which a series of frictional rollers are arranged within the hub.

The invention has for its object to render more efficient in operation this class of vehicle-hubs. In this class of vehicle-hubs I am aware that it is common to arrange the friction-rollers within an axle-box which has been inserted within a hub.

My invention has for its further object to provide an anti-friction vehicle-hub which may be used in connection with the vehicle-axles that are in common use without necessitating any change whatever in their construction. I dispense entirely with the axle-box heretofore used, arranging the rollers within the hub proper. The various parts are so arranged as to reduce to a minimum the friction, and to more effectually prevent the endwise movement of the rollers.

I design this as an improvement on my anti-friction hub for which I was granted Letters Patent, dated October 13, 1891, No. 461,033. In my improvement I use a hub and rollers constructed similarly to that shown in my former patent, except that I make a change in the bearing-surface of the rollers.

To these ends and to such others as the invention may pertain, the same consists in the peculiar construction and in the novel combination, arrangement, and adaptation of the parts, all as more fully hereinafter described, shown in the accompanying drawings, and specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout the several views, and in which drawings—

Figure 1 is a perspective view of a vehicle-hub constructed in accordance with my invention, the same being shown as in place upon the axle and partially broken away in order to better illustrate the arrangement of the rollers. Fig. 2 is a vertical longitudinal view of the same in section. Fig. 3 is a detailed view in perspective of one of the anti-friction plates which support the rollers. Fig. 4 is also a detailed perspective of a second plate, which serves to protect the inner plate and rollers from shock of the hub.

Referring now to the details of the drawings by letter, A represents the body of the hub, which resembles in its exterior appearance hubs as commonly constructed.

The interior of the hub is provided with an annular chamber B, open at the end of the hub and of the same diameter throughout the entire length, excepting near the extreme ends, where it widens out to form two shoulders *f* and *i*. The rollers D are provided at points adjacent to their ends with enlarged portions D′, and the several rollers are arranged around the interior of the chamber B, and together form a direct bearing-surface for the axle. The distance between the rollers should be as slight as possible without being in actual contact. The body portion of each of the rollers is somewhat depressed, or of less diameter than the enlarged portion D′.

C is a plate having the roller-supports *c*, which are short pins or rods, which are inserted into the holes *d* of the rollers D and form a journal-bearing for same.

e e are holes through which rods E E pass, which serve to hold the rollers in place. The plate C bears against the shoulder *f*, thus preventing any endwise movement of the rollers, and the second plate H, which rests against the shoulder *h*, is provided to protect the inner plate against any shock of the hub. Plates H H are fastened together by rods *l*, which pass through the body of the hub.

I have provided, for convenience, oil-holes K, which may be provided with any form of covers adapted to the purpose.

It will be seen that the rollers and plates C will turn independently of the rest of the hub, thus reducing to a minimum the friction between the parts, at the same time producing a vehicle-hub which shall be strong and durable.

It is my purpose to manufacture the body of the hub and the several parts of the same of metal, and I prefer the use of metal in this connection, though other material may be used, if preferred.

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

In a vehicle-hub, the combination, with the body of the hub provided on its interior with an annular chamber enlarged at the ends to form two shoulders *f* and *h*, of plates having projecting pins on their inner surfaces adapted to form bearings for rollers, rods connecting the said plates, longitudinal rollers pivoted on said projecting pins, the plates H H, bearing against the shoulders *h h* and the outer surface of the plates C, and rods connecting said outer plates, all substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED AUGUSTUS MINOR.

Witnesses:

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