E. J. KEENA & J. W. KELLY.

WHEEL HUB.

APPLICATION FILED JULY 26, 1910.

987,724. Patented Mar. 28, 1911.

Fig. 1.

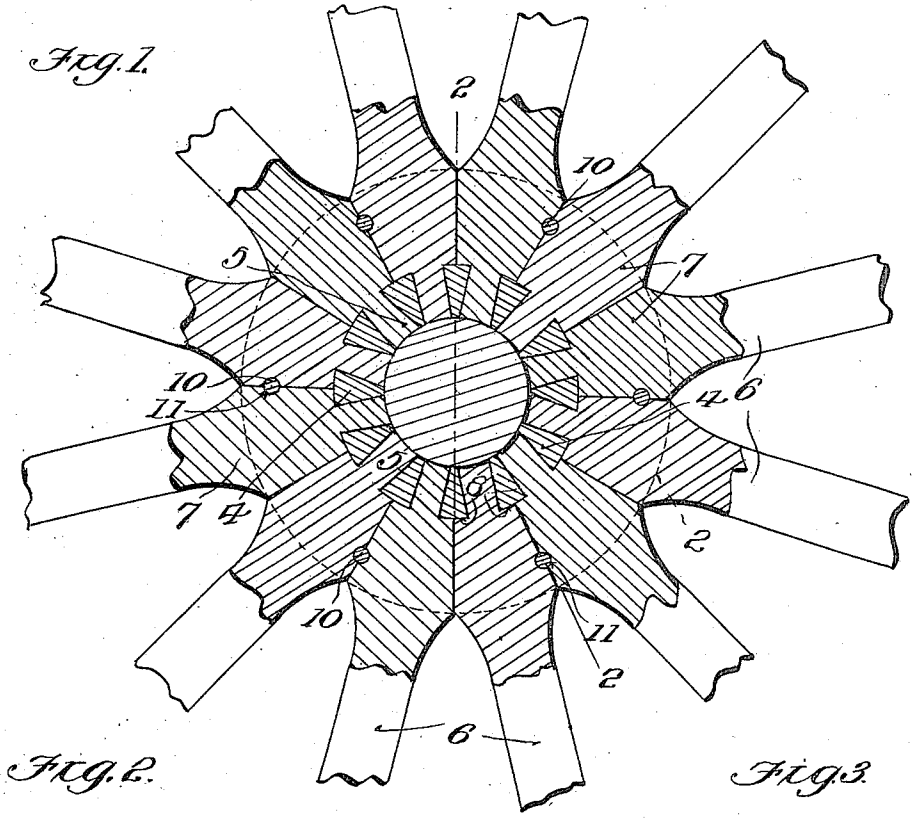


Fig. 2.

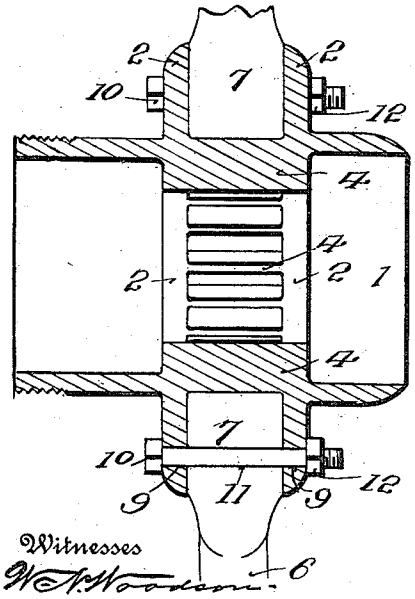
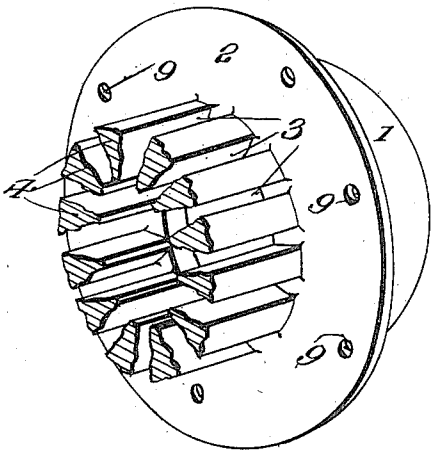


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD J. KEENA AND JOHN W. KELLY, OF JACKSON, MICHIGAN.

WHEEL-HUB.

987,724. Specification of Letters Patent. Patented Mar. 28, 1911.

Application filed July 26, 1910. Serial No. 573,998.

To all whom it may concern:

Be it known that we, EDWARD J. KEENA and JOHN W. KELLY, citizens of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Wheel-Hubs, of which the following is a specification.

The present invention comprehends certain new and useful improvements in vehicle wheels, and the object of the invention is an improved hub which provides a firm bearing for the inner ends of the spokes, and which includes a pair of spaced flanges that may be tightened against the sides of the spokes to compensate for shrinkage or wear or the like.

A further object of the invention is a hub of this character which is thoroughly practical and efficient, which possesses to a marked degree the characterstics of simplicity, durability and strength, and which may be easily and cheaply constructed.

With these and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that we shall hereinafter fully describe and then point out the novel features of in the appended claim.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a transverse section of our improved hub showing the spokes applied thereto; Fig. 2 is a longitudinal section of the hub; and, Fig. 3 is a sectional perspective view thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

The hub consists essentially of a metal shell 1 which may be cast or otherwise suitably formed of integral structure, and which is preferably substantially cylindrical, although not necessarily so. Intermediate of its ends the shell is formed with a pair of longitudinally spaced circumferential flanges 2, each flange having an annular contour and projecting both internally and externally from the shell. Between these flanges the shell is provided at regular intervals with a series of spoke openings 3, that are spaced apart by webs 4 extending between and materially reinforcing the inner portions of the circumferential flanges. The webs taper inwardly in cross section and project inwardly flush with the inner edges of the flanges (see Fig. 1). The webs 4 and the internal portions of the flanges form inward extensions of the walls of the respective spoke openings 3 and act in conjunction therewith to provide separate sockets for the reception of the reduced terminal tongues 5 of the inner ends of the spokes 6 of the vehicle wheel. The sockets are closed on all four sides and hence provide broad and firm bearings for the tongues. The sockets are open at their inner ends so as to be capable of accommodating tongues of different lengths.

The webs 4 terminate at their outer edges at a considerable distance inside of the outer edges of the flanges and, therefore, the external portions of the flanges project outwardly beyond the aforesaid sockets. The space between the outer portions of the flanges is entirely unobstructed and is designed to receive the enlarged heads 7 at the inner ends of the spokes. The adjacent faces of the heads are mitered in radial planes and bear evenly against each other so as to provide a solid mass of material around the periphery of the hub. The reduced tongues 5 provide shoulders 8 which take over and abut against the outer edges of the webs 4 to limit the inward movement of the spokes.

The external portions of the flanges are formed near their outer edges at regular intervals with pairs of transversely alining apertures 9. A bolt 10 is inserted through each pair of apertures and is received in matching grooves 11 in the contacting faces of adjacent spoke heads 7, whereby to serve to lock the spokes securely in place in the hub. A nut 12 is screwed on the extremity of the bolt to clamp the outer portions of the flanges firmly against the sides of the spoke heads 7. It is to be particularly noted that by tightening this nut from time to time, the flanges may be drawn against the heads to compensate for shrinkage or wear or the like.

It is to be understood that the shell may be formed to receive roller or ball bearings or bearings of any other suitable style.

From the foregoing description in connection with the accompanying drawing it will

be apparent that we have provided an improved vehicle hub in which the spokes are securely held in place and are capable of being easily detached so as to permit any necessary repairs to be expeditiously effected.

The essential features of the invention are the inwardly extended sockets open at their inner ends, and the outwardly projecting flanges adapted to be clamped against the sides of the spokes. The hub is, of course, susceptible of general application and it will be seen that it is particularly adapted for use in automobile wheels.

Having thus described the invention, what we claim is:

A wheel hub formed of integral structure and comprising a shell, a pair of spaced circumferential flanges provided on the shell, each flange projecting both internally and externally from the shell, the shell being formed between the flanges with a series of spoke openings, and a series of webs extending inwardly between the spoke openings and connecting the inner portions of the flanges to reinforce the same, the webs and the inner portions of the flanges forming inward extensions of the walls of the spoke openings and co-acting therewith to provide separate spoke sockets open at both ends, the webs terminating at their outer edges at a considerable distance within the outer edges of the flanges to provide an entirely unobstructed space between the external portions of the flanges, and the flanges being formed in their external portions with series of bolt openings.

In testimony whereof, we affix our signatures in presence of two witnesses.

EDWARD J. KEENA. [L. S.]
JOHN W. KELLY. [L. S.]

Witnesses:
JOHN H. DE MAY,
CUTHBERT DE MAY.