

M. T. LONG.
WHEEL HUB.
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1,013,188.

Patented Jan. 2, 1912.

Fig. 1.

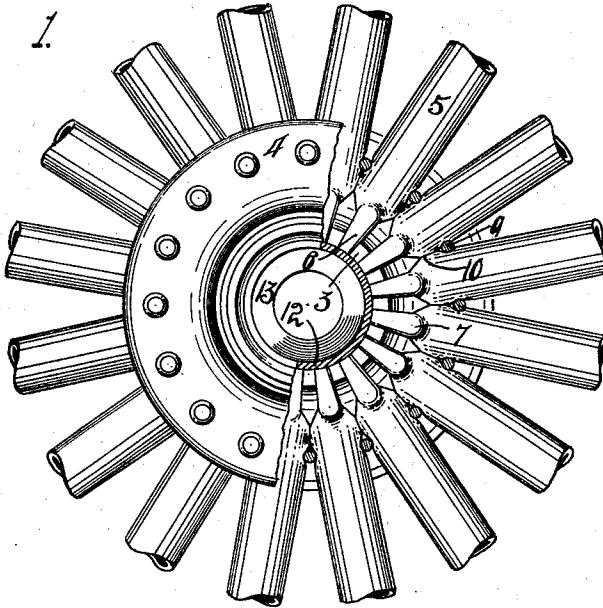
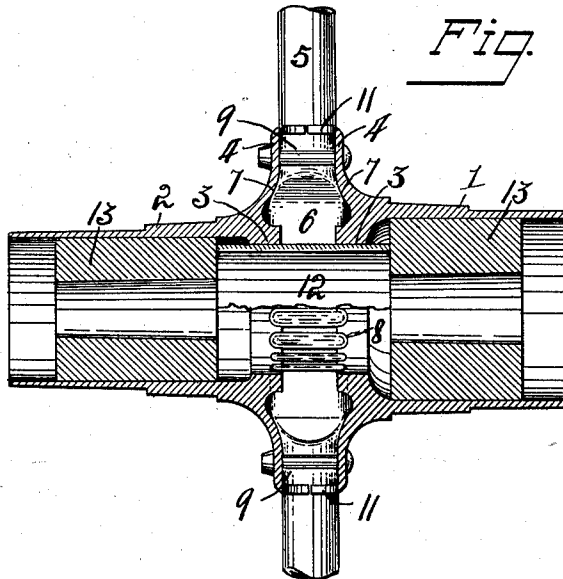


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MATTHEW T. LONG, OF HELENA, OKLAHOMA, ASSIGNOR TO THE STANDARD STEEL TUBE COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

WHEEL-HUB.

1,013,188.

Specification of Letters Patent.

Patented Jan. 2, 1912.

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To all whom it may concern:

Be it known that I, MATTHEW T. LONG, a citizen of the United States, and a resident of Helena, in the county of Alfalfa and State of Oklahoma, have invented a certain new and useful Wheel-Hub; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to vehicle wheels, and has for its object the provision of a simple and improved hub construction therefor, which rigidly and securely holds the inner spoke ends and renders an assembling of the same therewith easy and accurate.

A further object of my invention is the provision of a hub of this character which is strong and durable in its construction, and easy and inexpensive to manufacture, and which in other particulars is an improvement over the vehicle wheel hubs commonly used.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of the hub portion of a wheel embodying my invention with portions broken away, and Fig. 2 is central longitudinal section thereof with a portion broken away.

Referring to the drawings, 1 and 2 designate inner and outer end members, respectively, or halves of a hub, and are of substantially duplicate construction, except that the inner one is of slightly greater diameter and shorter than the outer one to suit the customary external appearance of the hub. Each of the hub members, 1 and 2, is of tubular form in cross-section with its inner end provided with an internal annular flange 3 and an external annular flange 4, which flanges cooperate to rigidly hold the inner ends of the spokes 5, as hereinafter more fully described.

The spokes 5 are preferably of tubular form with their inner ends flattened to form

the broadened, flattened tongue portions 6, the edges of which project beyond the planes of the corresponding side edges of the spokes as shown, to provide rounding shoulders at their inner ends, as at 7.

The hub flanges 4 are intended to embrace opposite sides of the inner end portions of the spokes 5 and for this purpose have their outer portions continuing inward for a distance in parallel with each other to laterally abut against the straight line edges of the spokes adjacent to the flattened tongues 6, and each then curves outward relative to the spoke to fit against the shoulder 7 at the inner ends of said tongues. The inner sides of the flanges 4 then extend inward at the side edges of said tongues to points where they merge into the inner sides of the flanges 3. The flanges 3 project inward toward each other to annularly narrow the inner end portion of the spoke receiving socket formed by the flanges of the members 1 and 2, and are notched at suitable intervals, as at 8, to provide opposing recesses in said flanges 3 for the side edges of the spoke tongues 6 to seat in, as best shown in Fig. 2. The notched flanges 3 cooperate to rigidly hold the inner flattened end portions of the spokes against lateral movement either longitudinally or transversely of the hub, and the outwardly curved portion of the flanges 4 coact with the spoke shoulders 7 to limit the outward movements of the spokes relative to the hub as is apparent. Bolts, rivets or other suitable means 9 project through apertures in the flanges 4 between the inner end portions of the spokes and cooperate with said flanges to rigidly secure the spokes in assembled relation within the hub.

For the purpose of more rigidly securing spokes within the hub the inner ends of their tubular portions are adapted to laterally abut within the space formed by the flanges 4, as shown at 10 Fig. 1, and the rivets or other securing members 9 project between the spokes adjacent to their points of abutment, the spoke sides being depressed sufficiently to permit the members 9 to pass snugly therebetween, as shown in Fig. 1.

In order to further brace the inner end portions of the spokes against lateral movements in an equatorial plane of the hub, the outer edges of the flanges 4 are turned inward sufficiently to substantially abut and close the spoke receiving space between the

hub members, except for semi-spherical notches 11 provided in register therein for the spokes to project through.

12 designates a tubular bushing member 5 which fits within the flanges 3 of the hub and serves both to receive the inner end thrust of the spokes 5 and also to force said spokes outwardly against the wheel rim. For this purpose the bushing 12 may be 10 either longitudinally tapered to adapt it to exert a wedge like action against the inner spoke ends when forced into position within hub flanges 3, as described in my former Letters Patent No. 918,756 of April 20, 1909, 15 or it may be straight as desired. In order to deaden the noise which would be present if the axle-box, not shown, had direct contact with the hub members 1 and 2, which are of metal, wooden bushings 13 are fitted 20 into the members 1 and 2 and form bearings for the axle-box.

It is evident that I have provided a hub which is not only light and durable in its construction but which coöperates with the 25 inner flattened spoke ends in such manner as to rigidly and securely hold said spokes thereto, and also renders an assembling of the spokes within the hub easy and rapid, thus enhancing the practicability and commercial value thereof. 30

I wish it understood that my invention is not limited in any specific construction or arrangement of the parts, except in so far as such limitations are specified in the 35 claims.

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

1. In a wheel, a set of spokes having their 40 inner ends flattened longitudinally of the wheel hub, a hub having separate inner and outer metallic sections the adjacent ends of which are provided with annular outwardly projecting flanges having plain inner sides 45 which embrace the inner ends of the spokes adjacent to the flattened portions thereof and have their free edges turned inward in substantially abutting relation and notched to fit around the spokes, said adjacent section ends also being provided with annular 50 notched surfaces for coacting with the opposite side edges of the flattened portions of

the spokes and coöperating with said flanges to rigidly hold the spokes against relative lateral movements, and means for rigidly 55 uniting the hub flanges.

2. In a wheel, a set of spokes having their inner ends flattened longitudinally of the wheel hub, a hub having separate inner and outer metallic tubular sections the adjacent 60 ends of which are provided with annular outwardly projecting flanges to embrace the inner spoke ends without their flattened portions and having notched annular surfaces interiorly of said flanges for coacting 65 with the edges of the flattened spoke ends to rigidly hold said spokes against relative lateral movements, means for rigidly uniting said flanges, a metallic bushing internally of the hub for receiving the inner end 70 thrusts of said spokes, and bushing members of fibrous material, such as wood, mounted within the hub sections at the ends of said bushing to form bearings for an axle-box. 75

3. In a wheel, a set of tubular spokes having their inner end portions flattened to form broadened tongues and to provide shoulders, a hub having inner and outer metallic sections the inner ends of 80 which are provided with annular radially projecting flanges for bearing against the opposite spoke sides without the broadened portions thereof, the outer ends of said flanges being turned inward and notched 85 to coöperate to embrace the spokes, said flanges having their inner end portions flaring outwardly to shoulder over the spoke shoulders and form annular recesses in the inner sides of their base portions, the base 90 portions of the flanges thence extending toward each other and being notched to substantially the depth of said recesses to receive the associated edges of the flattened spoke ends, means for clamping the sections 95 together, and means receiving the inner end thrust of the spoke.

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

MATTHEW T. LONG.

Witnesses:

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C. W. OWEN.