

A. O. KUMMERO.
METAL WHEEL.
APPLICATION FILED DEC. 2, 1909.

971,620.

Patented Oct. 4, 1910.

Fig. 1.

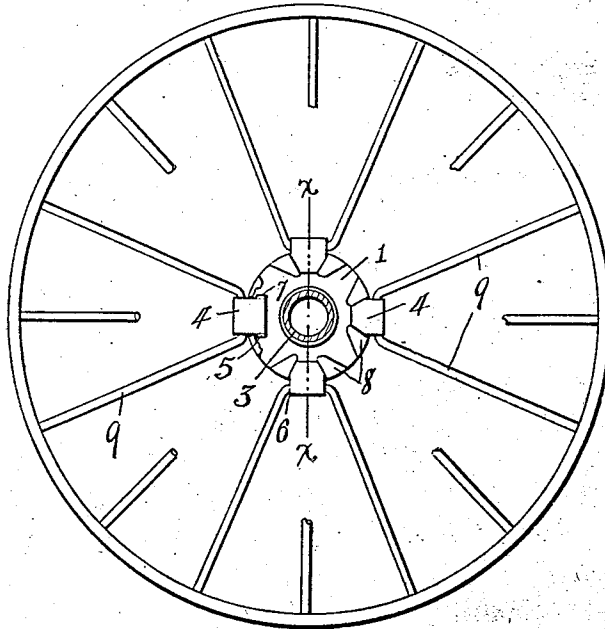


Fig. 3.

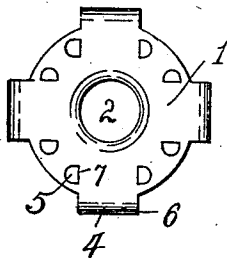


Fig. 4.

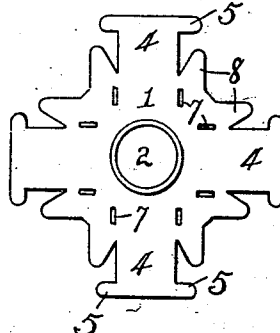


Fig. 2.

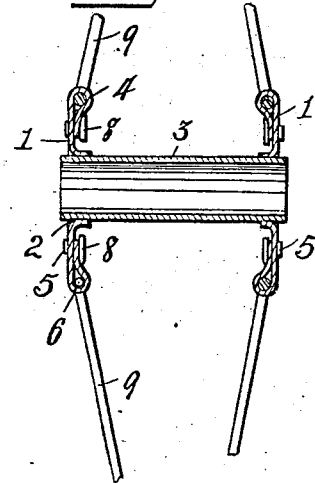
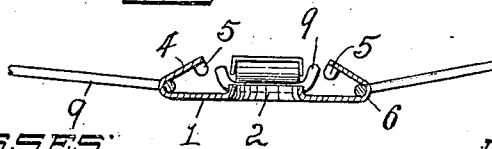


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALBERT O. KUMMERO, OF TOLEDO, OHIO.

METAL WHEEL.

971,620.

Specification of Letters Patent.

Patented Oct. 4, 1910.

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To all whom it may concern:

Be it known that I, ALBERT O. KUMMERO, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Metal Wheel; 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 metal wheels and particularly to the spoke securing flanges of the hubs thereof; and it has for its object the provision of an improved, simple and highly efficient device of this class, which is strong and durable in its construction, composed of a minimum number of parts and amount of material, and is capable of rapid assembling with respect to the spokes and hub barrel, thus enhancing its practicability and commercial value.

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

Figure 1 is a side elevation of a wheel with the hub in transverse section. Fig. 2 is a section of the hub on the line *x x* in Fig. 1 with the spokes attached thereto. Fig. 3 is an outer side elevation of a hub-flange in completed form. Fig. 4 is a plan of the flange blank, and Fig. 5 is a cross-section of the same partly formed.

Referring to the drawings, 1 designates the body of a spoke securing flange which is stamped from sheet metal and has a central opening 2, the walls of which are formed by an inward drawing of the metal to provide a broadened bearing surface for the end of a hub-sleeve or barrel 3. The body 1 is shown as being of circular form and as having its edge provided with a plurality of radially-extending equidistant spoke-securing wings 4, in the present instance four in number, which are formed at opposite side edges adjacent their ends with ears 5. The wings 4 are intended to be bent upon the body 1 to form spoke receiving loops 6 at the outer edge of the body and when so bent the ears 5 are intended to project

through registering slots or apertures 7 in the body 1 and to extend outwardly from the wings at the opposite side of the body, whereby to engage with such side of the body to rigidly secure the wing ends thereto, as is apparent by reference to Figs. 1, 2 and 3.

Projecting from the outer edge of the body 1 adjacent the edges of the wings 4 are locking ears or fingers 8 which are intended to be bent over upon the adjacent corners of the wing ends to cooperate with the ears 5 to securely hold the wing ends to the body and to serve to prevent a withdrawal of such ears from their respective apertures.

To adapt the flanges for rapid assembling in a wheel, the wings 4 are bent over in hook form relative to the body preparatory to engaging the looped inner end of a pair of spokes 9 therewith, as indicated in Fig. 5, and the ears 5 are also bent inwardly relative to the wing ends to adapt them, on the closing operation, to project through the registering apertures 7. As the ears are forced through the apertures 7 in such operation, their ends strike the base die, or the one on the opposite side of the body to the wings, and are thereby deflected outwardly and pressed closely to the body. In the next operation, the ears or fingers 8 are bent over upon the wing ends to cooperate with the ears 5 to securely lock such wing ends to the body.

It is apparent that I have provided a spoke securing flange which is composed of a minimum of material thus making it inexpensive of manufacture, and which is simple and extremely strong in its construction due to the securely locking of the ends of the spoke attaching loops to the flange body in the manner described. A further advantage of this form of flange is that the loops 6 present broad bearing surfaces to the spoke loops whereby strain thereon is more widely distributed and the liability of breakage at such points very considerably lessened.

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

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

1. A wheel hub comprising a barrel, and

single piece spoke securing flanges mounted on the ends thereof, such flanges having marginal projections bent to form spoke securing loops and terminating at their ends in ears, and also having apertures with which said ears interlock and integral means for preventing a withdrawal of the ears from the apertures.

2. A hub flange having wings projecting from its outer edge provided adjacent their free ends with laterally projecting ears, said wings being bent to form spoke securing loops, and said flange having its body provided with apertures with which said ears interlock to prevent an opening of the loops.

3. A hub flange having wings projecting radially therefrom and bent to form spoke securing loops, and means integral with the flange and coacting with the free ends of the bent wings to secure them against opening movements.

4. A hub flange having apertures therein and wings projecting from its outer edge, said wings being bent to form spoke securing loops and having ears projecting laterally from their free ends and interlocked with said apertures to prevent an opening of the loops, and means coöperating with said ears and apertures to secure the wing ends in bent position.

5. A hub flange having apertures therein and wings projecting from its outer edge, said wings being bent to form spoke secur-

ing loops and having their free ends provided with projections which interlock with said apertures to retain the free ends of the wings in rigid contact with a side of the flange, and ears projecting from the outer flange edge at the sides of the wings and bent over upon the corners of the wing ends to coöperate with said projections and apertures to retain the wings in bent position.

6. In a wheel, a hub flange stamped from a single piece of metal and having wings projecting therefrom and bent to provide spoke securing loops with the ends of the wings in contact with a side of the flange, and means integral with the flange for securely locking the free ends of the wings to the flange side.

7. A hub flange formed of a single piece of metal and having radial projections bent to provide spoke securing loops, which loops are disposed without the peripheral line of the flange, and means for interlocking the free ends of said projections to a side of the flange to prevent an opening of the loops.

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

ALBERT O. KUMMERO.

Witnesses:

C. W. OWEN,
CORNELL SCHEIBER.