

T. E. MURRAY,  
METAL VEHICLE WHEEL.  
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1,192,549.

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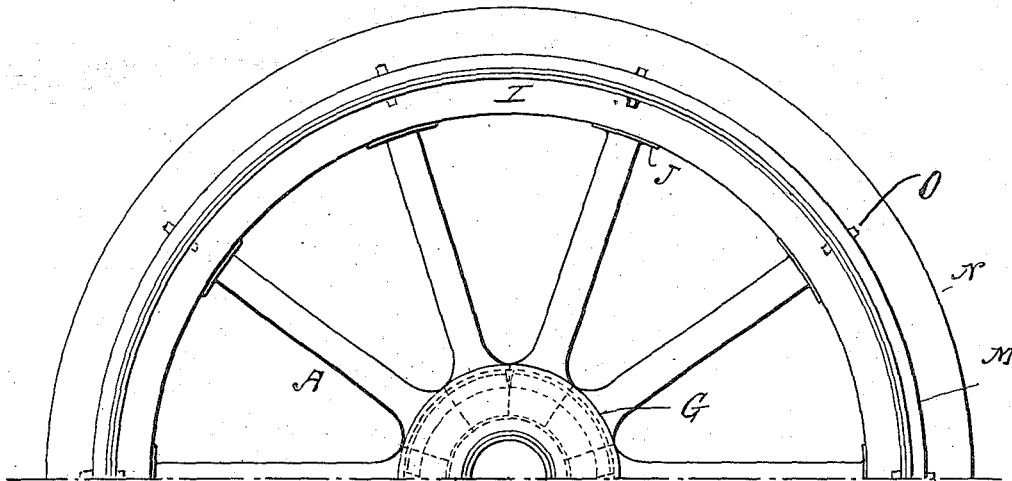
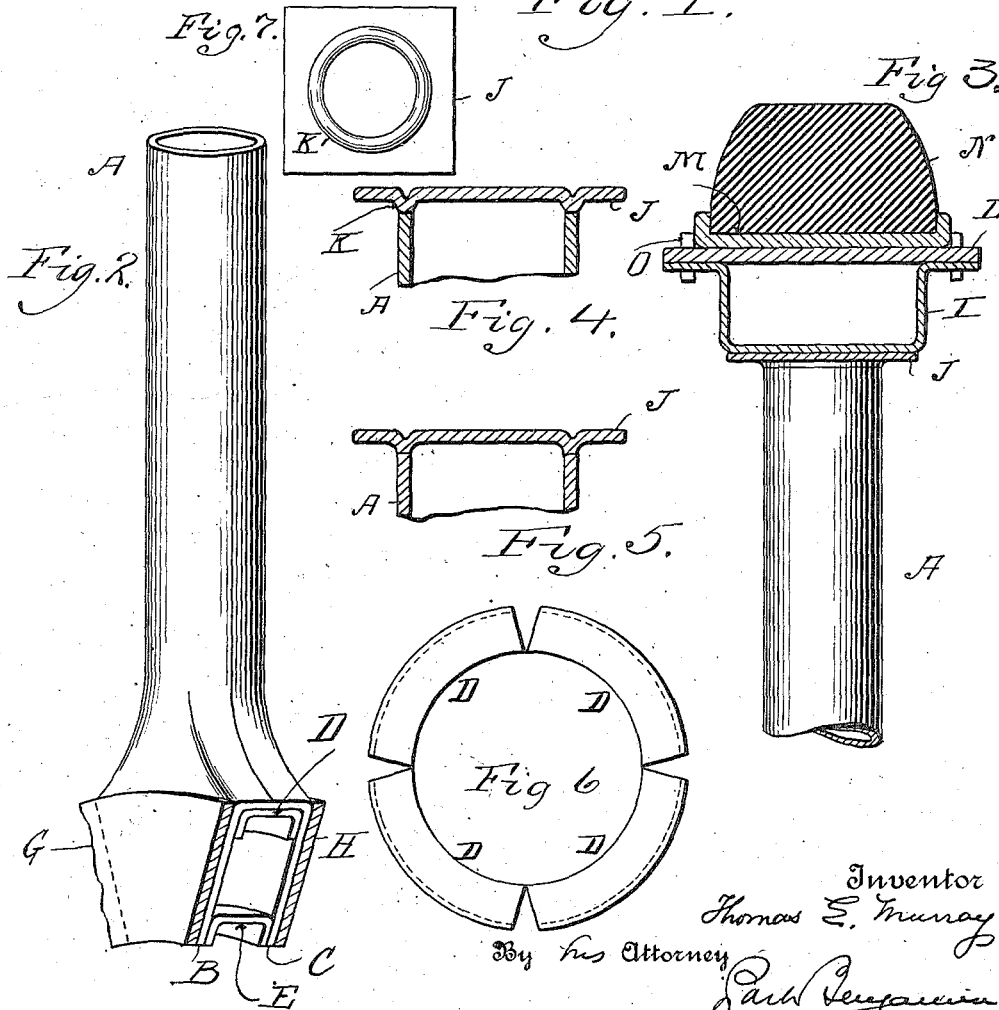


Fig. 1.



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By his Attorney  
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# UNITED STATES PATENT OFFICE.

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## METAL VEHICLE-WHEEL.

1,192,549.

Specification of Letters Patent.

Patented July 25, 1916.

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*To all whom it may concern:*

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Metal Vehicle-Wheels, of which the following is a specification.

The invention relates to metal vehicle wheels having tubular spokes, each spoke having at its inner end parallel frusto-wedge shaped plates which are placed in contact at their inclined edges to form a circular nave. Seated between said plates is a series of curved flanged plates, placed end to end, the body portions of said plates closing the tubular portions of said spokes, and the flanges of said plates being welded to said frusto-wedge shaped spoke plates. To further brace and strengthen the wheel, I may also weld between the said wedge-shaped spoke plates, a flanged ring, the edges of the flanges of which register with the corresponding edges of the wedge-shaped spoke plates.

In the accompanying drawings—Figure 1 is a face elevation of one-half of a wheel embodying my invention. Fig. 2 shows in perspective and separately one of the tubular spokes and a portion of the bottom plate of the rim, the hub flanges receiving the spoke between them being in section. Fig. 3 shows the rim in transverse section with the spoke united thereto. Fig. 4 shows in section the outer end of the spoke in contact with the annular rib K on the under side of one of the plates J, before welding. Fig. 5 shows the same after welding. Fig. 6 shows the assembled bracing pieces D separate from the spokes. Fig. 7 is a bottom view of one of the plates J.

Similar letters of reference indicate like parts.

The tubular spoke A has at its inner end parallel plates B, C of frusto-wedge shape, which when the spokes are assembled meet at their edges, as shown in dotted lines, Fig. 1. Between said plates I insert a plurality of double flanged arc-shaped bracing pieces D, said pieces being in contact at their ends and forming a circle, as shown in Fig. 6. The flanges of said pieces are turned toward the inner ends of the plates B, C, so that said pieces close the open extremity of the spoke, and also brace said plates. After the pieces D are adjusted in position, I

place the plates of all the spokes upon a ring E which is flanged inwardly, the edges of the ring flanges coming flush with the edges of plates B, C, as shown in Fig. 2. Said ring also braces plates B, C at their ends, and serves to unite the spokes, so that when assembled they may be placed upon the hub F and between the usual flanges G, H thereon, which flanges may be welded to plates B, C.

The rim I is of U-shaped cross section, having a flat bottom and side flanges. On the under side of said rim are spot-welded a plurality of plates J corresponding in number to the spokes. On each plate is formed, preferably by striking up the metal of said plate, a circular rib K. The ends of the spokes register with said ribs, as shown in Fig. 4. When a welding current is passed through the joint between spoke and rib, the rib is fused, and the spoke and plate J are thus united, as shown in Fig. 5. The object of the rib is to provide sufficient metal to form the welded joint, and thus avoiding melting of the bottom plate of the rim, if plate J and rib thereon were not present, or melting of the metal of the spoke at the end thereof. A circumferential band L covers the rim I, and is welded to the flanges thereof. On said band is an annular flanged plate M which receives the tire N. Lateral movement of said plate M on band L is prevented by pins O entering said band and the rim flanges. The plates J close the ends of the spokes, and form a flange around said end, thus giving a broad bearing surface for welding to the rim. They may be first welded to the spoke ends, and afterward welded to the rim.

I claim:

1. A metal vehicle wheel, comprising a cylindrical hub, flanges thereon, tubular spokes, each having at its inner end parallel frusto-wedge shaped plates disposed between said flanges with the inclined edges of said plates in contact, and a plurality of flanged curved plates D disposed end to end to form a circle and seated between said frusto-wedge shaped plates, the said curved plates closing the tubular portion of said spokes and having their flanges welded to said frusto-wedge shaped plates.

2. A metal vehicle wheel, comprising a cylindrical hub, flanges thereon, tubular spokes, each having at its inner end parallel frusto-wedge shaped plates disposed be-

tween said flanges with the inclined edges of said plates in contact, and a plurality of flanged curved plates E disposed end to end to form a circle and seated between and having their flanges welded to said frusto-wedge shaped plates.

3. A metal vehicle wheel, comprising a hub, flanges thereon, hollow spokes, each having at its inner end parallel frusto-wedge shaped plates disposed between said flanges, with the inclined edges of said plates in contact, and curved flanged bracing plates seated between said wedge-shaped spoke plates and having their flanges welded thereto.

4. A metal vehicle wheel, comprising a hub, flanges thereon, hollow spokes, each having at its inner end parallel frusto-wedge shaped plates disposed between said flanges, with the inclined edges of said plates

in contact, and a flanged bracing ring also seated between said wedge-shaped spoke plates and having its flanges welded thereto.

5. A metal vehicle wheel, comprising a hub, flanges thereon, hollow spokes, each having at its inner end parallel frusto-wedge shaped plates disposed between said flanges, with the inclined edges of said plates in contact, curved flanged bracing plates seated between said wedge-shaped spoke plates and having their flanges welded thereto, and a flanged bracing ring also seated between said wedge-shaped spoke plates and having its flanges welded thereto.

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

THOMAS E. MURRAY.

Witnesses:

GERTRUDE P. PORTER,  
MAY T. MCGARRY.