

J. BJORN.
STEERING WHEEL.
APPLICATION FILED OCT. 28, 1912.

1,140,943.

Patented May 25, 1915.

Fig. 1.

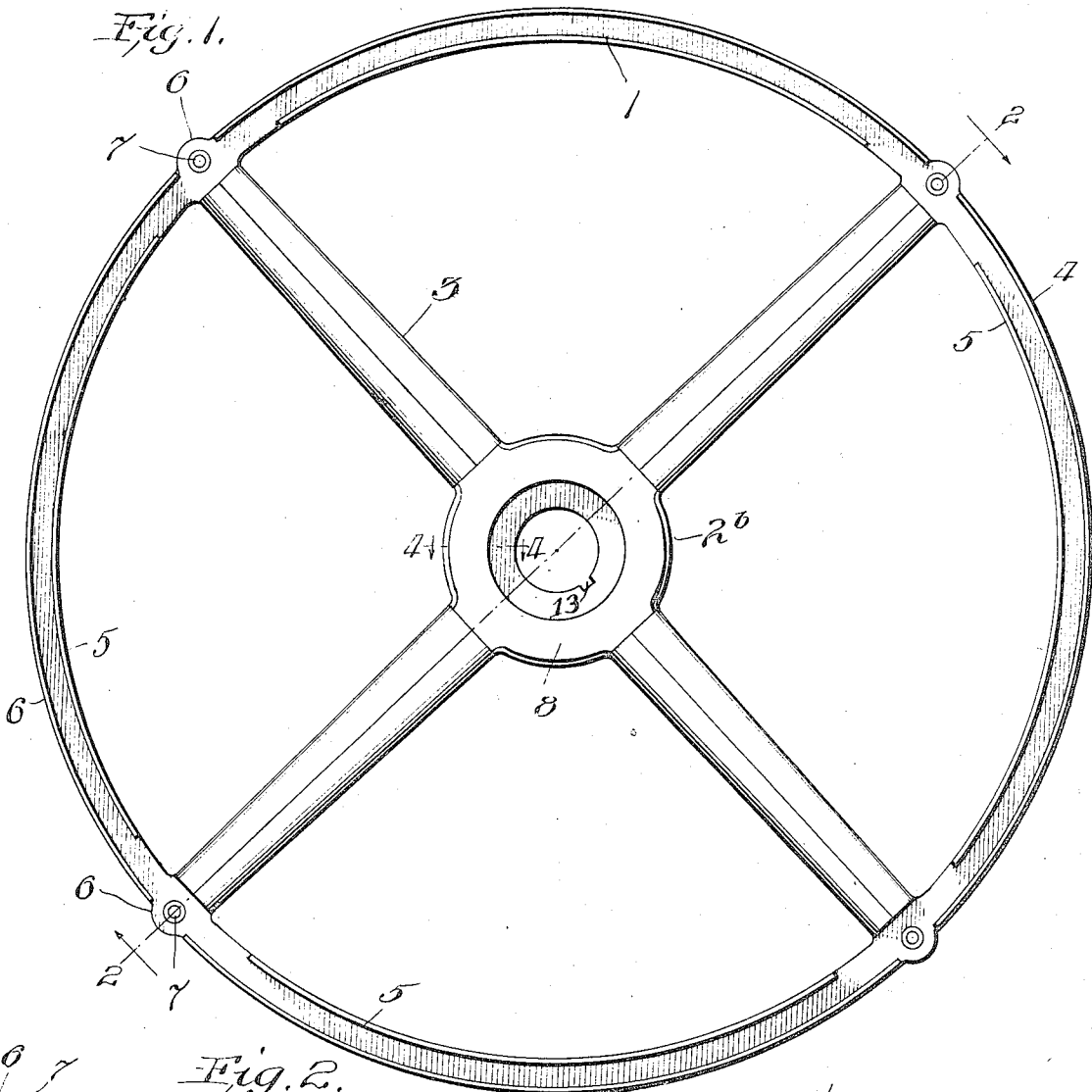


Fig. 2.

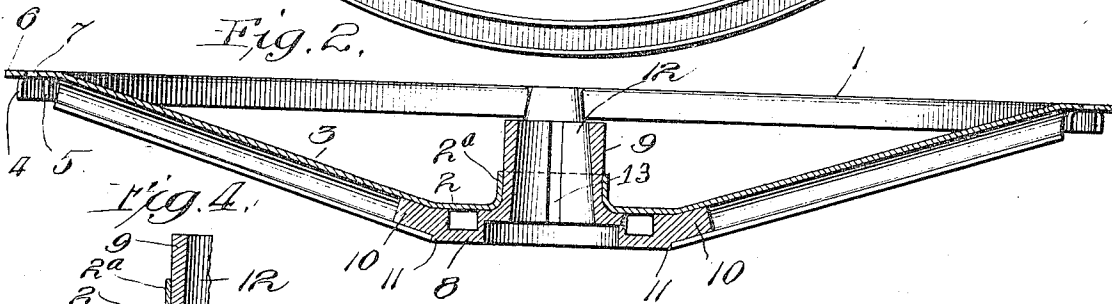


Fig. 4.

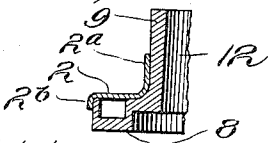


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN BJORN, OF KENOSHA, WISCONSIN, ASSIGNOR TO THE THOMAS B. JEFFREY COMPANY, OF KENOSHA, WISCONSIN, A CORPORATION OF WISCONSIN.

STEERING-WHEEL.

1,140,943.

Specification of Letters Patent.

Patented May 25, 1915.

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To all whom it may concern:

Be it known that I, JOHN BJORN, a citizen of the United States, residing at Kenosha, county of Kenosha, State of Wisconsin, have invented a certain new and useful Improvement in Steering-Wheels, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object to produce a strong, light, cheap steering wheel for automobiles or the like.

A further object of my invention is to produce a novel form of steering wheel which will permit the use of a single piece of sheet metal for its construction.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a bottom plan view of a wheel arranged in accordance with a preferred form of my invention; Fig. 2 is a section on line 2—2 of Fig. 1; Fig. 3 is a transverse section on an enlarged scale through one of the arms or spokes of the wheel; and Fig. 4 is a section on line 4—4 of Fig. 1.

Referring to the drawing, 1 represents an annular rim, 2 a hub and 3 a series of arms or spokes extending radially from the hub to the rim. These parts are all made of sheet metal, preferably from a single piece which is suitably stamped out and shaped to give the desired configuration and strength. The rim portion of the blank is cut wider than the width of the finished rim so as to permit flanges 4 and 5 to be bent down from the two edges of the rim; thus giving the rim the cross section of an inverted U. The outer flange 4 is preferably cut away adjacent to the ends of the spokes so as to leave at these points widened portions 6 which may be perforated as at 7 to receive fastening devices for grips or hand holds, (not shown), without weakening the rim. The inner flange, 5, is also made sectional, terminating at its ends at a considerable distance from the completed spokes. This

shortening of the sections of the inner flange is only incidental to the construction of the spokes or arms which I shall now describe. In making the blank, radial pieces of a greater width than the ultimate width of the spokes are retained and about a third on each side of the spoke pieces is severed from the rim and hub portions at its ends, thus leaving on each spoke member two side pieces or flaps which may be rolled down until their edges touch each other, thus forming radial tubes extending from the hub to the rim. The hub is in the form of a disk having its central portion perforated and punched up to produce a short cylindrical tubular member, 2^a. The center of the wheel is preferably depressed so as to bring the hub at some distance below the plane of the rim, thus permitting the spokes to act as struts under a downward pressure upon the rim. Lying beneath and engaging with the underside of the hub portion is a spider 8 having a tubular piece 9 extending up through the hub sleeve and having arms 10 projecting a short distance into the adjacent ends of the spokes. The arms 10 are arranged at an angle so as to tend to hold the spokes at the proper inclination after the parts are assembled. Furthermore, there is preferably a shoulder 11 on each of the members 10 for engaging with the inner edge of the under portion of the tubular spoke in which the arm is positioned. By this arrangement, downward pressure upon the rim is resisted by the spokes acting as struts arranged between the rim and shoulders on the rigid spider. The bore 12 through the spider is designed to fit the upper end of a steering post in the usual manner, there being a key-way 13 for receiving a key and preventing the wheel from turning on the post. The edges of the disk-like portion of the hub are preferably bent down into engagement with the sides of the spider, as shown at 2^b.

It will thus be seen that I have produced a strong and durable steering wheel which is neat and attractive and may be manufactured at a low cost as it consists of only two parts one of which is a stamping and the other a drop forging or the like.

While I have illustrated and described in detail only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described, but intend to cover all

forms and arrangements which come within the terms employed in the definitions of my invention constituting the appended claims.

I claim:

- 5 1. A wheel made of a single piece of sheet metal comprising a rim member, a hub member, and spokes connecting said members together, the spokes being in the form of radial tubes.
- 10 2. A wheel made of a single piece of sheet metal comprising a rim member, a hub member, and spokes connecting said members together, the outer edge of the rim member being bent down to form a stiffening flange, 15 said stiffening flange being made in sections terminating adjacent to the outer ends of the spokes so as to leave wide portions in the rim at the ends of the spokes.
- 20 3. A wheel made of a single piece of sheet metal comprising a rim member, a hub member, and spokes connecting said members together, the outer edge of the rim member being bent down to form a stiffening flange, said stiffening flange being made in sections 25 terminating adjacent to the outer ends of the spokes so as to leave wide portions in the rim at the ends of the spokes, said wide portions being perforated to receive screws or rivets.
4. A wheel comprising a rim member, a 30 hub member, and spokes connecting said members together, all made of a single piece of sheet metal, the spokes being in the form of radial tubes, a stiffening piece underlying the hub and having a tubular portion 35 extending through the same, and arms on said stiffening piece fitting into the adjacent ends of the spokes.
5. A wheel made of a single piece of sheet 40 metal comprising a rim member, a hub member, and spokes connecting said members together, the inner and outer edges of the rim member being bent laterally to form stiffening flanges, and the sides of the spokes being bent laterally in the same direction as 45 the edges of the rim member.

In testimony whereof, I sign this specification in the presence of two witnesses.

JOHN BJORN.

Witnesses:

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