

J. P. BERGERON.
 ADVERTISING DEVICE FOR VEHICLE WHEELS.
 APPLICATION FILED NOV. 11, 1910.

1,054,270.

Patented Feb. 25, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

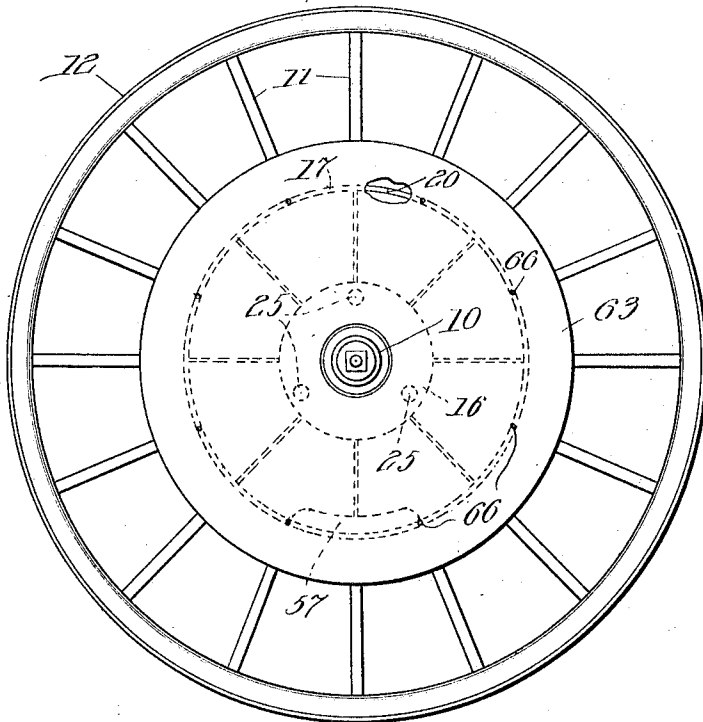


Fig. 2.

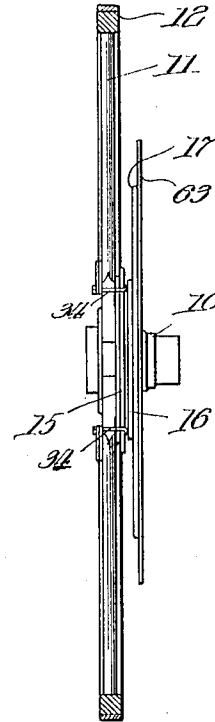


Fig. 3.

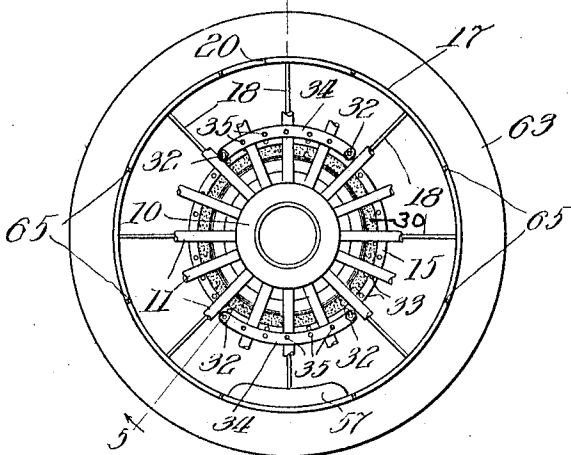
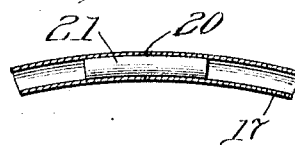


Fig. 4.



Witnesses:

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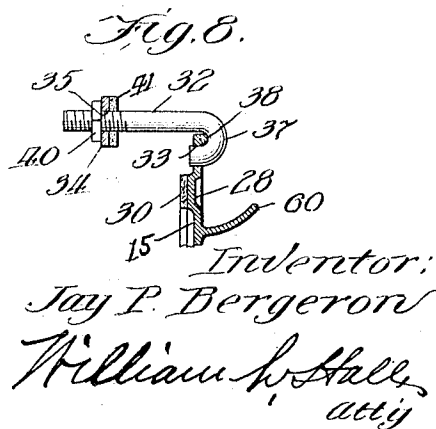
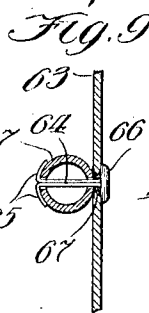
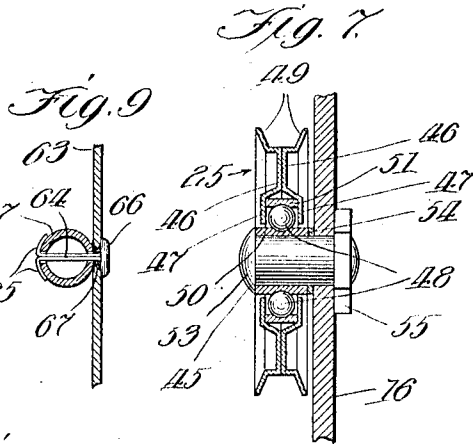
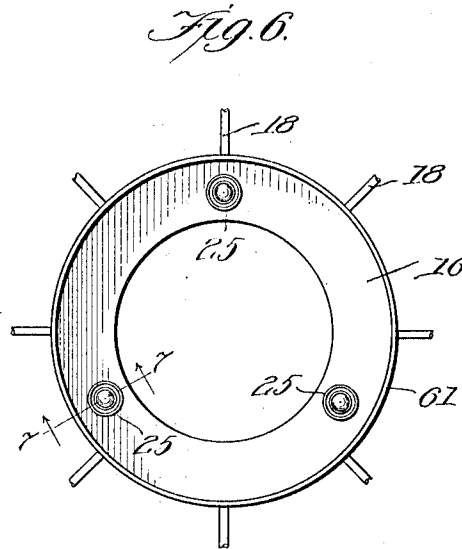
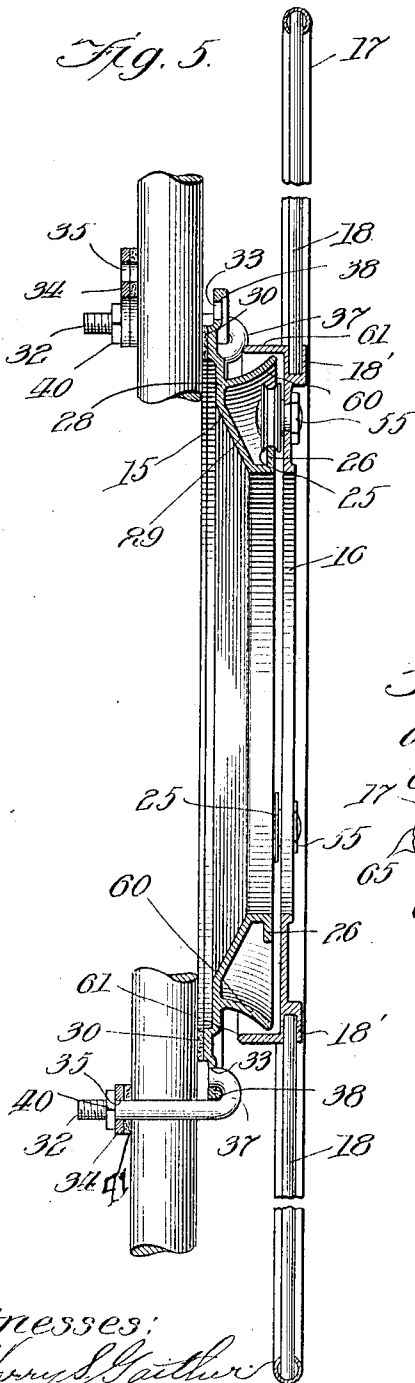
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 by *William H. Hall*
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UNITED STATES PATENT OFFICE.

JAY PIERRE BERGERON, OF MICHIGAN CITY, INDIANA.

ADVERTISING DEVICE FOR VEHICLE-WHEELS.

1,054,270.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed November 11, 1910. Serial No. 591,793.

To all whom it may concern:

Be it known that I, JAY P. BERGERON, a citizen of the United States, and a resident of Michigan City, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Advertising Devices for Vehicle-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in advertising devices of that kind adapted to be mounted upon and carried by a vehicle wheel in such manner that the device remains stationary or non-rotative on the wheel.

Among the objects of the present invention is to provide an exceedingly simple and effective bearing between the rotative and the non-rotative parts of the device such as will exclude dust and dirt from the delicate parts of the bearings, and also to provide a construction of the rotative and non-rotative parts of the device which will serve as a guard to prevent dust and mud and the like from falling into the bearings.

A further object of the invention is to provide an exceedingly light, yet rigid and durable frame to carry the sign body or card, and a construction which may be made at small cost, and also to provide an open work or skeleton frame for supporting the sign body or card and which will support and carry the sign body without producing any objectionable noise when the device is in service.

As shown in the drawings,—Figure 1 is a front elevation of a vehicle wheel equipped with an advertising device embodying my invention. Fig. 2 is an axial section of the wheel with the advertising device shown in edge elevation. Fig. 3 is a rear view of a portion of the wheel with the advertising device attached thereto. Fig. 4 is a detail illustrating the manner of joining the ends of the rim of the card carrying frame. Fig. 5 is a section on the indirect line 5—5 of Fig. 3. Fig. 6 is an inside or rear elevation of the non-rotative bearing member constituting a part of the card carrying frame. Fig. 7 is an axial section of one of the ball

bearing sheaves between the rotative and non-rotative members of the device, showing part of the bearing member and the manner of attaching the sheaves to the bearing member, the view being taken on line 7—7 of Fig. 6. Fig. 8 is a detail illustrating one of the clamping bolts by which the supporting member of the device is attached to the wheel, showing a portion of the support and a portion of a clamping bar which lies in rear of the wheel. Fig. 9 is a detail illustrating the card fastening device and the manner in which it is employed to fasten the card or sign body to the card supporting frame.

As shown in the drawings, Figs. 1, 2 and 3, 10 designate the hub of the wheel, 11, 11 the spokes and 12 the rim thereof.

The advertising device embraces, in general terms, a supporting member designated as a whole by 15, which is attached to the wheel preferably near the hub thereof, and an open work or skeleton frame which is herein shown as made circular and is carried by said support through the medium of roller bearings mounted on one of the parts and engaging a circular track on the other part, the card carrying frame being held non-rotative relatively to the wheel. The said open work or skeleton frame comprises a central ring-like bearing member which has an opening therein of sufficient diameter to permit the wheel hub to pass therethrough, an annular rim 17 and a plurality of radial spokes 18 which extend between and are attached at their ends to the central bearing ring and said rim. The said spokes enter at their inner ends sockets 18' formed in the ring member 16 and may be secured therein by brazing or otherwise. The rim 17 of the card or sign body frame is preferably made of a light tubing which is perforated to receive the ends of the spokes, and the spokes may be and are preferably brazed to the rim. The rim is preferably made of a single piece of tubing and the ends thereof are brought together at the point 20, indicated in Figs. 1, 3 and 4, and are firmly joined by means of a core or filler piece 21 which extends a distance into each end of the tube thus brought together. Said core or filler may be brazed or otherwise rigidly secured in said ends of the tubes. In assembling the frame thus briefly out-

lined, the frame members, with the spokes in place, are held in a suitable clamping or holding device which is arranged to draw the ends of the tubular rim member together with the filler or core 21 therein, and to bind the rim on the outer ends of the spokes and to press the inner ends of the spokes in their sockets. When the parts are thus held the joints may be brazed or otherwise rigidly secured together, thus producing an interlocking effect in a very simple manner which holds the parts of the frame rigidly and fixedly together.

The inner or ring-like bearing member 16 is preferably made of a light metal, such as aluminum, said ring being of the cross section shown in Fig. 5. The ring carries a plurality of grooved, ball bearing sheaves 25, of the construction hereinafter described, and clearly shown in Fig. 7, and said sheaves engage an annular track 26 formed on the outer side of the supporting member 15. The said supporting member, which is clamped to the wheel in a manner hereinafter described, comprises an annular web portion 28, which lies adjacent and parallel to the spokes, and an oblique, outwardly inclined web portion 29, the inner margin of which is turned radially outwardly to constitute the annular track 26 which is engaged by the sheaves 25. Said supporting member may be made of aluminum or other light metal and there is interposed between the rear side of the same and the spokes an annular cushion ring 30 which bears against the spokes to prevent an abrasion of the spokes by the metal supporting member. The manner in which said supporting member is attached to the wheel consists in this instance of a plurality of clamping bolts 32, shown best in Figs. 5 and 6, which engage apertures 33 near the rim of the web 28 of said supporting member and extend rearwardly between the spokes and pass through curved clamping plates or bars 34 lying in rear of the spokes, as best shown in Figs. 3, 5 and 8; said clamping bars being provided with holes 35 to receive the clamping bolt. Preferably the said clamping bolts are provided with hooked ends 37 which are adapted to engage over the rim of the web 28 of the supporting member and to enter the apertures 33 of said supporting member from the front side thereof, as clearly shown in Figs. 5 and 8, and the rim of said web may be strengthened radially outside of said apertures by a bead or enlargement 38. The outer ends of said bolts are screw-threaded to receive clamping nuts 40 which bear against the clamping bars 34. Preferably the clamping bars 34 are provided on their inner or front faces with cushioning strips 41 to avoid marring the wheel spokes. The web 28 of said annular supporting member is provided with a plurality of apertures 33

to receive the ends of the hook bolts in order to adjust or adapt the device to wheels having their spokes spaced at varying distances apart. The hook shaped clamping bolts are preferred for the reason that they may be inserted into the openings 33 of a supporting member 15 without removing the sign body or card from the skeleton frame, thus enabling the device to be removed from the wheel without demounting the card.

Referring now to the construction and arrangement of the ball bearing sheaves 25, the same are made as follows:—It will be noted by reference to Fig. 7 that the body of each sheave is composed of two annular sheet metal plates arranged with a central opening for the bearing stud 45 by which they are attached to the bearing member 16 of the card frame. Said plates are formed to comprise annular flat web portions 46, 46, which are arranged flatwise together and may be welded or otherwise fixedly secured together, separated inner marginal portions 47, 47 around the central opening thereof to form a bearing chamber for the bearing balls 48, and separated outer marginal portions 49, 49 to constitute the groove of the sheave. Said marginal portions 49 are preferably tapered or inclined to constitute a tapered groove to readily center the sheave on track 26. The antifriction balls 48 contained within the chamber between the marginal portions 47 have bearing on inner and outer hardened metal rings 50, 51 respectively, the ring 50 being fitted to the stud 45 and the ring 51 being arranged and securely fixed in the outer side of the ball chamber. The inner ring 50 is confined between the head 53 of said stud and a washer 54 surrounding the stud between said ring and the bearing member 16. The outer end of the stud is screw-threaded to receive a nut 55 by which to clamp the stud in place. The arrangement of the inner bearing ring 50 between the headed end of the stud and the washer 54 permits the stud to be fixed rigidly to the bearing member 16 through the screw-threaded action of the nut 55 without exerting any clamping or confining pressure on the anti-friction balls. The said rings 50, 51 are grooved on their bearing faces to constitute race ways for engagement by the balls, so that said balls are held out of contact with the sides of the ball chamber and bear only against said rings. As herein shown, and referring more especially to Fig. 6, three anti-friction sheaves 25 are employed, one located at the top of the ring in the vertical plane of its axis and the other two located at the sides of the ring below the horizontal plane of said axis. In order to prevent the card carrying frame, thus supported on the supporting member 15, from turning while the wheel is rotating, I may provide a weight 57 at the bottom of

the frame that is attached to the rim in any suitable manner. It may be made of lead or like material and is shown as substantially the thickness of the rim. It will be noted that the construction of the ball bearing sheaves is such that the bearing balls are protected from dust, mud and like foreign particles. In order to further prevent the entrance of such foreign matter to the bearings, I have provided the support 15 and the annular bearing rim 16 with overlapping guard flanges, the support 15 being provided with the outwardly directed flange 60 arranged a distance radially inside of the rim of said support, and the annular bearing member 16 being provided at its rim or margin with an inwardly directed flange 61 which is located radially outside of and overlaps the guard flange 60 of said supporting member. The guard flange 60 of the supporting member, in connection with the oblique web 29 and the track 26 affords a very stiff and rigid construction. The guard flange 61 of the central bearing member of the card frame may extend entirely, or only partly around the frame, as described.

The card or sign body 63 on the outer face of which the subject matter of the sign is printed is preferably circular and is detachably fixed to the outer side of the skeleton card frame. Said card has a central opening through which the hub of the wheel may extend. The card is preferably made of considerably greater diameter than the card frame and entirely conceals the frame. The means which are herein shown for attaching the advertising card or sign body 63 to the carrying frame therefor consists of the headed split shank staples 64, shown best in Fig. 9. The shanks of said staples pass through openings in the sign body or card and through registering openings in the tubular rim 17 of the card frame. The ends 65 of the split shanks are bent backwardly over the tubular rim, and the heads 66 of said staples bear against the outer face of the card. Preferably the card will be provided with eyelets 67 around the holes therein through which shanks of the staples extend.

It is obvious that I have provided an exceedingly strong, durable and light frame for the card or sign board which will withstand the constant shocks and jars to which such devices are subjected, and one which will be noiseless in use. Furthermore the bearings between the rotative and non-rotative parts of the device are such as to be fully protected so that there will be no likelihood of the card frame binding and turning with the wheel.

Certain changes may be made in the structural details without departing from the spirit of my invention, and the invention

is not limited to the specific details shown except as made the subject of specific claims.

I claim as my invention:—

1. A vehicle advertising device comprising a supporting member with means for attaching it to the wheel, a card supporting frame comprising a central bearing member having an opening through which the wheel hub may extend and provided with sockets, with anti-friction elements between the said supporting member and the supporting frame and comprising further a surrounding rim having sockets and radial spokes seated at their outer ends in the sockets in the rim and at their inner ends in the sockets in the central bearing member, the rim being made of a continuous piece with the ends brought together and attached under constricting tension to lock the rim spokes and central bearing member together, a card and means for detachably fastening the card to said frame.

2. In an advertising device for vehicle wheels, the combination with a support adapted to be attached to the wheel and provided with an annular track and a card carrying frame mounted on said support with anti-friction bearings between the same, of means for fastening the support to a wheel comprising hook bolts adapted to engage over the periphery of the support and to engage apertures in the support inside said periphery, clamping plates adapted to fit against the rear sides of the spokes through which said bolts extend and clamping nuts engaging said bolts.

3. In an advertising device for vehicle wheels, the combination with a support adapted to be attached to the wheel and provided with an annular track and a card carrying frame mounted on said support with anti-friction bearings between the same, said support being provided at its margin with an annular series of closely spaced openings, apertured clamping plates adapted to fit against the rear sides of the spokes and bolts extending through said openings in said supports and through the apertures in the clamping plates and provided with nuts, the annular series of openings in the support permitting adjustment of the support to wheels having spokes spaced at varying distances apart.

4. In an advertising device for vehicle wheels, the combination with a support adapted to be attached to the wheel and provided with an annular track and a card carrying frame mounted on said support with anti-friction bearings between the same, said support being provided just inside its periphery with an annular series of closely spaced apertures, apertured clamping plates adapted to fit against the rear sides of the spokes of the wheel and clamping bolts having hooked ends adapted to en-

gage over the periphery of the support and
to enter the openings therein from the out-
side of the support and having screw-thread-
ed ends adapted to extend through the
5 clamping plates and provided with screw-
threaded nuts.

In testimony, that I claim the foregoing

as my invention I affix my signature in the
presence of two witnesses, this 3rd day of
November A. D. 1910.

JAY PIERRE BERGERON.

Witnesses:

W. A. SCHROEDER,

R. F. GARRETTSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."