

C. WIRT.
HAND WHEEL.
APPLICATION FILED MAY 29, 1906.

Patented Mar. 25, 1913.

1,056,873.

Fig: 1.

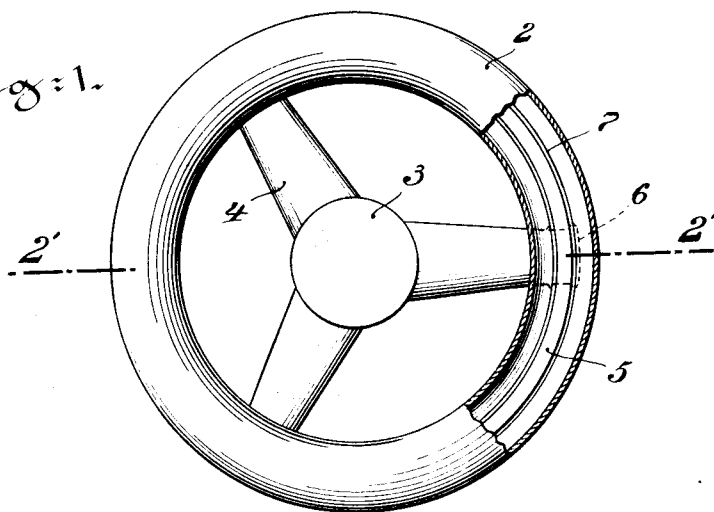


Fig: 2.

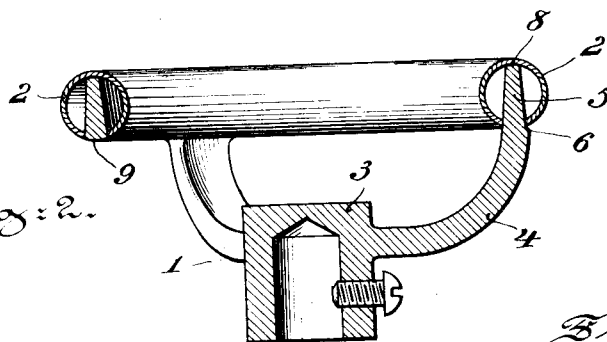


Fig: 3.

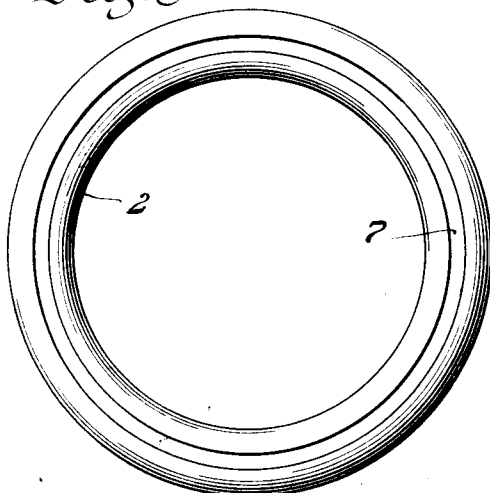
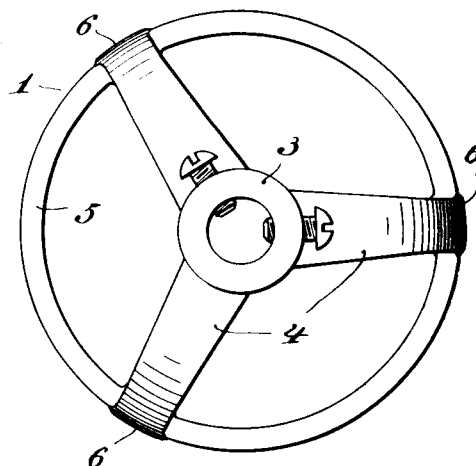


Fig: 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES WIRT, OF GERMANTOWN, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CUTLER-HAMMER MFG. CO., OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

HAND-WHEEL.

1,056,873.

Specification of Letters Patent.

Patented Mar. 25, 1913.

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To all whom it may concern:

Be it known that I, CHARLES WIRT, a citizen of the United States, residing at Germantown, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Hand-Wheel, of which the following is a specification.

My invention relates to an improvement in hand-wheels such as are used in connection with switches, valves and steering devices.

My object is to provide a wheel which shall be light, strong and durable, inexpensive and simple in construction, and which shall have a smooth, highly finished rim of substantially circular cross section.

My construction comprises means whereby the rim may be made of a different metal from the wheel frame supporting the same, that is, it may be made of bright metal or may be plated with a bright metal before assembling.

By my construction a saving of material is secured and a finishing of the surface of the rim wheel is attained which would not be possible in casting the wheel solid, without the expensive process of turning or polishing.

Referring to the drawings:—Figure 1 is a plan view of my hand-wheel with part of the rim wheel broken away. Fig. 2 is a section on line 2', 2' of Fig. 1. Fig. 3 is a view of the rear or under side of the rim member. Fig. 4 is a view of the rear or under side of the rim-supporting frame.

Similar numerals refer to similar parts throughout the several views.

My device consists of two parts, the supporting frame or spider 1, and the hollow hand rim 2 of circular cross section. The frame or spider 1 comprises the hub 3, the radiating spokes 4 and the supporting annulus 5, preferably cast in one piece in the usual way. The supporting rim 5 has a tapered formation, as shown in Fig. 2, terminating in the shoulder 6 at its juncture with the spokes 4. The hand rim 2 is spun or otherwise formed of sheet metal in substantially circular cross section with the annular opening 7, on its lower side. This opening is of approximately the same width as the upper or narrower side of the wedge-shaped supporting annulus 5. The hollow hand rim 2 is forced upon the supporting annulus 5, by a screw press or any other

suitable means, the metal of the hand rim 2 springing or spreading sufficiently to permit the lower side thereof to travel down the wedge shaped annulus 5 to the shoulder 6 of the spokes 4. The top of hand rim 2 may even engage with the top of annulus 5 as at 8, see Fig. 2. The hand rim 2 is preferably made of steel or other stiff metal, and when forced in this way over the tapered supporting annulus 5, it is held tightly and securely in said position. In fact after the two parts are thus forced together it is practically impossible to separate them, due to the peculiar formation of said hand rim. It is also to be noted that while the hand rim does not form a complete circle, the distance between its two lower edges is comparatively so small that the lower side 9 of the annulus 5 will substantially complete the circle, presenting a smooth, round wheel for manual operation, leaving no sharp edges to be encountered by the hand. It will be obvious that a rim wheel thus formed of smooth sheet metal will have a perfectly smooth surface without flaw or crack, and without the necessity of subjecting it to lathe work, while a rim of cast metal would necessarily have to be polished or turned to make it smooth. It is further to be observed that by this construction the rim member may be made of any metal desired, different from the frame portion, and obviously each member may be treated independently of the other, by japanning or plating with copper or other metal respectively, before the two are assembled.

What I claim is:—

1. In a hand wheel, the combination with a spider, of an annulus formed thereon and a sheet metal hand rim substantially circular in cross section and provided with an annular slot for receiving said annulus, said rim being frictionally held on said annulus.

2. In a hand wheel, the combination with a spider, of a tapered annulus formed thereon and a sheet metal hand rim substantially circular in cross section and provided with an annular slot for receiving said annulus, said rim being spread by said annulus to tightly grip the same.

3. In a hand wheel, the combination with a spider, of a tapered annulus formed thereon, shoulders formed on the arms of said spider contiguous to said annulus, and a sheet metal hand rim substantially circular

in cross section and provided with an annular slot adapted to receive said annulus; said rim being adapted to be forced over said annulus against said shoulders.

5 4. In a hand wheel, the combination with a spider, of an annulus formed thereon and a sheet metal rim substantially circular in cross section and provided with an annular slot for receiving said annulus, the under
10 side of said annulus completing the surface of said rim.

5. In a hand wheel, the combination with a spider, of an annulus formed thereon,

shoulders formed on the arms of said spider contiguous to said annulus and a sheet metal 15 hand rim substantially circular in cross section and provided with an annular slot for receiving said annulus, said rim abutting against said shoulders and being frictionally retained in place, the underside of said an- 20 nulus completing the surface of said rim.

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Witnesses:

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