(No Model.)

W. R. FOX.

BICYCLE HUB.

No. 572,976. Patented Dec. 15, 1896.

Fig. 1.

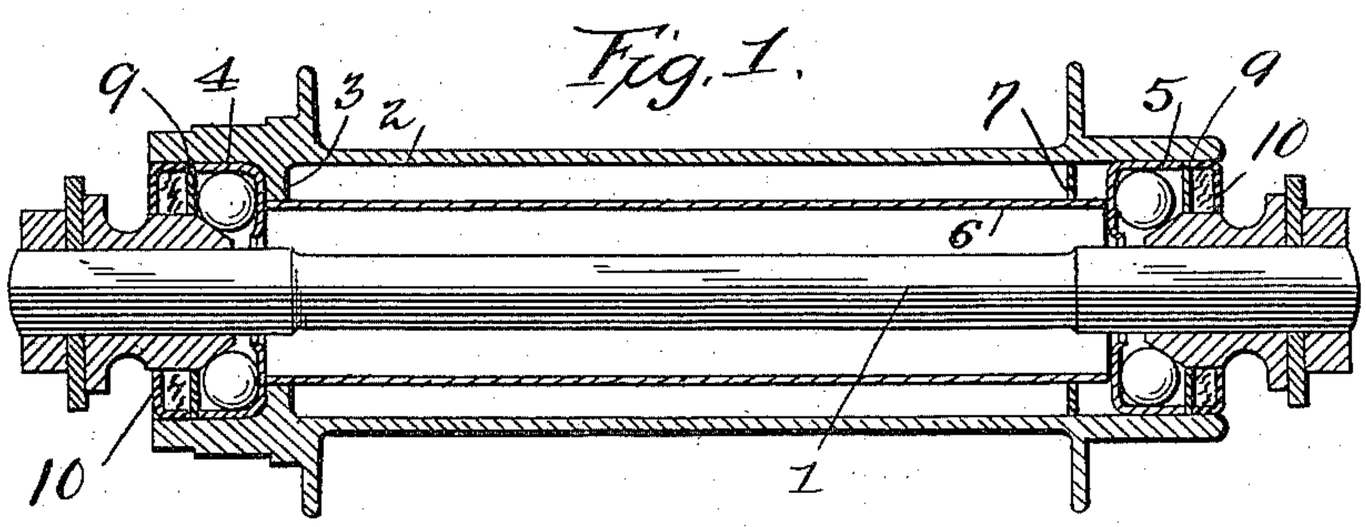
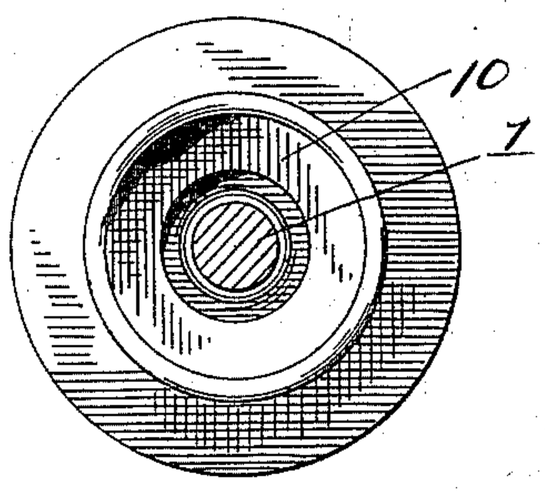


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM R. FOX, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO THE FOX MACHINE COMPANY, OF SAME PLACE.

BICYCLE-HUB.

SPECIFICATION forming part of Letters Patent No. 572,976, dated December 15, 1896.

Application filed November 16, 1895. Serial No. 569,168. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. FOX, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Bicycle-Hubs, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to bicycles; and it is the object thereof to provide a hub in which lightness, simplicity, and strength will be combined in the highest degree.

The invention also relates to the means for forming a practically dust-proof casing for the bearings of the bicycle.

To this end the invention includes a barrel-hub having an interior annular flange near one end forming a seat for one of the ball-cups, a tube fitting within said hub, one end thereof resting against the before-mentioned ball-cup, and a second ball-cup fitted to the opposite end of the hub and resting against the opposite end of said tube.

It also includes flat disks for closing the mouth of the ball-cups, in conjunction with flanged disks having their edges resting against the faces of said flat disks, leaving a space adapted to be filled with felt between the opposing faces of said disks, thereby providing a dust-proof casing for the bearings.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section, and Fig. 2 an end view.

A bicycle-axle of ordinary construction is shown at 1 incased in a barrel-hub 2, having an interior flange 3 near one end thereof, forming a seat for the ball-cup 4. In the opposite end of the hub the ball-cup 5 is fitted, said cup resting against one end of the sleeve 6, which is supported at this end by a ring 7, interposed between the outer periphery of the same and the inner surface of the hub, and at its opposite end by the flange 3, the extreme end of the tube resting against the rear face of the ball-cup 4. By this arrangement the ball-cups are braced in the rear of the center of the balls just where the thrust comes, and thus are effectually strengthened at the most desirable point.

To exclude any dirt or dust that might get within the cups and prevent the free movement of the balls, I have provided the flat disk 9, which fits within the hub and rests against the edges of the cups, thus closing the mouth of the same. A second disk 10, having its end turned over to form an annular flange, is also inserted within the hub, the edges of said flanges resting against the face of the disks 9. The space left between the opposing faces of the disks is then filled with felt, which will catch all dust and prevent it from getting within the cups.

Having now described my invention, what I claim is—

1. In combination, the hub having an interior annular flange at one end only, the ball-cup resting against said flange, the ball-cup fitted to the opposite end of the hub, the sleeve interposed between said cups and having its ends abutting centrally against the same, and the balls and cones, substantially as described.

2. In combination, the hub, the ball-cups, the flat plates 9 closing the mouths of the cups, the disks 10 within the ends of the hub, said disks having inwardly-turned flanges bearing against the faces of the disks 9, and forming pockets, felt filling within said pockets and the balls and cones, substantially as described.

3. In combination, the hub having an inwardly-extending flange 3 near one end, the ball-cup bearing against said flange, the tube 6 having one end sustained centrally of the hub by said flange and having said end abutting centrally against said ball-cup, an annular disk 7 interposed between the tube and hub near the other end for sustaining said other end, a second ball-cup abutting centrally against said other end and the balls and cones, substantially as described.

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

WILLIAM R. FOX.

Witnesses:
JNO. DUFFY,
ARTHUR E. BACON.