No. 628,941. Patented July 18, 1899.

R. JANNEY.

ADJUSTING WASHER.

(Application filed Dec. 12, 1898.)

(No Model.)

Fig. 1.

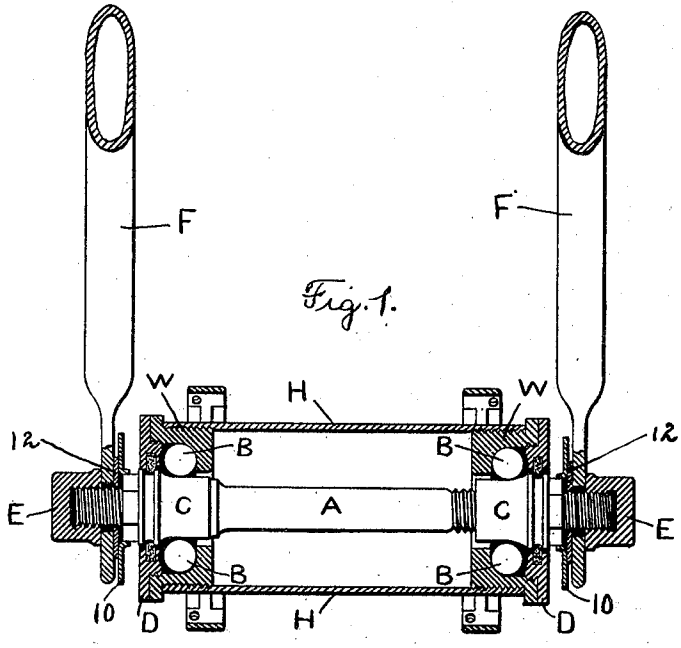


Fig. 2.

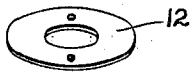


Fig. 5.

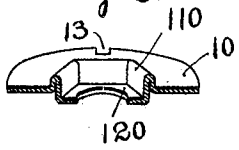


Fig. 3.

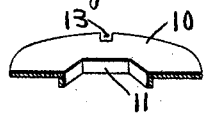
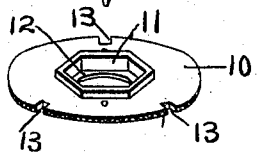


Fig. 4.



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UNITED STATES PATENT OFFICE.

REYNOLD JANNEY, OF KEENE, NEW HAMPSHIRE.

ADJUSTING-WASHER.

SPECIFICATION forming part of Letters Patent No. 628,941, dated July 18, 1899.

Application filed December 12, 1898. Serial No. 698,972. (No model.)

To all whom it may concern:

Be it known that I, REYNOLD JANNEY, a citizen of the United States, residing at Keene, in the county of Cheshire and State of New Hampshire, have invented a new and useful Adjusting-Washer, of which the following is a specification.

My invention relates to a piece or attachment which I term an "adjusting-washer," which has been especially designed for bicycle-work; and the object of my present invention is to provide a simple and inexpensive attachment which may be used for adjusting or tightening bearings without employing the narrow wrenches, spanners, or other special tools heretofore usually required for this purpose.

To this end my invention consists of an adjusting-washer, as hereinafter described, and the combinations therewith, as hereinafter explained, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a sectional plan view illustrating the application of adjusting-washers of my invention to a bicycle construction. Figs. 2 and 3 are detail views of the parts which constitute my adjusting-washer. Fig. 4 is a perspective view of a complete two-part adjusting-washer constructed according to my invention, and Fig. 5 is a detail view of a modified form of construction in which the adjusting-washer is stamped up from one integral piece.

In ordinary forms of bicycle construction the space between the bicycle-forks and the wheel-hub is necessarily narrow. To fit into this narrow space, to turn the ball cones or casings of bicycle-bearings, it is now customary to employ narrow wrenches, spanners, or other special tools. If a bicycle-rider desires to tighten or adjust the bearings of his wheel and does not have at hand the special tools referred to, he is now ordinarily obliged to remove the wheel from the forks before he can obtain access to the ball-cones or ball-casings which are to be screwed up.

The especial object of my present invention is therefore to provide an attachment which I term an "adjusting-washer," which will permit the bearings of a wheel to be tightened or adjusted by hand without removing the wheel from the forks.

In its preferred form an adjusting-washer constructed according to my invention comprises an annular body portion having its central part bent out to form an integral wrench-socket extending at right angles with the face of the body portion, and on the opposite side of the body portion there is preferably secured a spacing-washer or an integral bent-out portion to hold the body portion of the washer a slight distance from the inside of the forks, thus permitting said washer to be readily manipulated.

Referring to the drawings and in detail, 10 designates an annular sheet-metal body portion or washer having its central part bent out to form an integral wrench-socket 11, extending at right angles from the face thereof. The perimeter of the body portion 10 is preferably knurled or roughened and may be provided with spanner-sockets, as 13.

Secured on the face of the body portion 10 opposite the wrench-socket 11 is a spacing-washer or annular piece 12, which is preferably punched from somewhat heavier stock than the body portion 10.

The application of adjusting-washers constructed according to my invention to bicycle constructions is most clearly illustrated in Fig. 1. As shown in this figure, F F designate the bicycle-forks. In the present instance the front forks of a bicycle are shown for the purpose of illustration, although my adjusting-washers are equally applicable to rear-wheel constructions. The axle of the wheel is designated by the letter A. Threaded onto the axle A are ball-cones C C, one or both of said cones being adjustable. The wheel-hub H is provided at its ends with ball-casings W, journaled on two sets of bearing-balls B B. The outer ends of the hub H are closed by covers or dust-caps D, which may have felt washers or rings secured therein. Engaging the nut-heads of the ball-cones C C are adjusting-washers of the construction before described. The axle is secured in the forks by clamping-nuts E in the ordinary manner.

By combining an adjusting-washer of my invention with a bicycle-bearing I have provided a construction which can be adjusted by hand without the use of special tools and without removing the wheels from the forks—

that is to say, when the clamping-nuts are loosened the adjusting-washers may then be turned to tighten or adjust the bearings—and as the adjusting-washers are of comparatively large diameter they will secure a sufficient leverage, so that the bearings can be readily adjusted under all ordinary conditions, and if the same are jammed or stuck the spanner-socket 13 will provide means for turning the same.

In some cases instead of employing two distinct pieces to form each adjusting-washer I contemplate striking up adjusting-washers so that each washer may be formed in a single integral piece, and I have illustrated such a construction in Fig. 5. As shown in this figure, the central part of the body portion of the washer 10 is first bent out and then back upon itself to form a double-walled wrench-socket 110 and an integral bent-out spacing-section 120. In this modified form of construction it will be seen that the double-walled wrench-socket 110 will be somewhat stronger than the bent-out wrench-socket 11 of the construction before described and the integral spacing-section 120 will act in the place of the spacing-washer 12, as formed by a separate piece in the construction before described, to hold the body portion of the adjusting-washer slightly away from the inside of the bicycle-forks, so that said adjusting-washer will be conveniently accessible.

I am aware that changes may be made by those skilled in the art in the construction of my adjusting-washer and that my adjusting-washer is applicable to other forms of bearings than those herein illustrated. I do not wish, therefore, to be limited to the forms which I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. As an article of manufacture, an adjusting-washer comprising a sheet-metal circular or disk-shaped body portion having a wrench-socket hexagonal in cross-section extending at right angles from one face thereof, and a spacing section or washer on the other face of the body portion, said spacing section or washer having a circular hole for receiving an axle, substantially as described.

2. As an article of manufacture, an adjusting-washer consisting of a single integral piece of sheet-metal having its center part bent out to form a wrench-socket hexagonal in cross-section extending from one face thereof, and then bent back in the opposite direction to form a spacing washer or section projecting from the other face thereof, and having a circular hole for receiving an axle, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

REYNOLD JANNEY.

Witnesses:
O. E. CAIN,
A. T. BATCHELDER.