

(No Model.)

W. G. PRICE & J. E. NAGLE.
BALL BEARING.

No. 582,797.

Patented May 18, 1897.

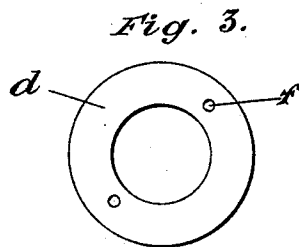
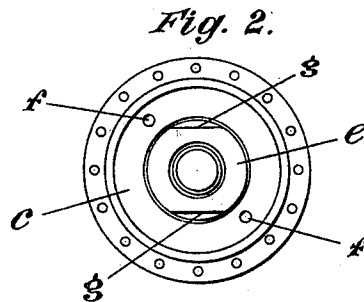
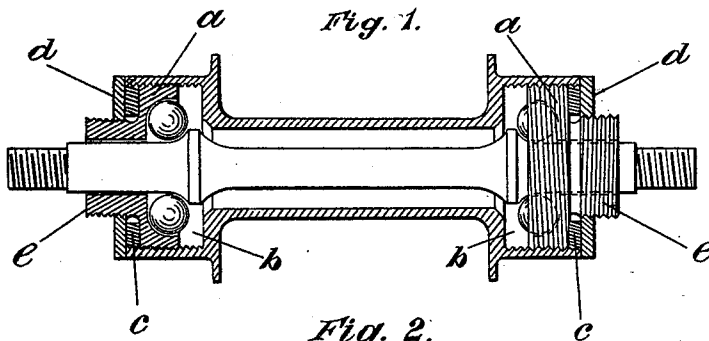


Fig. 4.

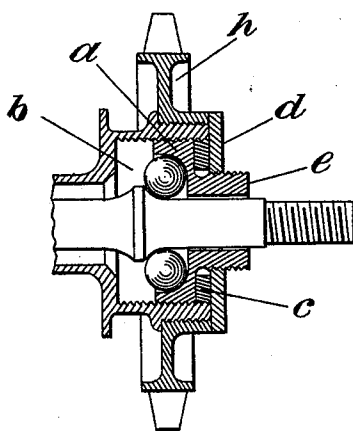
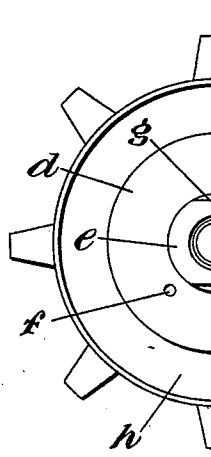


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM GEO. PRICE AND JOHN ENOCH NAGLE, OF CHESTER, ENGLAND.

BALL-BEARING.

SPECIFICATION forming part of Letters Patent No. 582,797, dated May 18, 1897.

Application filed October 14, 1896. Serial No. 608,871. (No model.) Patented in England August 17, 1895, No. 15,482, and in France March 4, 1896, No. 254,508.

To all whom it may concern:

Be it known that we, WILLIAM GEORGE PRICE and JOHN ENOCH NAGLE, subjects of the Queen of Great Britain and Ireland, residing at Chester, England, have invented certain new and useful Improvements in Ball-Bearings, (for which we have obtained patents in Great Britain, No. 15,482, dated August 17, 1895, and in France, No. 254,506, dated March 4, 1896,) of which the following is a specification.

This invention relates to that class of ball-bearings in which a portion of the ball-race is formed by a cup which screws into the hub or equivalent part adapted to receive it; and it consists of novel means of locking or securing such cups within their hub or other part.

According to this invention the locking of the ball-cup is effected at the moment of impact between the rear of the cup and the face of a primary locking-ring, which follows it in the same screw-threading. The cup is doubly locked by a secondary locking-ring, and the threading of the cups is the same on both sides of the bearing.

Figure 1 shows this invention applied to a cycle-wheel hub, Fig. 2 being an end view thereof, but without the secondary locking-ring, which is shown separately in Fig. 3. Figs. 4 and 5 show this invention applied to the chain-wheel hub of a cycle.

a a are the ball-cups, screwed into the mouths *b b* of the hub with a right-hand thread.

c c are the primary locking-rings of this invention, which follow the cups *a a* in the same screw-threading.

d d are the secondary locking-rings, which screw with a left-hand thread onto the necks *e e* of the cups *a a*.

Both the primary and secondary locking-rings *c* and *d* have holes *f f* to receive a key, while flats *g g* are formed in the necks *e e* of the cups *a a*, by which these parts are adjusted.

To adjust the bearings, the cup *a* is screwed into the mouth *b* until it touches the balls. The primary locking-ring *c* is then screwed

into the mouth *b*, following the cup *a* and using the same thread. The aperture in the ring *c* being large enough to pass freely over the neck *e*, the ring *c* consequently does not turn upon or touch the cup *a* until it abuts against its rear and locks it on impact. The cup *a* being thus locked temporarily, the secondary locking-ring *d* may be screwed onto the neck *e* without any liability to turn the cup *a* and disturb its adjustment, and this secondary ring *d* abuts against and locks the ring *c* with the neck *e*, thus providing a double lock upon the cup *a* and preventing it from moving either forward or backward, whereby the threading of such cups may be identical on both sides of the bearing.

The cups *a* and locking-rings *c* and *d* are identical in each hub of a cycle and are interchangeable one with the other, with the exception of the ring *d* on that side of the rear hub, Figs. 4 and 5, upon which is screwed the chain-wheel *h*, which ring *d* is of larger diameter in order to lock such wheel *h*, which latter is screwed on the hub with a right-hand thread.

The invention is equally applicable to the crank-axle, pedals, or steering-head of cycles, to the wheel-hubs of other vehicles, and to ball-bearings generally.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In combination, the hub, the ball-cup within the end thereof and having a neck or extension, the inner locking-ring having its exterior threaded to engage the hub and adapted to bear against the ball-cup, and the outer locking-ring threaded upon the neck or extension, the threads of the outer and inner rings being reversed, substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

WM. GEO. PRICE.
JNO. ENOCH NAGLE.

Witnesses:

HENRY DUNNING,
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