No. 616,489. Patented Dec. 27, 1898.

R. H. RAMSEY.

BICYCLE PEDAL.

(Application filed Dec. 22, 1897.)

(No Model.)

Fig. 4

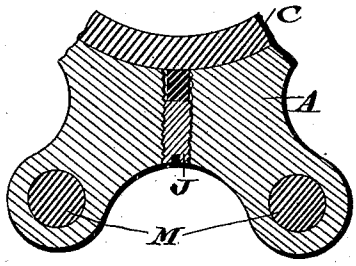


Fig. 1.

Fig. 3.

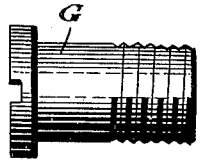
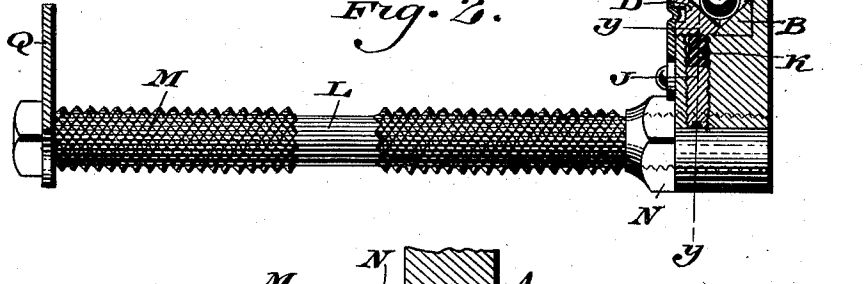
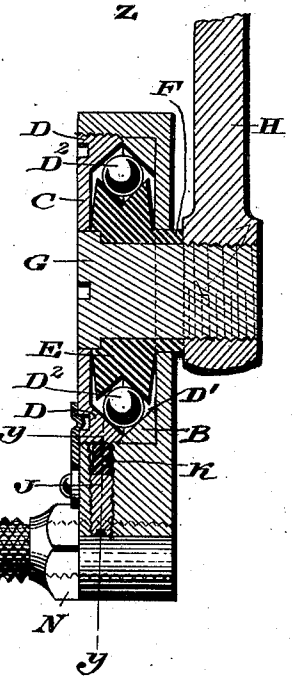


Fig. 2.





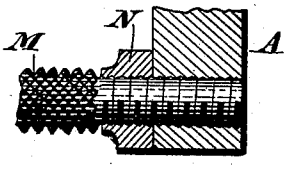


Fig. 5.

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BICYCLE-PEDAL.

SPECIFICATION forming part of Letters Patent No. 616,489, dated December 27, 1898.

Application filed December 22, 1897. Serial No. 663,004. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. RAMSEY, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Bicycle-Pedals, which improvement is fully set forth in the following specification and accompanying drawings.

The invention consists in the combination, in a bicycle-pedal, of a fixed or reversible antifriction-casing provided with depending ears and roughened tread-bolts, foot-rests, or plates, which are screwed or otherwise removably attached to said antifriction-casing, so as to be easily detached. A horizontal line drawn from the top of one bolt to the top of the other passes below the center of revolution of said antifriction-casing, which can be made reversible, so that the bearings of the antifriction-balls may be changed and the life of the antifriction cones and balls increased.

On reference to the accompanying sheet of drawings, making part of this specification, Figure 1 represents a perspective view of a pedal embodying my invention, the same being detached from its crank-arm. Fig. 2 represents a partial side elevation and partial sectional view taken on line *x x*, Fig. 1. Fig. 3 represents a detached view of the screw employed to secure the pedal to the crank-arm. Fig. 4 represents a view of a portion on line *y y*, Fig. 2. Fig. 5 represents a view of a portion on line *z z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several views.

A designates a casing, the same consisting of a frame preferably formed with an open front and having upon its interior a half-cone B, which is made either integral with said casing or detachable therefrom, as shown in the present construction, and depending ears *a*.

C designates a plate or cap which is adapted to be screwed to the casing A and having on its inner surface a half-cone D, corresponding to the half-cone B.

E designates a wheel within the casing A, the same having a peripheral groove and a laterally-extending hub F, which passes through an opening in the back of the casing A.

In the annular space D′, formed by the groove of the half-cones B and D and head E, are the ball-bearings D^2. Said head diminishing slightly in thickness from the point of contact with the head of the stud G on one side and the hub F on the other side toward the periphery leaves spaces between the head and casing that will obviate any dragging of the disk from lateral motion caused either by wear or loose adjustment.

G designates a stud or similar fastening device which passes through an opening in the plate C, and also through the wheel E and its hub F, and is secured to the crank-arm H, the head of the stud F fitting into the countersunk seat in the wheel E, thus serving to hold the wheel firmly in contact with the crank-arm H.

It will be apparent from the foregoing that by making the stud G separate from the other elements it can be made to fit a great variety of threads of different sizes in the crank-arms of the various makes of bicycles now in use and can, by giving the name and date of the bicycle, receive studs G, that will fit any crank-arm, thus overcoming the objections heretofore existing in adapting a device of the character described to existing bicycles.

It will also be noted that by reason of the employment of the shoulder or extension F of the head E an increasing bearing-surface on the stud G is provided and enables said head to be most firmly secured to the crank-arm of the bicycle.

It will further be noticed that the cone D, carried by the plate C, is in the front of the pedal and can be entirely removed or adjusted without displacing the pedal from the crank-arm.

When made reversible, the antifriction-casing A provides for and takes up the wear of the groove of the ball-carrying wheel and the balls D^2, for by always running in the same direction the wear and tear continues alike; but when the casing A is reversed—that is, when preferred, facing its plates or caps from within to without—the balls assume a new rolling and change their bearing

and wearing, which prolongs the life of said casing. It will be observed that the cone D of the plate or cap C can be removed or adjusted without displacing the pedal from the crank-arm.

P designates a device employed for locking the cone D of the plate C, the same consisting of a plate secured to the casing A and the same having a stud or projection P′, which is adapted to enter any of the openings H′ in the plate C, said openings being engaged by a spanner or other wrench, whereby said plate may be rotated and the cone D thereon adjusted.

J designates a locking device or stud which passes through the casing A and is adapted to force the plug K, of suitable material, against the threads of the plate C, thereby preventing the same from improper rotation.

The tread of the bicycle-pedal consists in bolts, foot-rests, or plates M. In this instance two are shown, which are preferably spiked or roughened for imparting a holding-surface for the sole of the rider's shoe. A portion of each tread can be reduced at L to provide a smooth bearing for a toe-clip. Said foot-rests M project from and are screwed into or otherwise mounted within the ears *a* of the casing A, so that when the roughness at the top is worn away by use the screw and jam-nut N can be loosened, the worn part turned underneath, and the unused or bottom spikes turned uppermost. A connecting-guard Q joins and braces the foot-rests M at their outer ends, and screwing into or fixing them to the casing A, in connection with the jam-nuts N, the tread can be lengthened for any sole width.

I claim—

A bicycle-pedal consisting of an antifriction-ball casing provided with depending ears, means for securing said antifriction-ball casing to the bicycle crank-arm, threaded foot-rests mounted in said ears, and a link at the opposite ends of said foot-rests to hold them together.

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