No. 644,818. Patented Mar. 6, 1900.

W. DIEBEL.

PEDAL.

(Application filed Oct. 6, 1898.)

(No Model.)

Fig. 2.

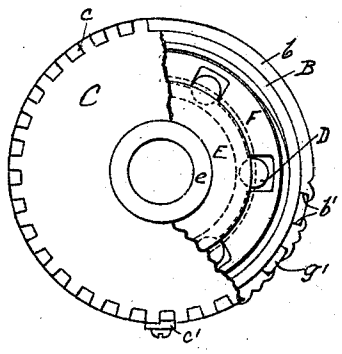


Fig. 1.

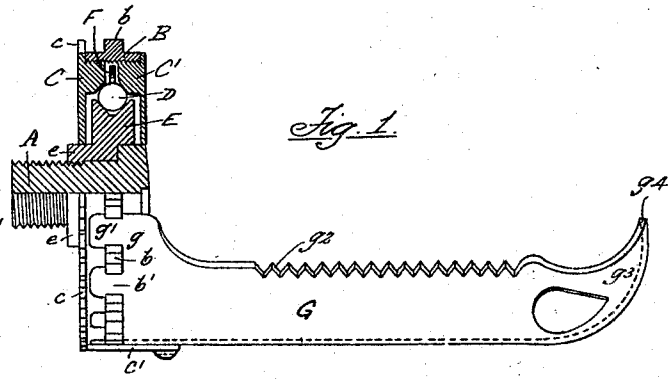


Fig. 4.

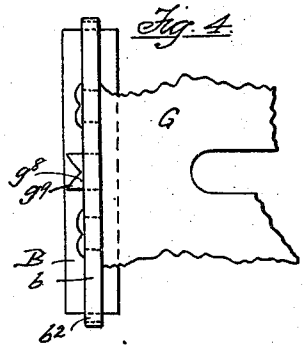
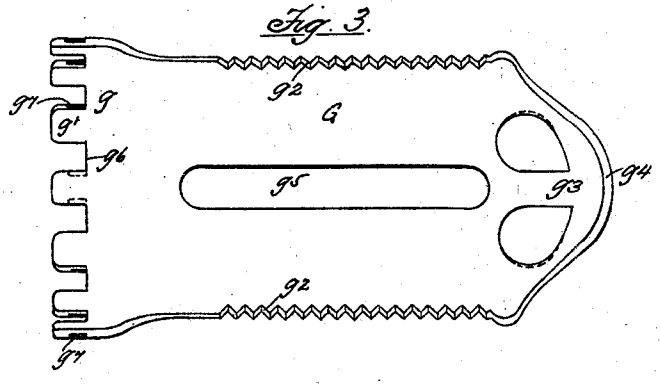


Fig. 3.



Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM DIEBEL, OF PHILADELPHIA, PENNSYLVANIA.

PEDAL.

SPECIFICATION forming part of Letters Patent No. 644,818, dated March 6, 1900.

Application filed October 6, 1898. Serial No. 692,814. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DIEBEL, a citizen of the United States of America, and a resident of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Pedals, of which the following is a specification.

My invention relates particularly to bicycle-pedals, and more especially to that class in which the pedal-blade is suspended from the crank-pin instead of being centrally mounted thereon.

My present improvements consist in the novel construction of the pedal-blade and of its connection to the crank-pin bearing, and they are fully described in connection with the accompanying drawings and specifically pointed out in the claims.

Figure 1 is a side elevation, partly in section, of a complete pedal embodying my improvements. Fig. 2 is a rear end view of the same, a portion of the rear disk being cut away to show the interior of the mounting. Fig. 3 is a plan view of the pedal-blade. Fig. 4 is a partial bottom view indicating a modified connection of the pedal-blade to the crank-pin bearing.

In the preferred construction shown in the drawings I employ the single bearing-ball mounting shown and claimed in Patent No. 582,183, issued to me May 11, 1897, and in the specific form shown in Patent No. 598,197, issued to me February 1, 1898, and I do not therefore desire to claim the same herein.

In my present invention the bearing ring or casing B is mounted upon the pivot-pin A, which is rigidly secured to the free end of the crank-shaft, said ring, as shown, being provided with relatively-adjustable disks C and C', forming conical outer bearing-surfaces for the single line of balls D, and said balls being supported upon the inner disk E, rigidly fixed to said pin or shaft A and being spaced by means of the spacing-ring F, all substantially as shown in said Patent No. 598,197, and the adjustment of the bearing-disks and the locking of the same in proper position are secured by means of the slotted rim *c* on the screw-disk C and the catch *c'*, arranged to engage it in a manner similar to that described in said Patent No. 582,183.

The bearing-ring B is formed with a circular exterior rib *b*, which is formed at intervals with a series of openings which leave intervening solid portions for the purposes hereinafter described. These openings preferably consist of recesses *b'*, formed by cutting away the periphery of the rib at intervals.

The blade G is adapted to be formed of sheet metal cut and pressed into the shape shown in suitable dies. The inner end *g* is shown formed with a series of ears *g'*, which when the sides of the punched plate are bent up into shape, as shown, are adapted to slide into engagement with the recesses *b'* of the bearing-ring B. The side edges g^2 g^2, intermediate of the ends, are similarly upturned and preferably serrated, as shown, to provide a suitable foot-bearing. The outer end g^3 is spherically formed and has an upward extension g^4 above the level of the side edges g^2 g^2 to serve as a stop for the foot. An opening g^5 in the dished portion affords free exit to water or dirt and reduces the weight without practically affecting the strength, which is very considerable owing to the dished form shown. A toe-clip and additional foot-piece may be attached, if desired.

In attaching the pedal-blade to the bearing-ring B the ears *g'* on the former are adapted to enter the peripheral recesses *b'* of the ring, as stated, until the end edge g^6 of the blade is in contact with the rib *b* of the ring, in which position they are rigidly clamped, as shown, by setting down over the recessed edges g^7 of the ears the portion of rib metal extending above the thickness of the latter. A slightly-modified means of attachment is indicated in Fig. 4, in which the ears g^8 of the pedal-blade extend through openings b^2 in the bearing-ring and the projecting ends g^9 are bent or clenched to securely connect the parts.

What I claim is—

1. A swinging pedal, comprising a bearing ring or casing having a series of alternating openings and solid portions, means for rotatably mounting the same upon a central crank-pin, and a pedal-blade partially encircling said ring or casing and having a series of alternating ears and openings at its inner end respectively engaging the openings and solid portions of the bearing ring or casing, substantially as described.

2. The combination of a pedal-blade hav-

ing its side edges upturned and formed with a semicircular inner end having a series of ears to attach the pedal solely thereat to the pedal-support; a rotative ring or casing constituting said support and having openings to receive said ears; and a pin upon which said ring or casing is mounted, substantially as described.

3. A stamped sheet-metal pedal-blade having upturned side edges, a spherically-formed outer end, and a semicircular inner end having attaching-ears, in combination with a support therefor having openings in which said ears are secured.

4. A swinging pedal comprising a bearing ring or casing, means for rotatably mounting the same upon a central crank-pin, and a sheet-metal pedal-blade, said ring or casing being formed with a circular rib b having recesses b', and said pedal-blade having ears g' entering said recesses and rigidly clamped therein substantially as set forth.

Signed by me at Philadelphia, Pennsylvania, this 27th day of September, 1898.

WM. DIEBEL.

Witnesses:
JAMES S. PHILLIPS,
A. J. LEVINGTEN.