(No Model.)

C. D'ALBERT.

CYCLE PEDAL AND TOE CLIP THEREFOR.

No. 600,251. Patented Mar. 8, 1898.

Fig: 3.

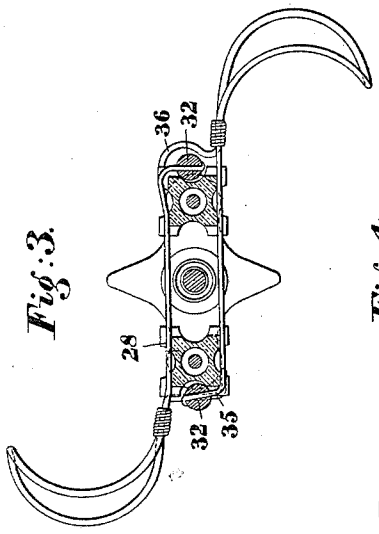


Fig: 4.

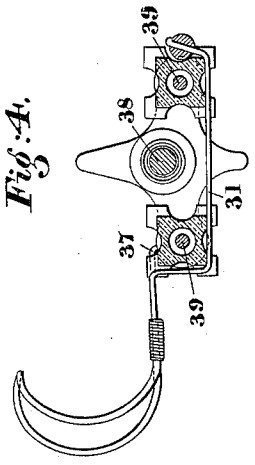


Fig: 1.

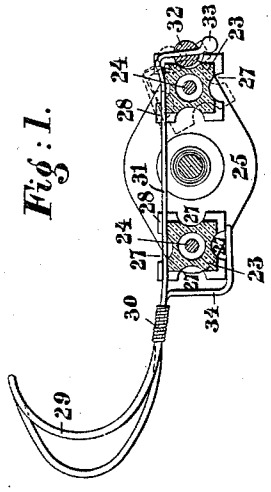
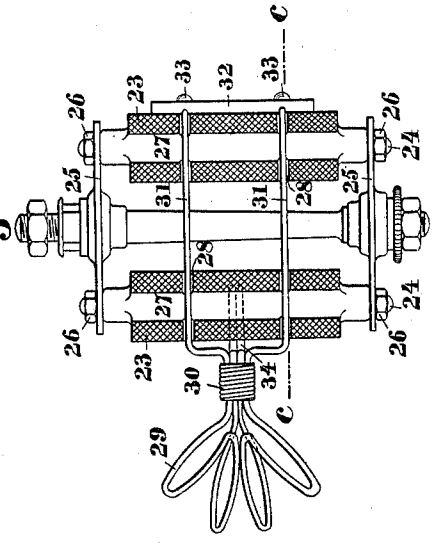


Fig: 2.



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UNITED STATES PATENT OFFICE.

CHARLES D'ALBERT, OF PARIS, FRANCE.

CYCLE-PEDAL AND TOE-CLIP THEREFOR.

SPECIFICATION forming part of Letters Patent No. 600,251, dated March 8, 1898.

Application filed February 27, 1897. Serial No. 625,372. (No model.) Patented in France June 10, 1893, No. 230,745, and September 30, 1893, No. 233,157, and in England October 2, 1893, No. 18,420.

To all whom it may concern:

Be it known that I, CHARLES D'ALBERT, a citizen of the Republic of France, residing at 22 Rue de Dunkerque, Paris, France, have invented certain new and useful Improvements in Cycle-Pedals and Toe-Clips Therefor, (for which I have obtained Letters Patent in France, No. 230,745, dated June 10, 1893, with an addition dated February 6, 1894, also No. 233,157, dated September 30, 1893, and in Great Britain, No. 18,420, dated October 2, 1893;) and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in toe-clips which are sometimes applied to cycle-pedals for the purpose of presenting a secure and determined position of the rider's foot upon the pedal.

Referring to the drawings, Figure 1 is a side view, partly in section, on the line *c c*, Fig. 2. Fig. 2 is a plan view of Fig. 1. Figs. 3 and 4 are side views, partly in section, showing modifications of my device.

The pedal itself is constructed in the usual manner. I make the foot-rests 23 revoluble on their axes 24, which are secured, as usual, in the end pieces 25 by nuts 26. This construction allows of the turning of the foot-rests, so as to present different surfaces for wear. Grooves 27 extend along each of the faces of the foot-rests and coöperate with a locking-bar for locking the clip into place.

The toe-clip can be attached to and detached from the pedal without the use of screws or bolts, while at the same time it can be held in place with the necessary steadiness and safety.

The clip is formed of steel or other strong wire, one end of which is bent into proper shape, so as to form a trap for receiving the toe, while the remaining end is composed of two parallel wires which are laid into grooves cut transversely into the face of the pedal proper, whether made of one or two parts. The extreme ends of the two wires are connected by a cross-bar adapted to fit either one of the longitudinal grooves cut into the foot-rests.

23 23 are the foot-rests proper, each fitted upon an axis 24, the whole being connected by end pieces 25 and nuts 26. Independent of the longitudinal channels 27 the foot-rests 23 have transverse channels 28, by means of which the clip can be secured, as hereinafter explained.

My improved toe-clip is composed of a bent portion 29 for receiving the toe and which is preferably formed of a strong wire, bent as shown, the same being tied, soldered, or otherwise fastened, 30. The two free ends of the wire extend backward in the shape of two rods 31 31, which are slightly bent and let into the transverse channels 28 28, made in the foot-rests 23. The ends of the rods 31 are secured into a cylindrical cross-bar 32, beyond which they may terminate in spherical projections 33 for assisting in putting the toe-clip on and taking it off the foot-rests. The cross-bar 32 fits into one of the longitudinal channels 27 of the hind foot-rest. Toward the central portion the wire is bent twice over somewhat in the rear of the point 30, so as to form, together with the rods 31, a clamp 34, the lower horizontal portion of which fits against the under face of the front foot-rest.

Assuming the foot-rests to be held tightly between the end pieces 25 by the nuts 26 in such a manner that they can only be made to turn with a considerable amount of friction, the toe-clip can then be attached and detached in the following way: The front foot-rest is engaged between the rods 31 and the clamp 34, so as to firmly hold the foot-rest, and the back foot-rest is slightly turned so as to cause it to assume about the dotted position shown in Fig. 1 and allow of the cross-bar 32 being fitted into the corresponding longitudinal channel 27 of the foot-rest, after which the latter is turned into its normal position. (Shown in full lines.) Such partial rotation of the foot-rest causes the cross-bar 32 to be firmly engaged by the groove and at the same time tightens the rods 31. When the parts assume the position shown in full lines in Fig. 1, the toe-clip is firmly applied to the pedal. The clip can be detached by following the same operations in the reverse order.

According to the second arrangement, Fig. 3, the pedal is provided with two inversely-applied toe-clips. In this arrangement the

clamps 35 are somewhat different from the clamp 34. (Shown in Figs. 1 and 2.) One clamp 35 is so formed that its vertical branch fits entirely or partially into additional channels formed in its foot-rest 23, the cross-bar 32 of the opposite toe-clip being correspondingly cut away at its middle portion in order to give free passage to the said branch of the said clamp 35. The clamp 36 of the other toe-clip, this toe-clip being the one which is applied last—*i. e.*, after the first one has been fitted—is bent or curved at its vertical branch, so as to be clear of the cross-bar 32 of the first toe-clip. (See the right-hand side of Fig. 3.) The toe-clips are put on and taken off as in the arrangement described with reference to Figs. 1 and 2.

A pedal provided with two clips, as just described, is at all times balanced.

According to the third arrangement, Fig. 4, a pedal is provided with but one toe-clip of either of the kind hereinbefore described. Instead of fitting the rods 31 into the upper face of the foot-rests 23, as in the arrangement shown in Figs. 1, 2, and 3, the said rods are placed under the lower face of the foot-rests. The remaining parts are the same.

In order to balance the pedal, so as to cause it to assume automatically a horizontal position, as shown in Fig. 4, the axis 38 of the pedal is eccentric with reference to the two axes 39 of the foot-rests—that is to say, the axes 39 are on one horizontal plane which is somewhat lower than a plane passing through the axis 38.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A cycle-pedal provided with longitudinal and transverse grooves in two or more faces of its foot-rests, in combination with a toe-clip provided with two springy clamping-jaws, whereof one is adapted to seat into said transverse grooves and engage a longitudinal groove in the rear foot-rest, and the other adapted to engage the under side of the forward foot-rest, for the purpose set forth.

2. A wire toe-clip comprising two springy clamping-jaws one of which is adapted to engage the rear face of the back foot-rest of the pedal and the other to clamp the lower face of the front foot-rest of the pedal, and a trap for the toe, substantially as described.

3. In combination with a cycle-pedal provided with longitudinal grooves in its foot-rests, of a wire toe-clip provided with a jaw adapted to engage the front foot-rest and a bent portion adapted to engage the rear face of the back foot-rest, and a key or bar adapted to engage a longitudinal groove in a face of one of the foot-rests and said bent portion to lock the clip to the pedal, substantially as described.

4. The combination with a cycle-pedal provided with transverse grooves 28 and longitudinal grooves 27 in its front rests; of a toe-clip made of wire and having branches 31 31, secured to a clamping-bar 32 and a branch 34, said branches 31, 31, and their clamping-bar 32 adapted to seat and engage the transverse groove 28 in both foot-rests, and a longitudinal groove 27 in the rear foot-rest respectively, and said branch 34 adapted to engage the under side of the forward foot-rest, substantially as and for the purpose set forth.

5. The combination with a cycle-pedal, of a wire toe-clip provided with jaws adapted to engage the pedal at different points, and a locking-bar having the ends of the wires secured thereto seated in a longitudinal groove in one of the pedal foot-rests and locking the clip thereto, substantially as described.

In witness whereof I have hereunto set my hand, this 15th day of February, 1897, in presence of two subscribing witnesses.

CHARLES D'ALBERT.

Witnesses:

R. H. BRANDON,

D. H. BRANDON.