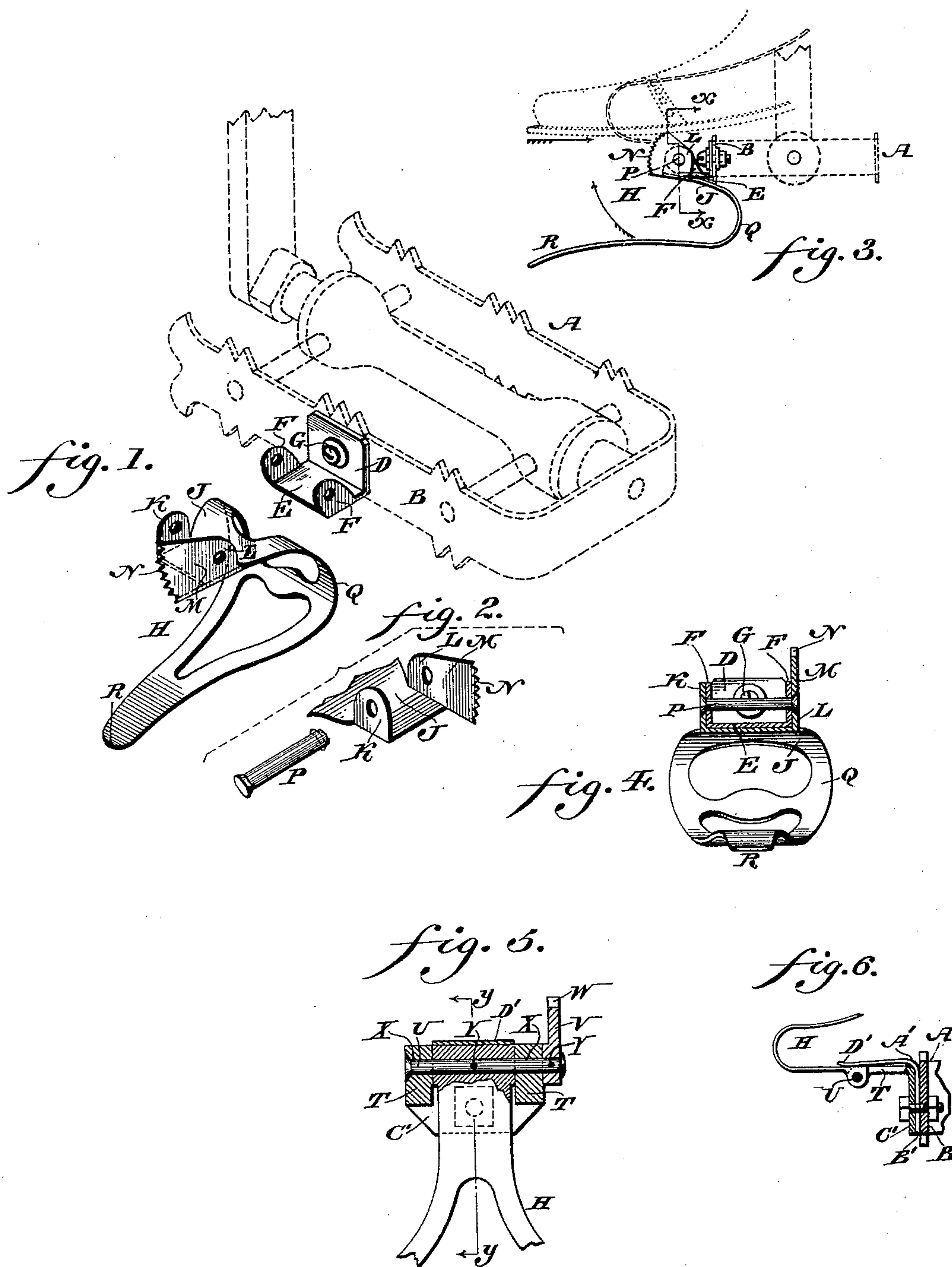


(No Model.)

W. D. McDANIEL.
TOE CLIP.

No. 602,516.

Patented Apr. 19, 1898.



WITNESSES:

L. Rouville,
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UNITED STATES PATENT OFFICE.

WILLIAM D. McDANIEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO LUTHER S. GREEN, OF SAME PLACE.

TOE-CLIP.

SPECIFICATION forming part of Letters Patent No. 602,516, dated April 19, 1898.

Application filed October 27, 1896. Serial No. 610,190. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. McDANIEL, 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 Toe-Clips for Bicycle-Pedals, which improvement is more fully set forth in the following specification and accompanying drawings.

My invention consists of an improved construction of toe-clip which is adapted to be readily attached to the foot-tread or pedal of a bicycle, provision being made for enabling the rider by a slight movement of the foot to bring the toe-clip into the desired relative position to the foot-tread and foot.

It further consists of novel details of construction, all as will be hereinafter set forth, and specifically pointed out in the claims.

Figure 1 represents a perspective view of a foot-tread or pedal of a bicycle, showing a toe-clip embodying my invention and applicable thereto, the parts being shown in detached position. Fig. 2 represents a perspective view of the upper portion of a toe-clip, showing the pin adapted to hold the latter in position. Fig. 3 represents a side elevation of the foot-tread or pedal to which the same is applicable, the foot of the rider being shown in the act of moving the clip to the desired position. Fig. 4 represents a section on line xx , Fig. 3. Fig. 5 represents a sectional view of another embodiment of the principle of my invention, to be hereinafter referred to. Fig. 6 represents a vertical section on line yy , Fig. 5, the toe-clip being shown in its operative position, showing a spring employed.

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

Referring to the drawings, A designates the foot-tread of a bicycle, the same having attached to a side B thereof the plate D, which has the angularly-deflected member E attached thereto, said member having attached thereto the ears F, having openings therein, and said plate D being held in position by means of a pin, bolt, or other device G.

H designates the toe-clip, the same consisting of a suitable body portion J, which has the ears K and L arising therefrom, one of said ears, as L, having the crank-arm M and

being provided with the roughened or serrated edge N, the function of which will be apparent.

P designates a pin which is adapted to pass through openings in the ears K and L, E, and F, and thus hold the toe-clip pivotally in position upon the foot-tread.

Q designates a continuation of the toe-clip from the body portion J, said clip terminating at the point R, the contour of the portion Q and R being such that the toe portions of the shoe of the rider may enter the same.

In Fig. 5 I have shown a modified form of my invention, in which H designates a toe-clip, as before, the same being mounted in suitable supports T and having the stem U passing therethrough, to a portion of which stem is secured a crank-arm V, which is provided with the serrations W, it being understood that said stem U turns freely in its bearings X in the supports T, and that the toe-clip H and the extension V, being secured thereto by pins Y, must revolve in unison therewith, the principle of the invention being the same as already described.

In Fig. 6 is shown more clearly the location of the spring A' employed, the latter having the member B', which is held between the arm C' and the foot-tread when the parts are assembled, said arm C' having the supports T' attached thereto. The free end D' of the spring bears upon a suitable portion of the toe-clip, so that when the latter has been turned into the position seen in Fig. 6 by the application of the foot to the arm V it will be normally retained in position.

The operation is as follows: The parts having been assembled by placing the lugs K and L in the position indicated in Fig. 4 and inserting the pin P in place it will be evident that the toe-clip will normally hang in substantially the position indicated in Figs. 3 and 4. When, now, the rider mounts his wheel and desires to bring the toe-clip into operative position, it is only necessary for him to place the sole F of his shoe upon the serrated arm or extension M, whereupon the free end R of the clip will be rocked in the direction indicated by the arrow until it engages the vamp or other portion of the rider's shoe, as is customary, it thus being evident that a positive

and effective device is provided for enabling the rider to instantly rock the toe-clip into the desired position for engagement with the shoe.

5 In the construction seen in Fig. 5 the toe-clip and crank-arm V are pinned to the stem U, and when the rider desires to turn the clip into the operative position he rocks the same thereto by placing his foot upon the arm or
10 extension V, the spring A' holding the parts normally in proper position.

I desire to call especial attention to the fact that in each case in the event of an accident or the rider being thrown from the bicycle
15 or caused to suddenly dismount for any reason his foot will instantly become disengaged from the toe-clip, the clip seen in Fig. 3 instantly assuming the position seen therein, while in the coil of the spring seen in Figs.
20 5 and 6 the resiliency of the member D' will permit the toe-clip to be readily turned, so as to permit the foot to be readily released.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the pedal of a bicycle of a plate D having the member E attached thereto, ears projecting from said member, a toe-clip consisting of a suitable body portion, having ears projecting therefrom, 30 means for holding the clip in position, and an arm or extension attached to one of said ears.

2. In combination with a foot-tread for a bicycle, bearings suitably attached thereto, a stem rotatably mounted on said bearings, 35 a toe-clip which is rigidly secured to said stem, and an arm and teeth thereon, said arm being also rigidly secured to said stem and adapted to rotate the same.

WILLIAM D. McDANIEL.

Witnesses:

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