(No Model.)

A. A. BEVIN.

TOE CLIP FOR BICYCLES.

No. 546,412. Patented Sept. 17, 1895.

Fig. 1.

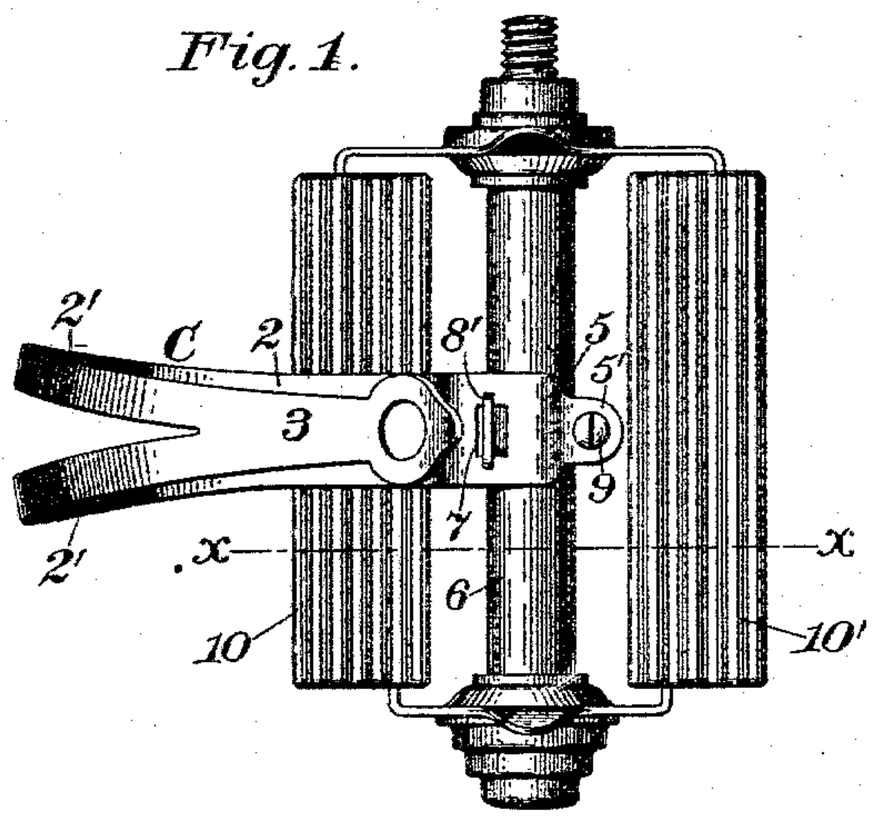


Fig. 2.

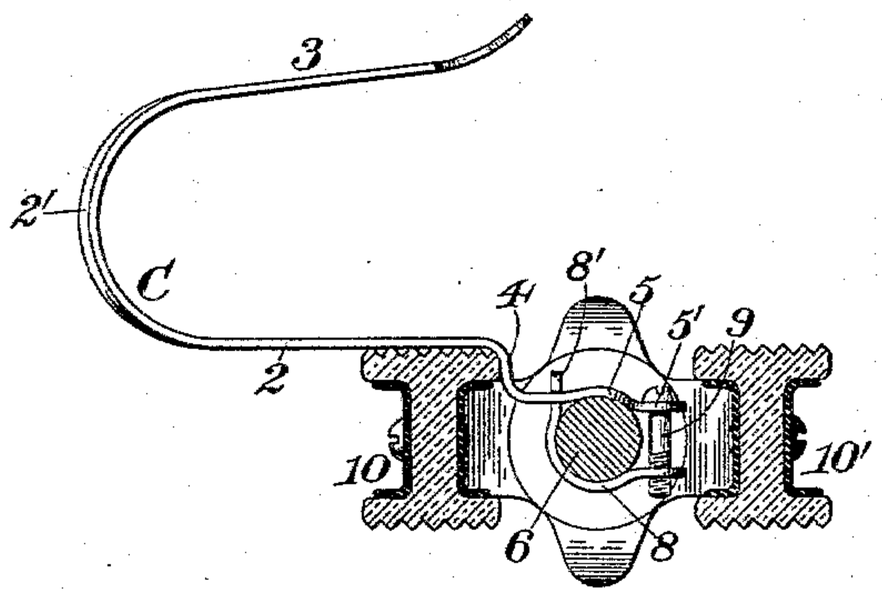


Fig. 3.

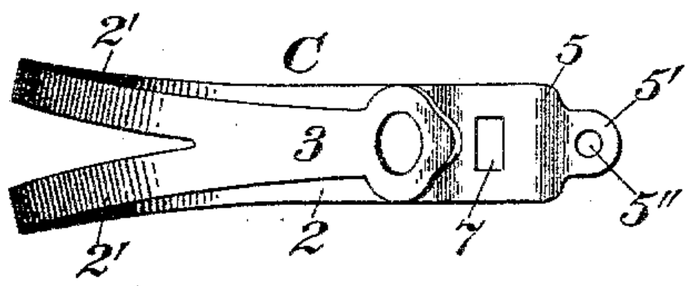


Fig. 4.

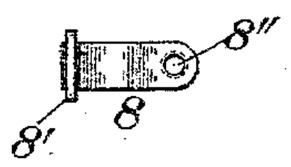


Fig. 5.

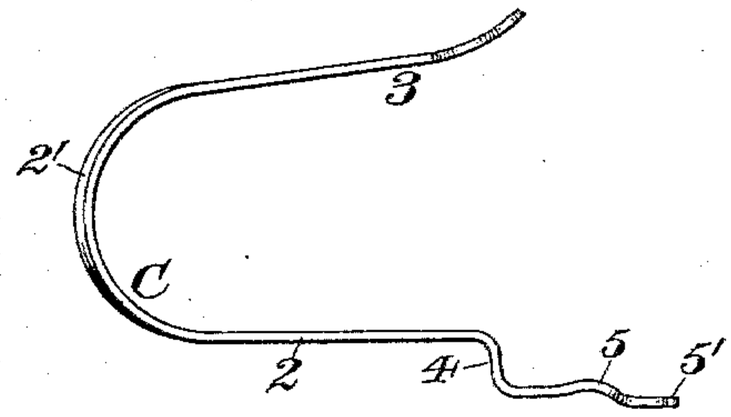


Fig. 7.

Fig. 6.

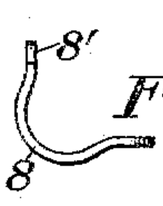
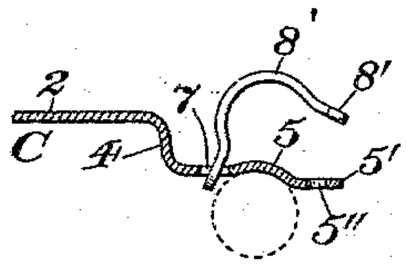


Fig. 8.



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UNITED STATES PATENT OFFICE.

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TOE-CLIP FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 546,412, dated September 17, 1895.

Application filed March 27, 1895. Serial No. 543,346. (No model.)

To all whom it may concern:

Be it known that I, ABNER A. BEVIN, a citizen of the United States, residing at East Hampton, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Toe-Clips for Bicycles, of which the following is a specification.

This invention relates to toe-clips for velocipede-pedals, and especially for bicycle-pedals, the object being to furnish an improved device of this general character which shall be readily attachable to or detachable from pedal-pins of varying sizes, shall be capable of maintaining its position at all points of the revolution of the pedal independently of the pressure exerted upon it by the rider, will enable the rider to obtain a firm grip of the pedal in lateral and longitudinal direction, and which may be capable of manufacture at a low cost.

In the drawings accompanying and forming part of this specification, Figure 1 is a plan of a toe-clip embodying my invention and in operative relation to a bicycle-pedal. Fig. 2 is a transverse section in line *x x*, Fig. 1. Fig. 3 is a plan of the main member or body portion of the toe-clip. Fig. 4 is a similar view of a clip member for engaging the pedal pin or carrier. Fig. 5 is a side elevation of the main member of the toe-clip. Fig. 6 is a side elevation of the clip member shown in Fig. 4. Fig. 7 is a front elevation of the same. Fig. 8 is a detail sectional side elevation showing the manner of engaging the clip member illustrated in Fig. 4 with the supplemental clip member on the rear end of the body portion of the toe-clip.

Like characters designate like parts in all the figures of the drawings.

My present invention comprises, in combination with a velocipede having a longitudinal connecting member and a pedal pin or carrier, a toe-clip having a toe-engaging clip at its forward end, and which toe-engaging clip is fulcrumed on the aforesaid connecting member of the pedal, supplementary clip members at the rear end of the toe-clip and adapted for engaging the pedal pin or carrier, and having said clip members connected at one side of the pedal-pin and normally non-contiguous at the opposite side thereof, and means for engaging the free ends of the clip members for clamping the same to the pedal-pin, whereby the toe-clip is secured in position on the pedal of the velocipede.

C designates in a general way the main member of a toe-clip constructed in accordance with my present invention, the clip being shown in the drawings in operative position upon the ordinary rubber pedal. This body portion of the toe-clip is illustrated as formed of sheet material, preferably of thin sheet metal of uniform thickness, from which this main member of the device is stamped and properly shaped to form the completed article. This main member is shown herein as having a forward longitudinally-disposed clip or member of large size for engaging the toe of the foot-gear of the rider. This toe-engaging clip is shown as formed of a lower substantially-horizontally disposed portion 2, which at its forward end is bent substantially semicircular to form a stop or abutment for limiting the forward movement of the foot upon the pedal, said curved portion being bent backward upon itself, as shown at 3, to form a clamping-plate of resilient character for engaging the upper side of the shoe or foot-gear of the cyclist.

In the form thereof illustrated in the drawings the toe-engaging clip is bifurcated to form two diverging arms or members 2′, connected at their rearward ends and merging into the upper and lower portions of the toe-clip, which are designated by 3 and 2, respectively. For the purpose of obtaining a secure hold upon the toe of the wheelman's foot-gear the diverging-arms of the toe-engaging clip are also illustrated herein as having their extreme forward portions disposed substantially in the arc of a circle relatively to the longitudinal axis of the toe-clip to approximate the outline of the toe of the rider's shoe, whereby a very considerable clamping or pinching effect is obtained.

The main member C of the toe-clip is shown in the drawings as having adjacent to its rear end a downwardly-bent right-angled portion 4, having a curved portion 5, forming a pedal-pin-engaging clip member, adapted to firmly engage the rear face of the pedal-bar and the pedal pin or carrier. This clip member 5 in the present case is curved to have a slightly

concaved under side adapted to engage the upper side of the pedal-pin, (designated herein by 6,) and at its extreme rear end the clip member 5 is shown as formed with an ear 5′, having a transverse perforation or aperture 5″ to permit the passage of a clamping-screw. A second elongated aperture or slot is also shown as formed at 7, in advance of the pin-engaging portion of the clip member 5, for the purpose of receiving the supplementary clip member which co-operates to bind the toe-clip to the pedal-pin. This supplementary clip member is shown in the drawings at 8 as having a substantially semicircular body portion of such cross-section as to admit of its insertion through the slot 7 of the body portion of the clip, and this supplementary clip member is also illustrated as having a T-shaped head 8′ for engaging the walls of the slot 7 at the upper face of the clip. The curved portion of the clip member 8 is also adapted to engage closely against the peripheral surface of the pedal-pin, and at its rear end is also shown as having a screw-threaded opening 8″, adapted to be brought into position to register with that at 5″, a clamping-screw being shown at 9 as passed through these openings to tighten the members of the clip and bind the same firmly against the pedal-pin. This clamping-screw has a screw-thread of considerable length, so that when the clip members are in position and non-contiguous to each other it will bind the same firmly against the pedal-pin and compensate for variations in the sizes of the pins upon which the toe-clip may be secured.

It is well known that pins of different makes vary greatly in their cross-sectional dimensions, and it is one of the principal objects of the present construction to compensate for such variations.

The herein-described organization of devices constitutes a very light and compact device of this class, adapted to be located and attached centrally of the longitudinal connecting members, such as 10 and 10′, of a pedal, so that the toe-clip will not interfere with the operation of any of the adjacent parts of the mechanism of the velocipede, and will permit the foot-gear of the rider to be quickly removed from engagement therewith while maintaining a firm hold upon the shoe during the pedaling operation.

Having thus described my invention, I claim—

1. A two-part toe-clip consisting of a member having a toe-engaging portion and a rearwardly-extending clip portion having an elongated slot, and of a separable and removable supplemental clip-member having a T-shaped holding head and extending transversely through the elongated slot of the other member; and said supplemental clip-member having also one of its ends non-contiguous to said rearwardly-extending clip portion; and a clamping device for connecting the rearwardly-extending clip portion with the non-contiguous end of the supplemental clip-member, whereby said toe-clip is adapted to positively engage a crank-pin or carrier of a bicycle-pedal, substantially as described.

2. A two-part clip consisting of a member having a toe-engaging portion and a rearwardly-extending downwardly-bent right-angled clip portion adapted to depend below a pedal-bar and firmly engage the rear face of the pedal-bar and the pedal-pin or carrier; and of a separable and removable supplemental clip-member, one of said members having an elongated slot through which the other member is adapted to be passed, and said supplemental clip-member having one of its ends non-contiguous to said rearwardly-extending clip portion; and a clamping device for connecting the rearwardly-extending clip portion with the non-contiguous end of the supplemental clip-member, whereby said toe-clip is adapted to positively engage a crank-pin or carrier of a bicycle-pedal, substantially as described.

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