

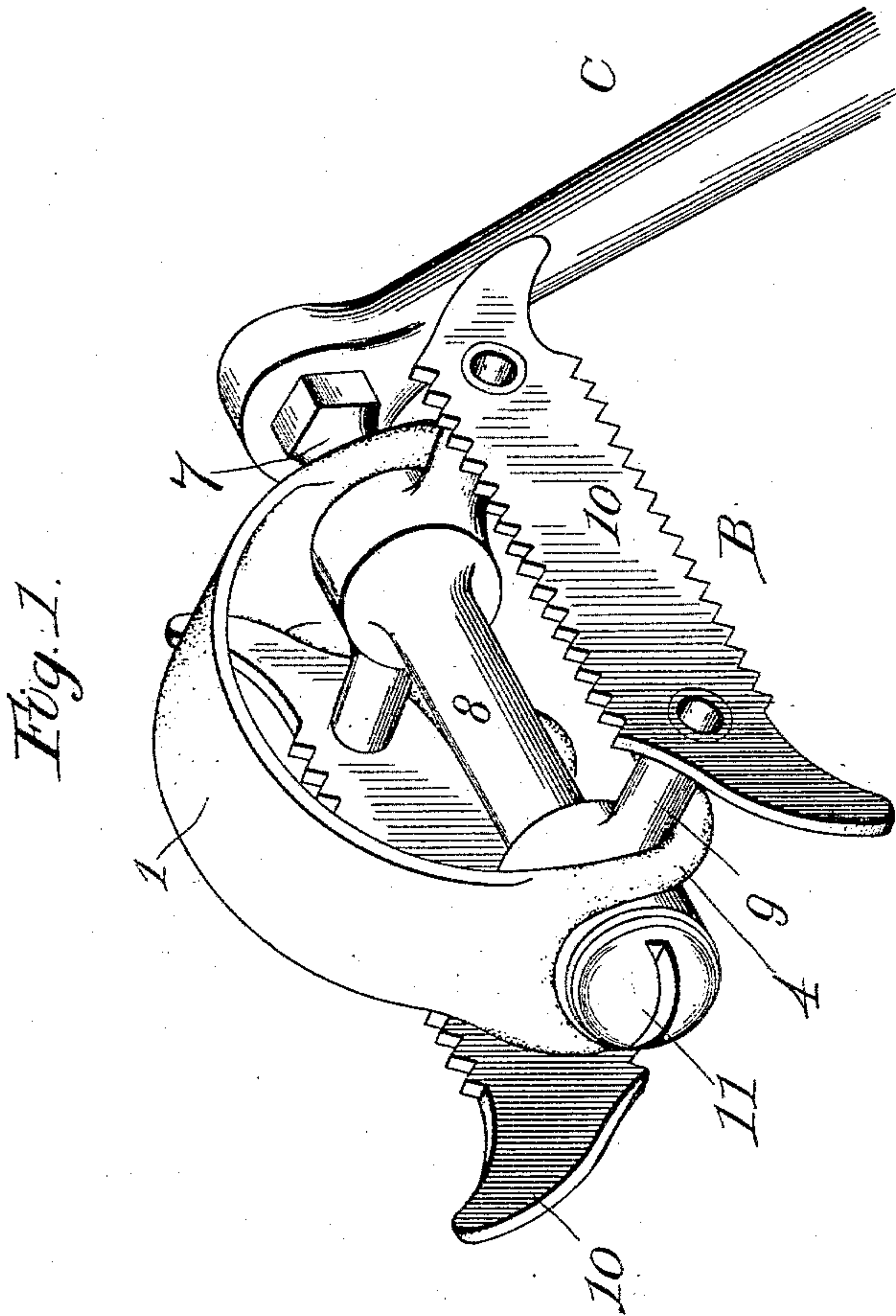
(No Model.)

3 Sheets—Sheet 1.

T. W. MORRIS.  
TOE CLIP FOR VELOCIPEDES.

No. 597,780.

Patented Jan. 25, 1898.



Witnesses:  
A. F. Durand.  
Margaret M. Wagner.

Inventor:  
Thomas W. Morris,  
by Page & Belfield,  
attys

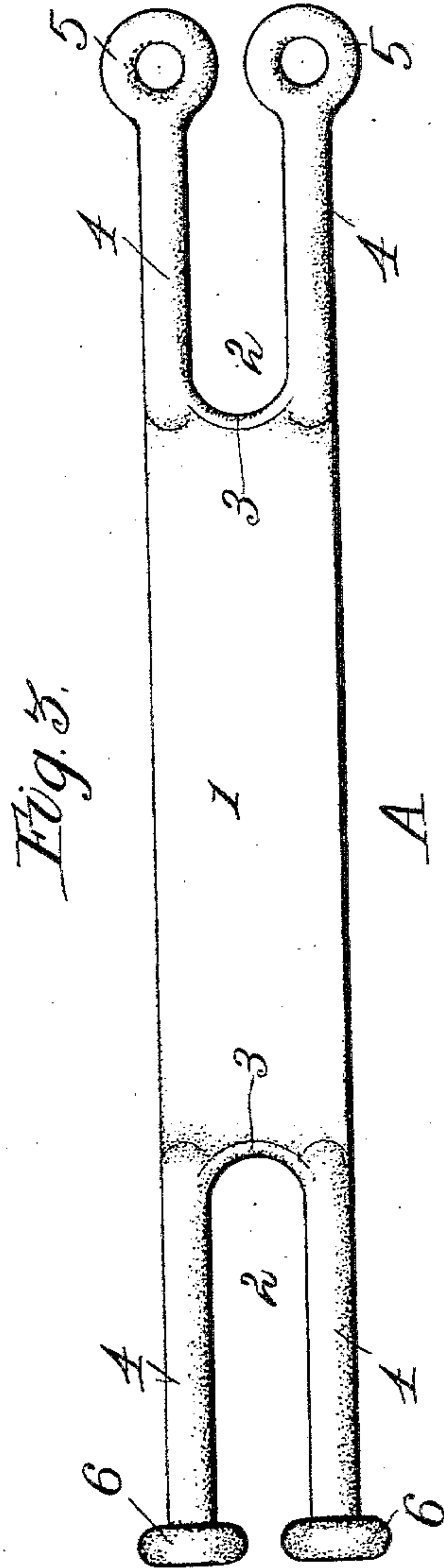
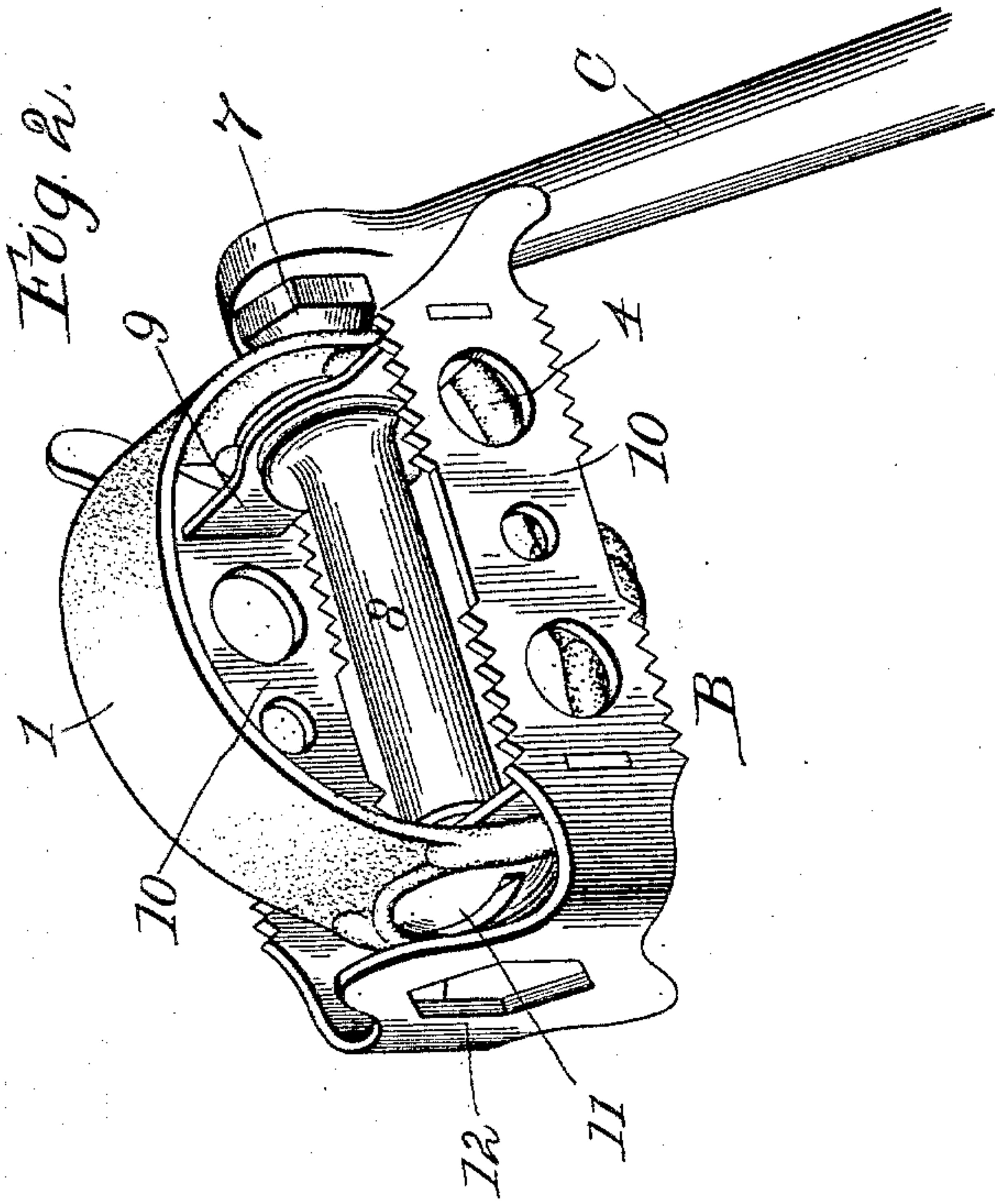
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Fig. 4.

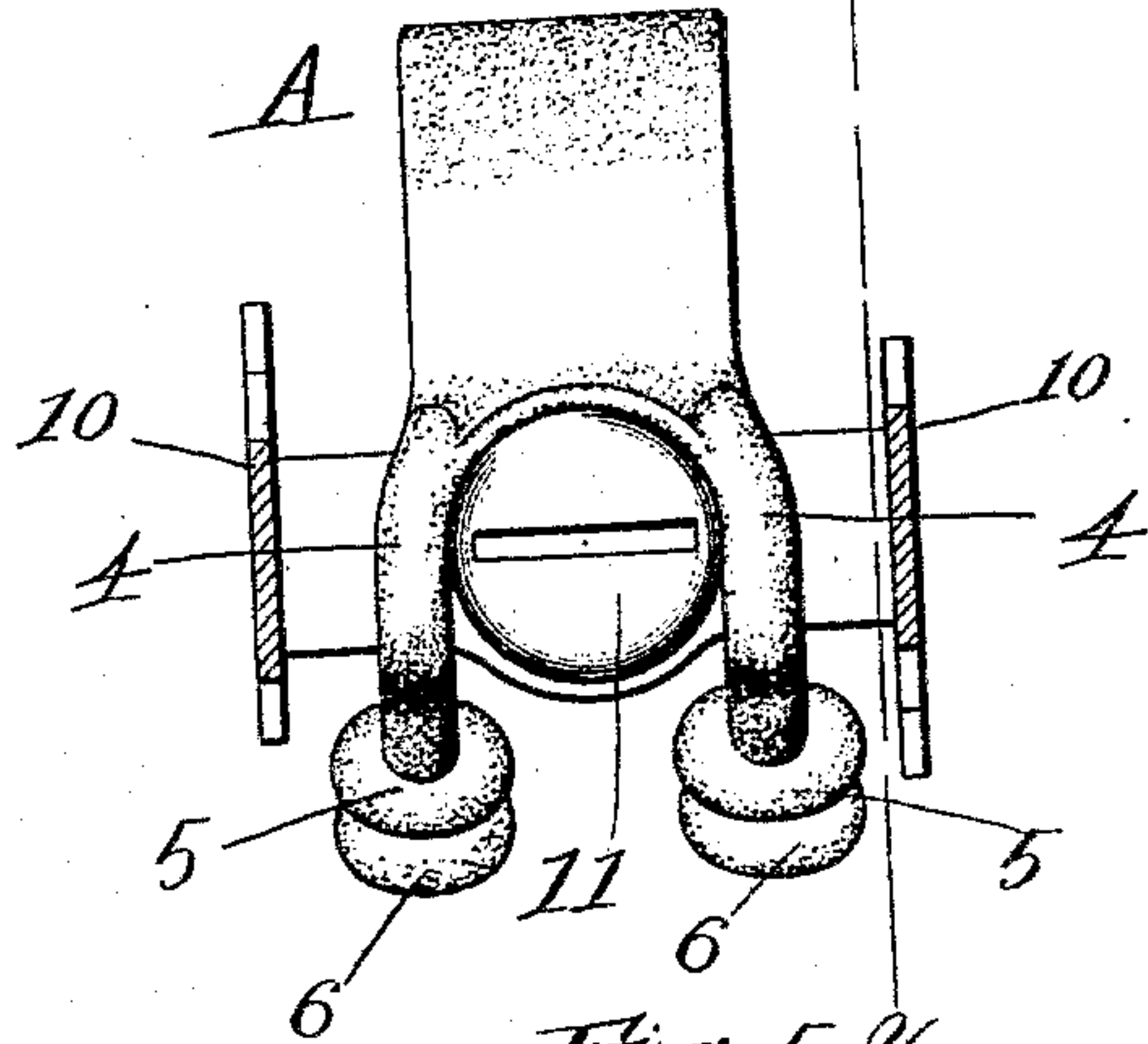


Fig. 5.

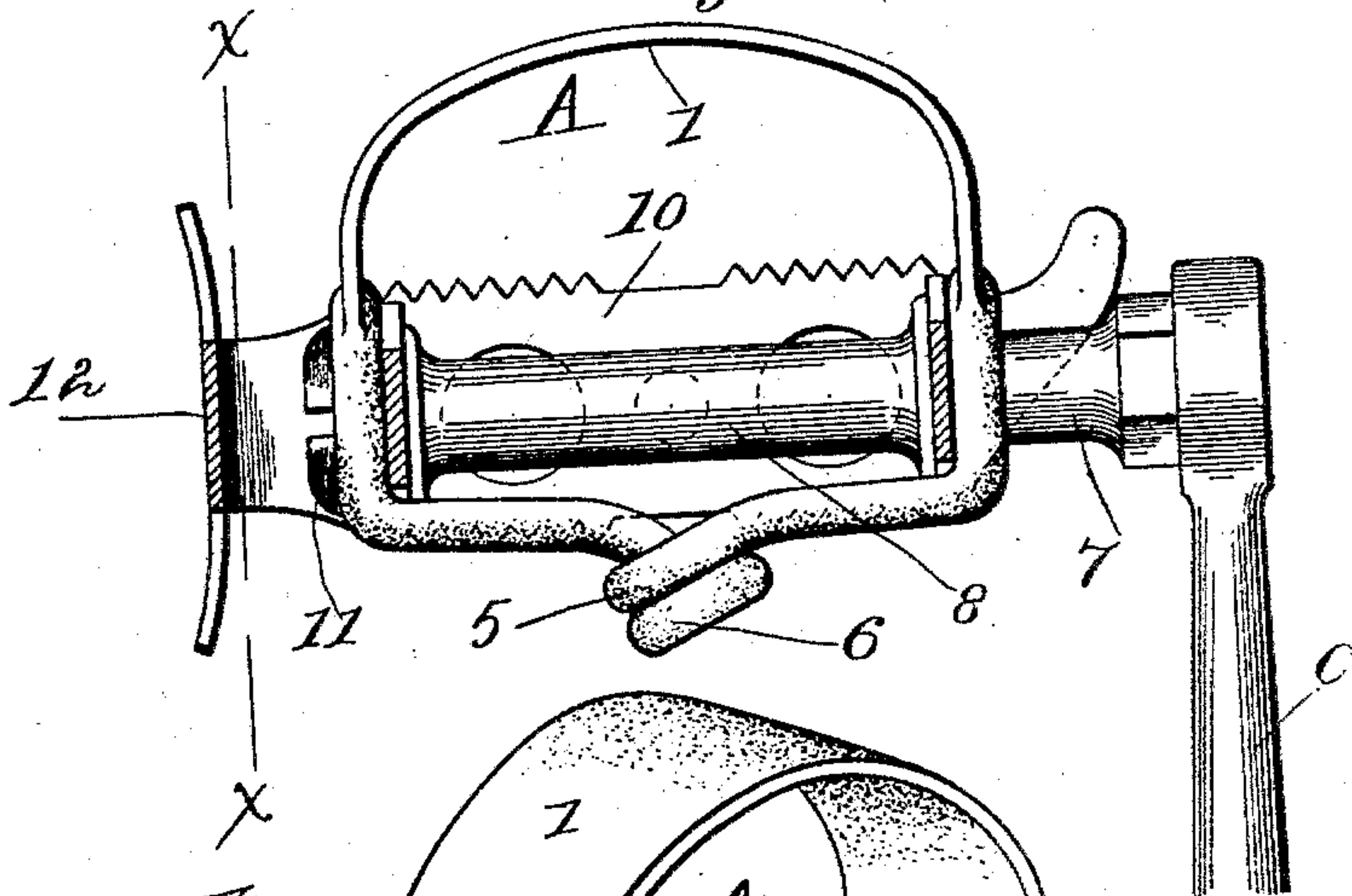
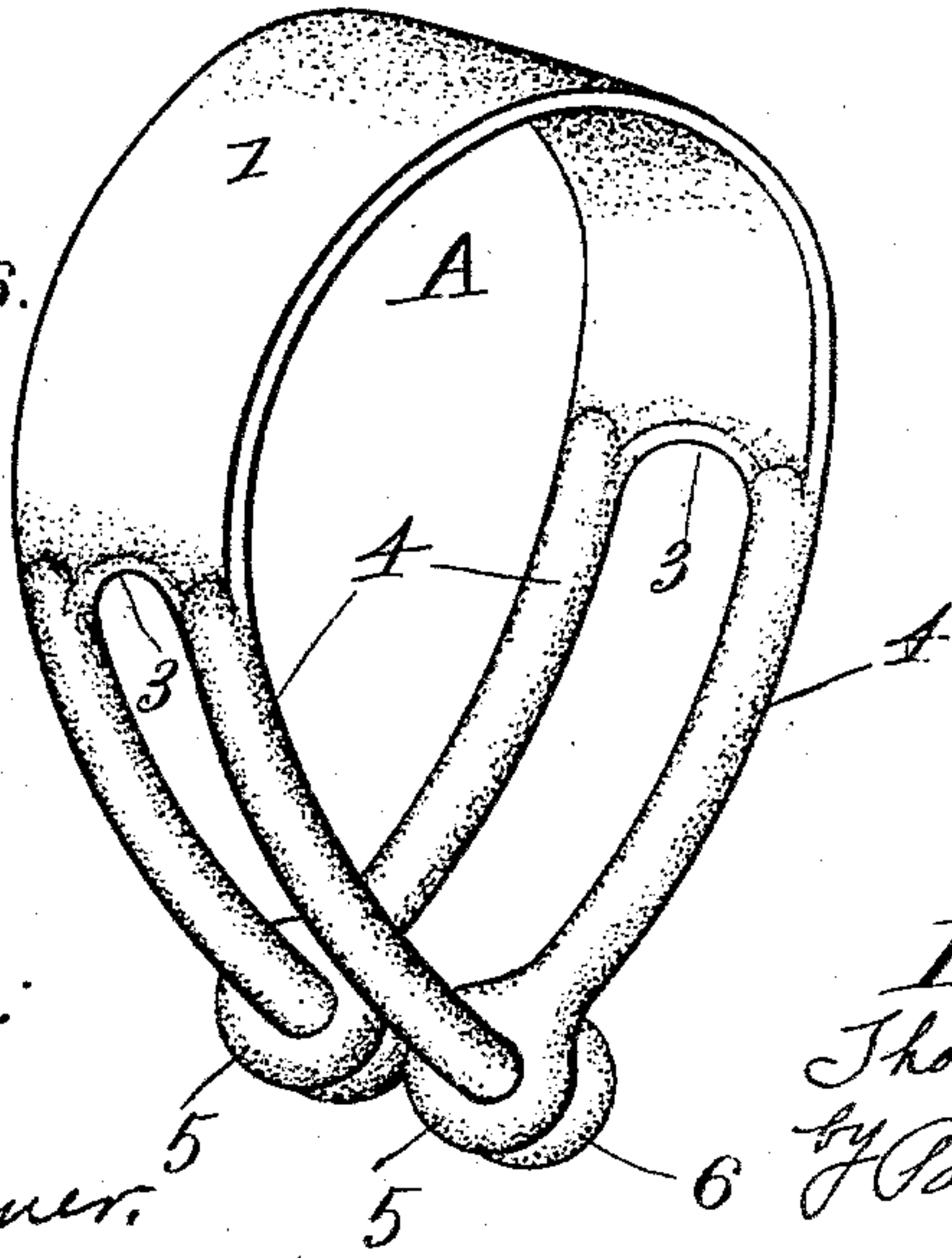


Fig. 6.



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# UNITED STATES PATENT OFFICE.

THOMAS W. MORRIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MORGAN & WRIGHT, OF SAME PLACE.

## TOE-CLIP FOR VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 597,780, dated January 25, 1898.

Application filed April 9, 1897. Serial No. 631,378. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. MORRIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Toe-Clips for Velocipedes, of which the following is a specification.

The objects of my invention are to provide a simple and efficient construction of toe-clip which can be readily and conveniently applied to and removed from velocipede-pedals of various constructions; to provide a construction of toe-clip which can be conveniently and economically manufactured; to insure the effective attachment of the toe-clip to the pedal and at the same time permit a flexible portion of the toe-clip which extends over the pedal to normally maintain an arched condition; to provide the clip with novel means for conveniently fastening together its ends; to permit the clip to be made of rubber or its equivalent (rubber compound) and molded with such fastening devices, and to generally provide a simple and improved toe-clip adapted for application to velocipede-pedals generally.

In the accompanying drawings, Figure 1 represents in perspective a velocipede-pedal with my improved toe-clip engaging upon projections at opposite ends of the pedal. Fig. 2 is a like view showing the applicability of the toe-clip to a velocipede-pedal of somewhat different construction. Fig. 3 is a plan view of the toe-clip in a spread-out condition. Fig. 4 involves the construction of pedal shown in Fig. 2 and represents a section on line *x x* in Fig. 5. Fig. 5 illustrates a section on line *y y* in Fig. 4. Fig. 6 shows the toe-clip with its ends temporarily held together, this view being made to further illustrate the toe-clip and its divided and interlocking end portions.

The toe-clip A comprises a flexible strap having a middle portion 1 of a width suitable for engaging upon the foot of the rider and of a length to permit it to extend and arch over the pedal. The toe-clip is provided at each end of its middle portion 1 with slots or openings 2, arranged to receive suitable portions of the pedal and adapted to provide shoulders 3 3, which can normally rest upon the portions of the pedal received by the open-

ings 2 and thereby normally maintain the middle portion 1 of the toe-clip in a suitably-elevated condition.

The end portions of the toe-clip are divided, so as to provide each with the divisions or separated portions 4 4. The separated end portions at one end of the toe-clip are adapted to separably connect with the separated end portions at the opposite end of the toe-clip, and while various fastening or interlocking devices can be employed I prefer as a matter of further and special improvement to provide said divided end portions with elastic eyes 5 5 and buttons 6 6, whereby the two pairs of separated end portions of the flexible strap which forms the toe-clip can be separably connected together, as best illustrated in Fig. 6.

As a simple and preferred arrangement and matter of special improvement the openings 2 are formed by slots which while providing shoulders 3 also serve to divide the end portions of the toe-clip, in which way the end portions of the toe-clip can straddle suitable portions of pedals of various constructions and thereby permit the toe-clip to be applied and removed without either detaching the pedal from the crank or in any way taking apart the pedal. The strap which forms the toe-clip is flexible and preferably elastic throughout, and owing to its adaptability to be spread out, as in Fig. 3, it can be readily and economically molded of rubber or rubber compound. It will also be seen that it can be conveniently and economically molded with the eyes 5 5 and buttons 6 6.

In Fig. 1 the pedal B is connected with an ordinary velocipede crank-arm C and comprises a frame arranged to revolve, as usual, upon an arbor 7, which is secured to the crank-arm. Said frame is constructed with a rotary sleeve 8, which turns upon the arbor and which is provided with a couple of pairs of laterally-extending arms 9, to which the oppositely-arranged serrated foot-plates 10 10 are secured. At one end of the sleeve 8 is a cap-screw 11, arranged to close said end, as usual. A pedal thus constructed is therefore provided with two end projections, one being the cap-screw 11 and the other being the arbor 7. My improved toe-clip can be readily applied to such pedal by causing its



end portions to straddle the projections at opposite ends of the pedal, after which the terminals of its end portions can be drawn under the pedal and temporarily locked together. When thus applied, the separated portions or divisions 4 of its end portions will lie and bear against the arms 9 of the frame, while the stops or shoulders 3 will rest upon the projections at opposite ends of the pedal and thereby uphold the middle portion 1 of the toe-clip, which arches over the pedal, and prevent the same from sagging or dropping down. When the rider's foot is thrust under the arched middle portion of the toe-clip, sufficient tension will be exerted thereon to slightly draw one of its shoulders 3 up and away from the arbor 7 (should the projection at one end of the pedal be an arbor) and thereby avoid frictional contact between the two while the pedal is revolving independently of the arbor, it being seen that when the middle portion of the toe-clip is under such tension portions of the strap which forms such clip will be drawn tightly against the arms 9 and also the strap will have comparatively broad bearings against the ends of the pedal, since it will bear against said arms at opposite sides of the axis about which the pedal revolves.

The pedal B illustrated in Figs. 2, 4, and 5 generally corresponds with the pedal of Fig. 1, but involves certain differences in detail, the principal difference being that its serrated foot-plates 10 are made in one piece, which extends opposite one end of the sleeve 8, as at 12. The pedal of Figs. 2, 4, and 5 is, however, constructed with an arbor 7, which is attached to the crank C, and with a rotary sleeve 8, arranged upon the arbor and provided with laterally-extending arms 9, to which the serrated foot-plates 10 are attached. It is also provided at one end of the sleeve with a cap-screw 11, which forms a projection at one end of the pedal, the other projection being formed by the arbor 7.

It will be seen that by dividing one end portion of the toe-clip such end portion can be arranged to straddle the arbor 7 without detaching the pedal from the arbor. Obviously the other end portion of the toe-clip could have an opening adapted to receive the screw-cap 11, regardless of any further division of such end portion of the toe-clip. I prefer, however, to divide each end portion of the toe-clip by a slot which serves both to form the shoulders 3 and to form the divisions 4 4, since by such arrangement the rider will not have to select any particular end portion of the toe-clip for receiving the arbor, and thereby the toe-clip can be more readily applied.

I do not herein broadly claim the following features, which, while involved in my toe-clip, are embodied and claimed in a prior application of one William Herrick and stated as follows, to wit:

"1. A toe-clip for velocipede-pedals comprising a band adapted to extend and arch over the pedal, and to extend and lie in a flattened condition under the same, the said band being apertured to receive and engage upon projections at opposite ends of the pedal, and having its lower portion which extends between the points at which it engages said projections, and which lies under the pedal, made elastic and of a length to lie taut and under tension when the clip is applied to the pedal, whereby, while the lower part of the clip will be under tension, its upper portion will be free to arch over the pedal.

"2. A toe-clip for velocipede-pedals comprising a flexible band adapted to extend and arch over the pedal and to extend under the same, the part of the band which extends under the pedal being divided longitudinally between its marginal portions to permit it to receive and engage upon suitable portions of the pedal and to permit it to be applied to the pedal without detaching the latter from the crank."

What I claim as my invention is—

1. A toe-clip for velocipede-pedals comprising a flexible strap adapted to extend over and under the pedal and having divided end portions adapted to straddle projections at opposite ends of the pedal and provided with fastening devices for temporarily connecting them together under the pedal, substantially as described.

2. A toe-clip for velocipede-pedals comprising an elastic rubber strap having divided end portions 4 adapted to straddle projections at opposite ends of the pedal and provide shoulders 3 at opposite ends of its middle portion 1 which normally arches over the pedal, said strap being molded with fastening devices arranged for separably connecting together its divided end portions under the pedal, substantially as described.

3. A toe-clip for velocipede-pedals comprising an elastic rubber strap adapted to extend over and under the pedal and having openings adapted to receive projections at opposite ends of the pedal, said strap being molded with devices arranged for temporarily fastening together its ends under the pedal and comprising an eye and a button respectively at one and the other of said ends, substantially as described.

4. A toe-clip for velocipede-pedals comprising a flexible strap adapted to extend over and under the pedal and having divided end portions adapted to straddle projections at opposite ends of the pedal, said divided end portions being provided with eyes and buttons as a means for separably connecting them together, substantially as described.

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Witnesses:

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