

No. 661,026.

Patented Oct. 30, 1900.

O. W. KINLEY & I. J. ESHLIMAN.

TOE CLIP.

(Application filed Oct. 5, 1899.)

(No Model.)

FIG. I.

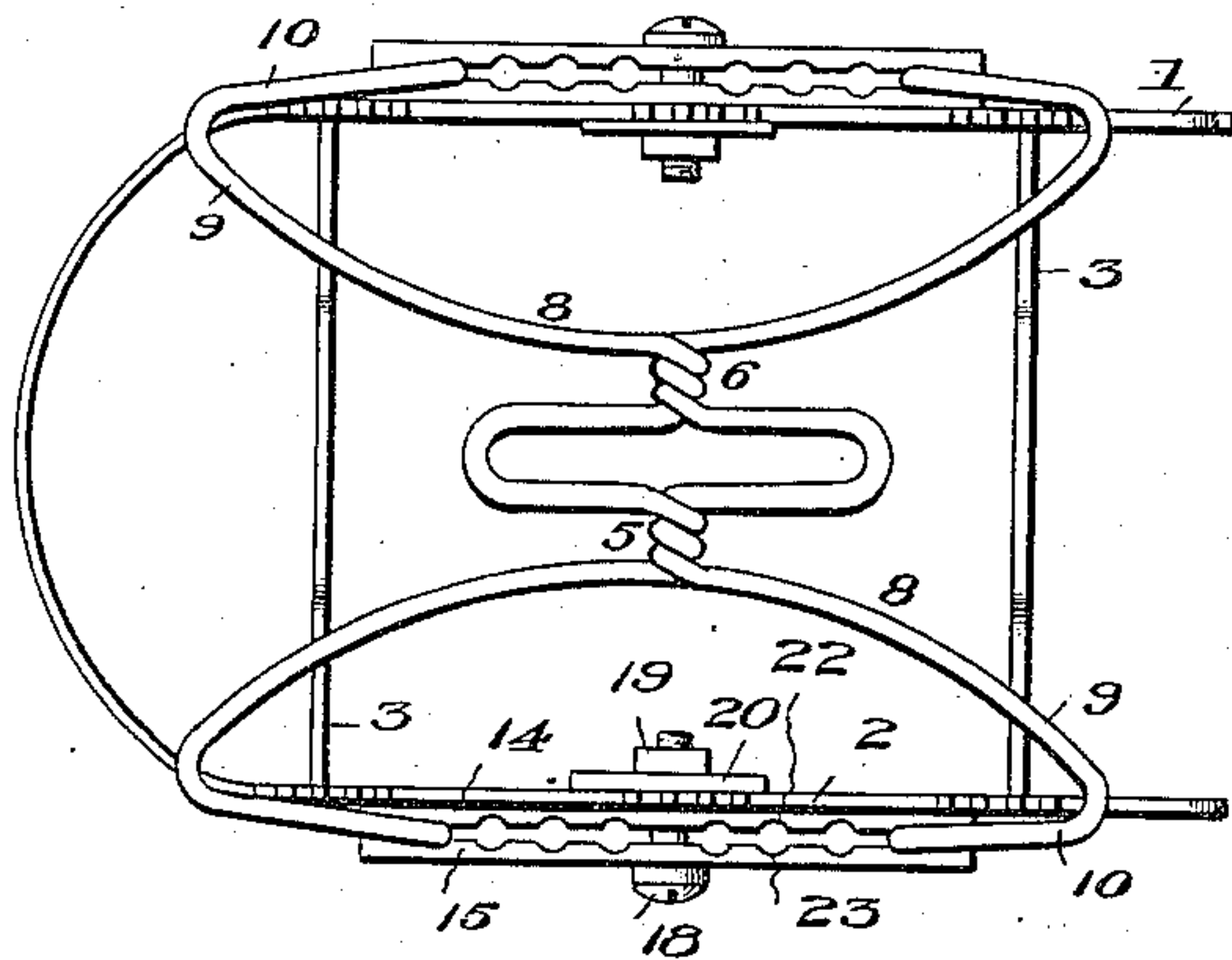


FIG. II.

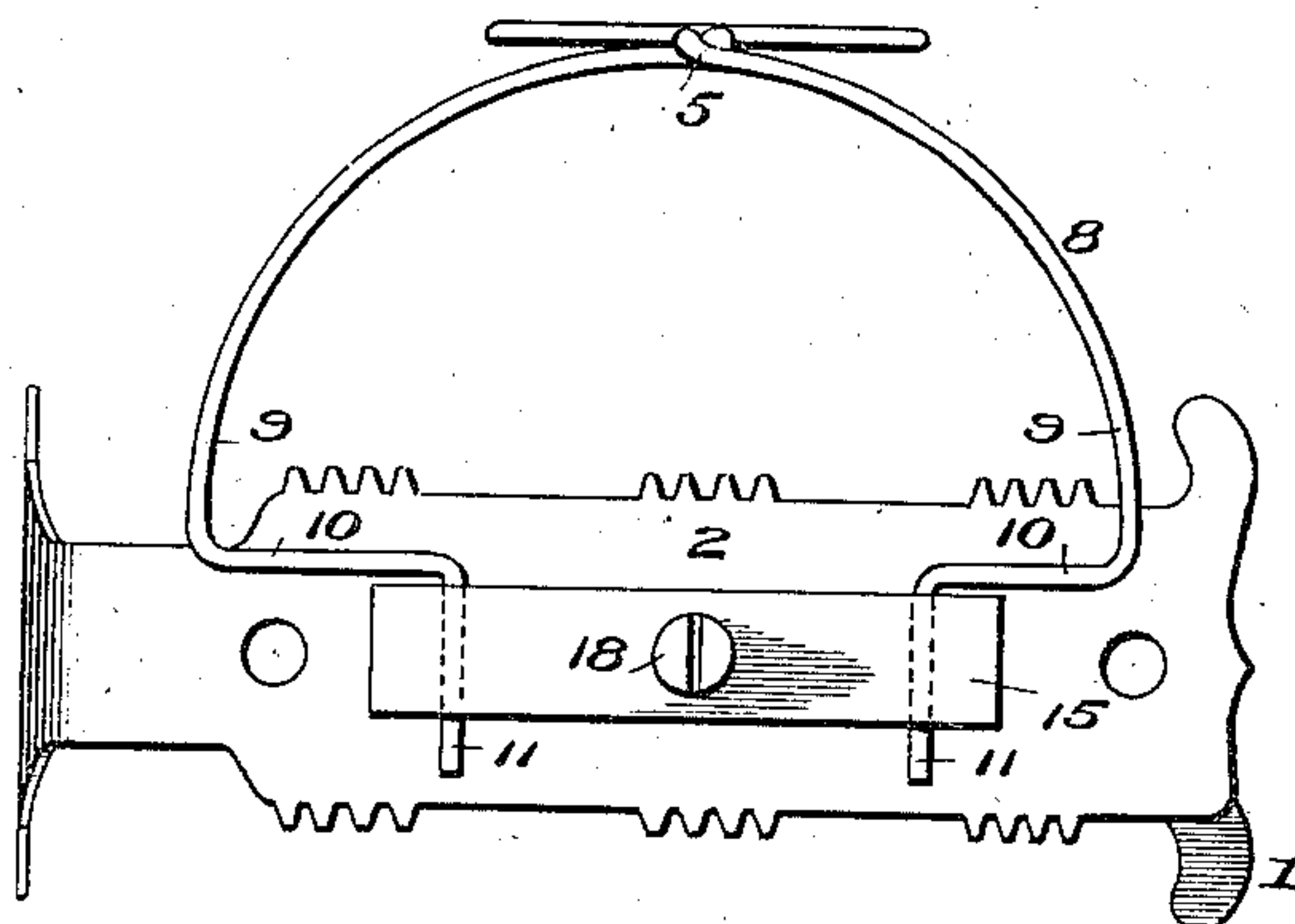


FIG. III.

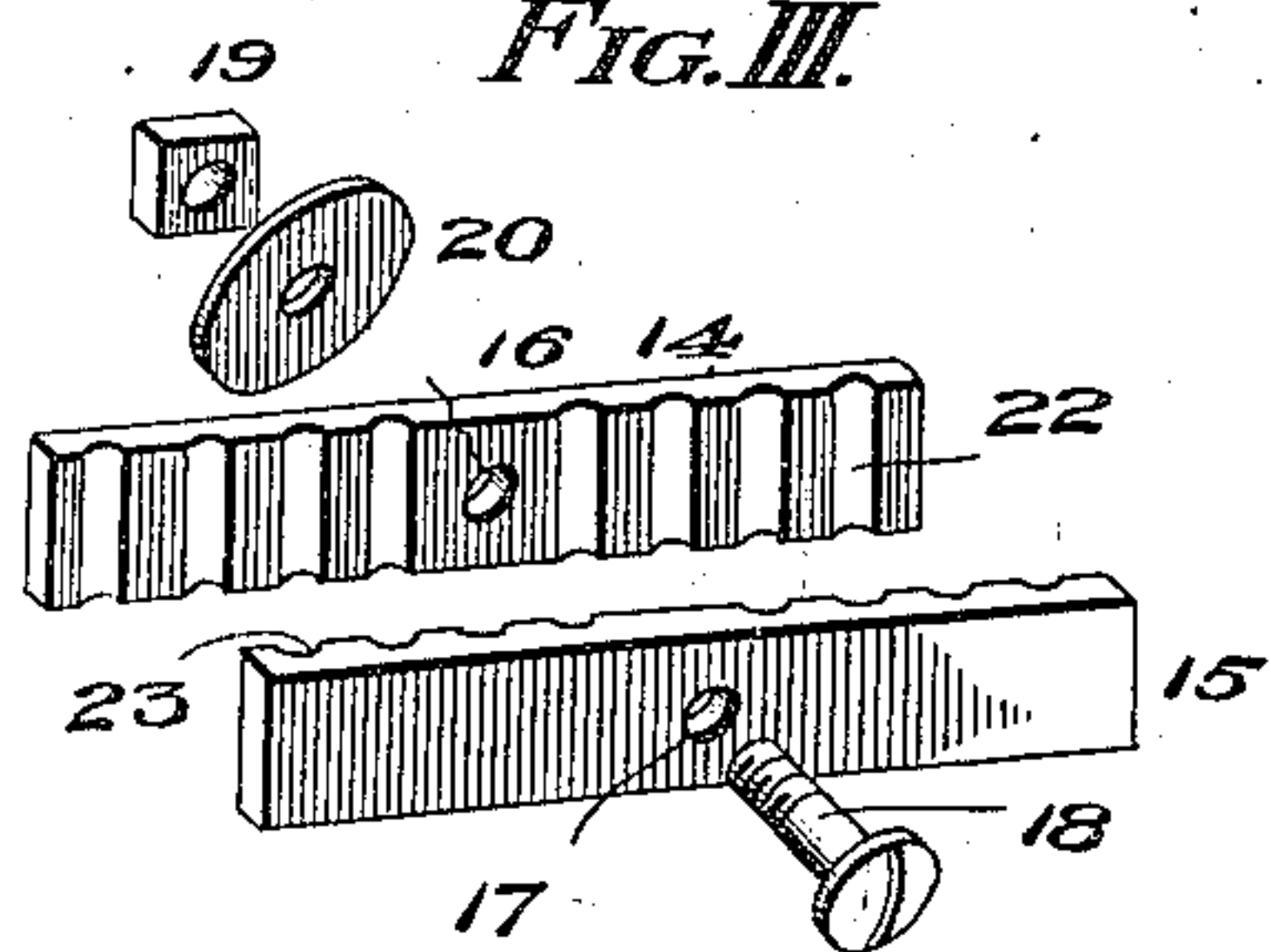
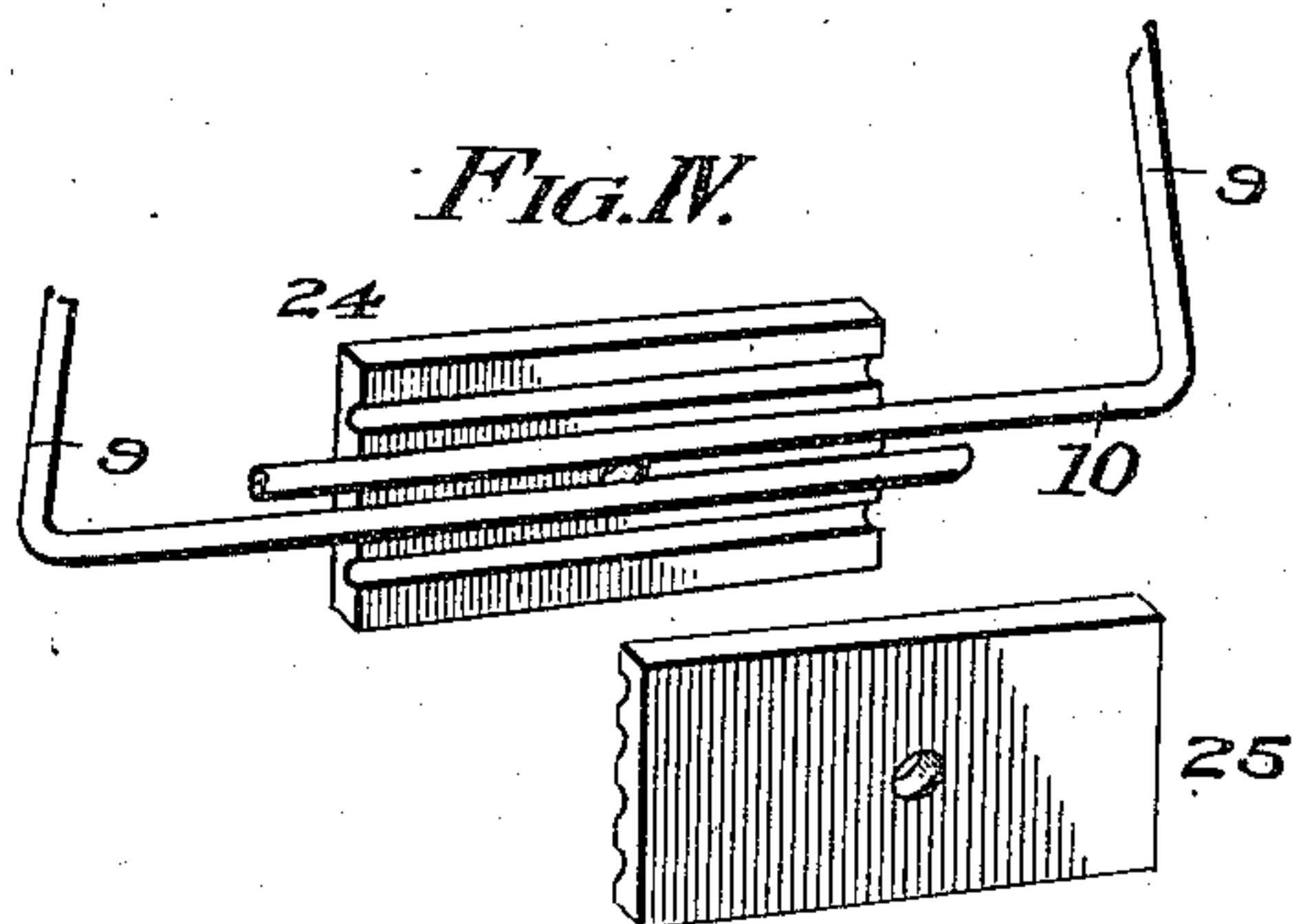


FIG. IV.



Witnesses

Wm. D. Ashiee
Karl Daniel

Inventors

O. W. Kinley and
I. J. Eshliman
By Jasper H. Atkins
Attorney.

UNITED STATES PATENT OFFICE.

OREN W. KINLEY AND IRVIN J. ESHLIMAN, OF GLENWOOD, IOWA.

TOE-CLIP.

SPECIFICATION forming part of Letters Patent No. 661,026, dated October 30, 1900.

Application filed October 5, 1899. Serial No. 732,638. (No model.)

To all whom it may concern:

Be it known that we, OREN W. KINLEY and IRVIN J. ESHLIMAN, of Glenwood, in the county of Mills, State of Iowa, have invented certain new and useful Improvements in Toe-Clips for Bicycles or the Like, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of our invention is to produce improvements in toe-clips for bicycles which may be readily adjusted to the foot of any rider and which afford a secure purchase for the foot upon the pedal during the upstroke of the crank that carries the pedal.

Heretofore toe-clips have been attached to but one side of the pedal, and these, while they prevent slipping of the foot, do not afford means for fully utilizing the pedal in applying a lifting power to the crank upon the upstroke. In our device the toe-clip, adjustable, as above described, is securely fastened to both sides of the pedal, and thereby affords a firm bearing of the foot upon the pedal and reliable means for lifting against the pedal, as required.

In the accompanying drawings, Figure I is a top plan view of a bicycle-pedal detached and equipped with the one form of our clip. Fig. II is a side elevation of the subject-matter of Fig. I. Fig. III is a perspective group of the clip-attaching mechanism shown in Figs. I and II. Fig. IV is a similar view showing another and preferred form of clip-attaching mechanism differing but slightly from that previously illustrated.

Referring to the numerals on the drawings, 1 and 2 indicate the side pieces of the frame, and 3 the cross-pieces, designed to be assembled with the barrel or hub of a bicycle-pedal. The elements above enumerated are referred to as constituting one form of pedal which is illustrated and described in the context only by way of explanation.

To the side pieces 1 and 2, respectively, as by suitable clip-securing mechanism, are secured the opposite ends of the arch which constitutes our clip. In the preferred form illustrated it consists of two wires interwoven, as indicated at 5 and 6, to form a wide arch 8 over the foot of the operator. The ends of the respective pieces of wire are bent down-

wardly, as indicated at 9, and inwardly, as indicated at 10. The inward bend 10 may be the final bend for certain forms of clip-securing mechanism, or the wires which form the arch may terminate in vertical sections 11. Although we have in the main illustrated the wires terminating in the section 11, which is an entirely practicable form of our device, yet for certain reasons we prefer the horizontal terminations. (See Fig. IV.) The object of the terminals, whether vertical or horizontal, is to provide means for securing the arch of which they form part. This may be accomplished, as has been above suggested, by suitable clip-securing mechanism. Such mechanism preferably consists of a pair of clamping-plates 14 and 15, provided with alignable apertures 16 and 17, adapted to receive a bolt 18, which, passing through the apertures 16 and 17 and a corresponding aperture in the side piece 1 or 2 of the pedal, is adapted, as by a nut 19 and washer 20, to be fixedly secured in place. The bolt, of which a plurality may be employed, if preferred, suffices not only to secure the clamping-plates to the side pieces of the pedal, but also to secure an object between the side pieces themselves. For this reason the opposing pieces of the clamping-plates are provided with a series of corresponding grooves or channels that are adapted to adjustably receive and hold the terminals of the arch. If vertical terminals, as 11, are employed, vertical grooves 22 and 23 in the clamping-plates are employed. If, however, the arch is provided with horizontal terminals, the clamping-plates shown in Fig. IV, and there indicated for the purpose of distinction by reference-numerals 24 and 25, respectively, are provided with horizontal grooves and channels. By adjustment of the terminals in the respective grooves, whether the grooves and terminals be vertical or whether they be horizontal, the required lateral adjustment of the terminals may be accomplished—that is, so that the height, as well as the width, of the arch may be within the limits of adjustment increased or diminished at pleasure.

While we have described in the foregoing a preferred form of embodiment of our invention, we do not desire to limit ourselves to the details of construction herein shown. It is

obvious that a clip-securing mechanism adapted to adjustably secure a clip to a pedal may be varied throughout an innumerable succession of changes, and we employ the term
5 "clip-securing mechanism" in the broad sense to include any mechanism which shall be able to perform the function of adjustably securing a clip to its pedal.

What we claim is—

10 1. The combination with a pedal, of a clip, consisting of an arch provided with four terminals disposed in pairs upon opposite sides of the pedal, each pair being designed to be fitted to the foot of a wearer, and clip-securing mechanisms, respectively located upon
15 the opposite sides of the pedal, and adapted to independently adjust the terminals to secure the fit referred to, substantially as set forth.

20 2. The combination with a pedal and an arch provided with two pairs of terminals, each pair being designed to independently fit the foot of a wearer, of pairs of grooved plates, located respectively upon opposite sides of

the pedal, and means for securing and clamping together each pair of plates upon the pedal, whereby the terminals may be independently adjusted, and the height of the arch and the breadth of its terminals may be at the same time independently regulated, substantially
25 as set forth. 30

3. The combination with a pedal, of a clip consisting of a pair of wires united, as by intertwinning, near their middle, and terminating in four terminals, and a pair of grooved
35 plates, adapted to receive within the grooves thereof the terminals of the wires, thereby constituting adjustable clip-securing mechanisms, said mechanisms being located respectively upon the opposite sides of the pedal,
40 substantially as set forth.

In testimony of all which we have hereunto subscribed our names.

OREN W. KINLEY.
IRVIN J. ESHLIMAN.

Witnesses:

C. ESHLIMAN,
C. E. DEAN.