

No. 859,684.

PATENTED JULY 9, 1907.

F. J. & W. H. McMONIES.

TOE CLIP.

APPLICATION FILED NOV. 2, 1906.

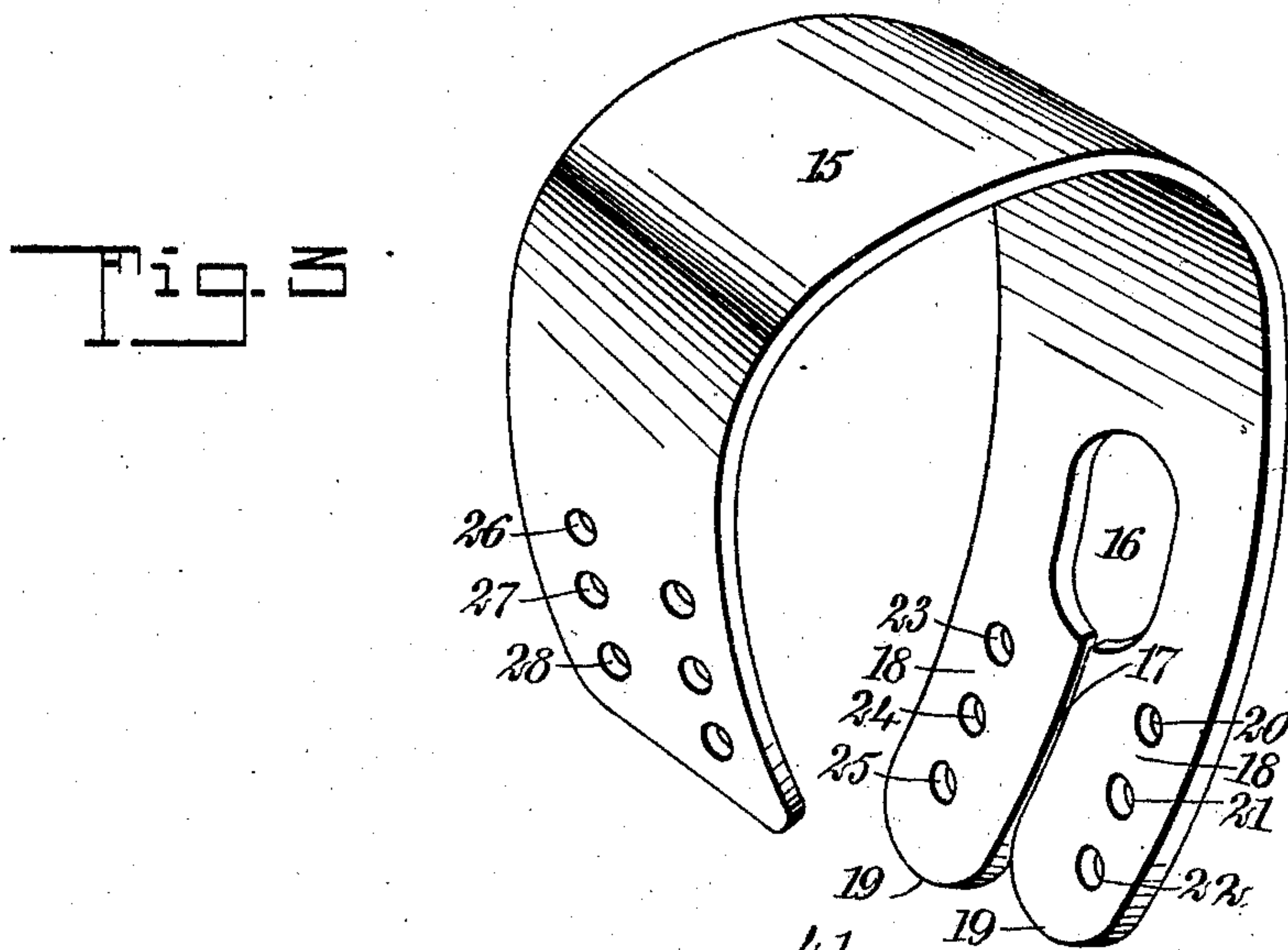
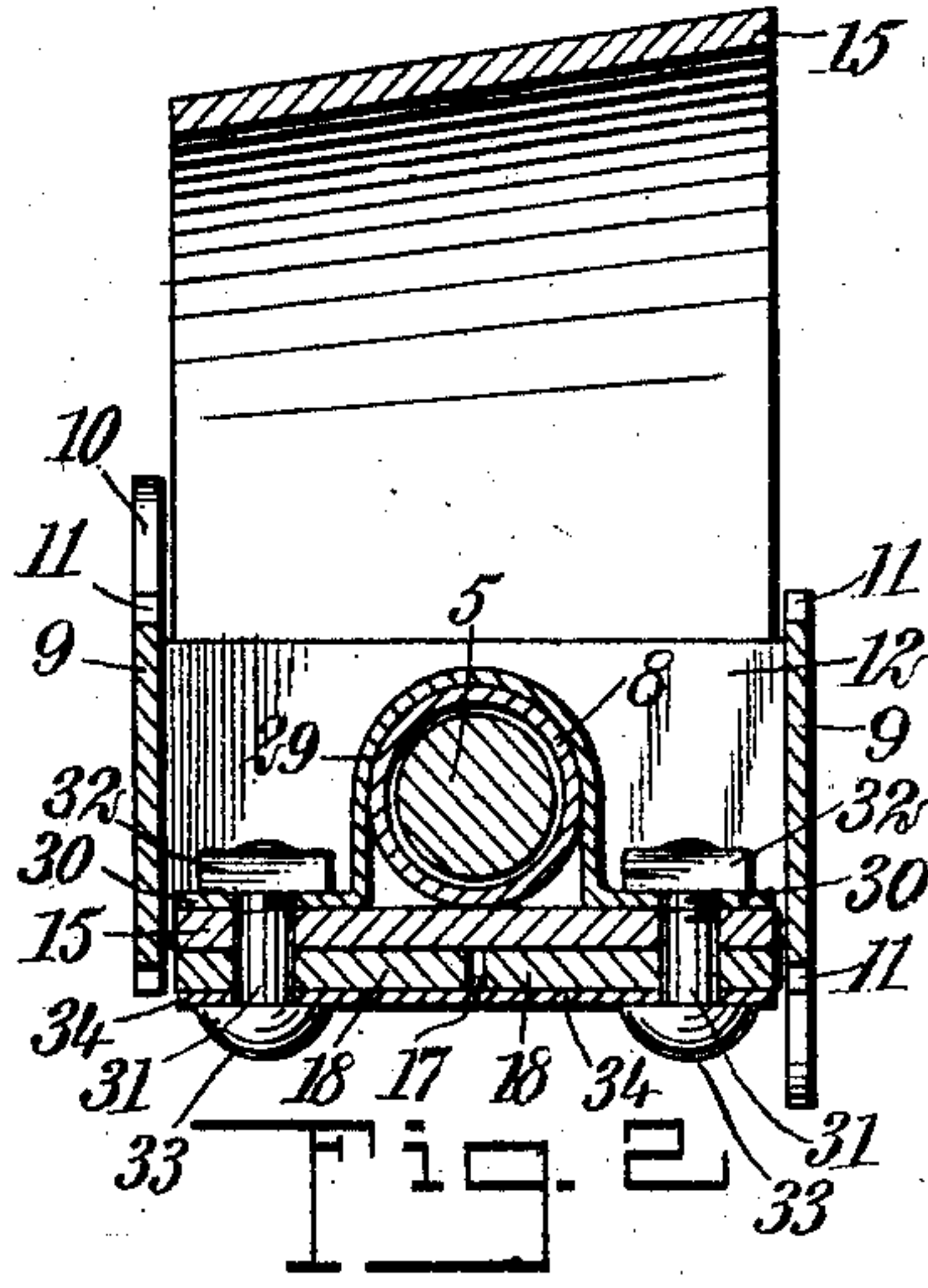
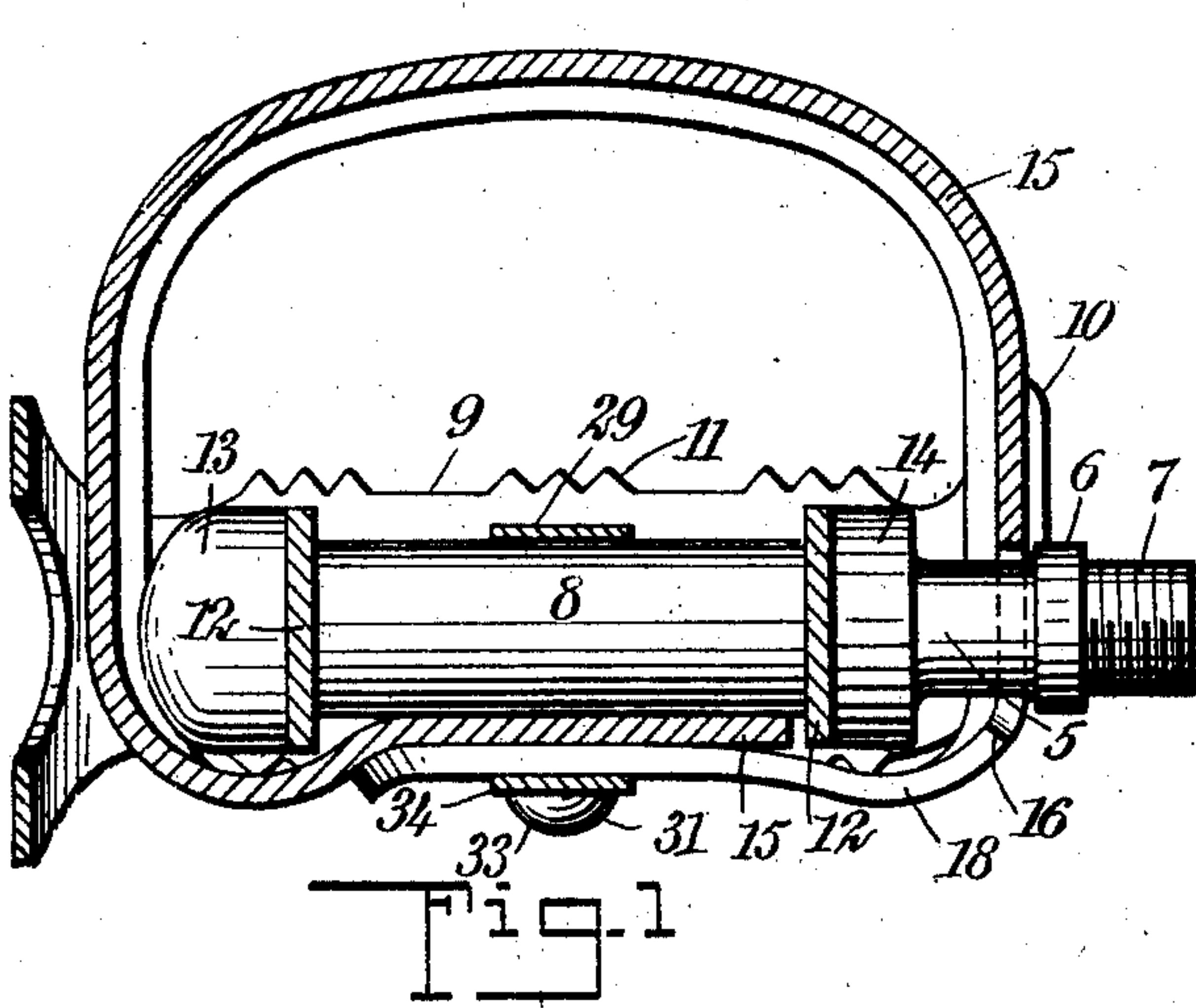
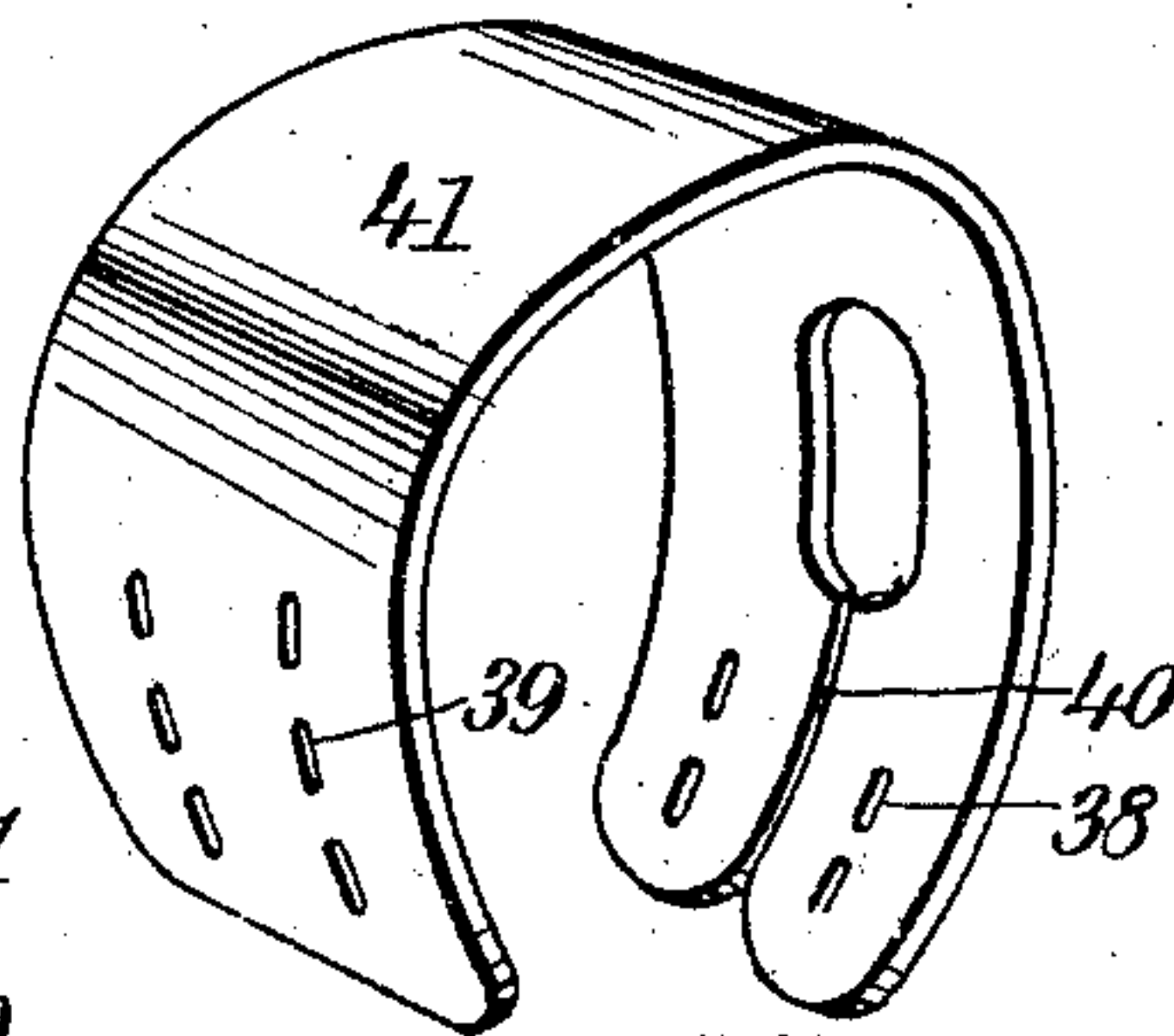
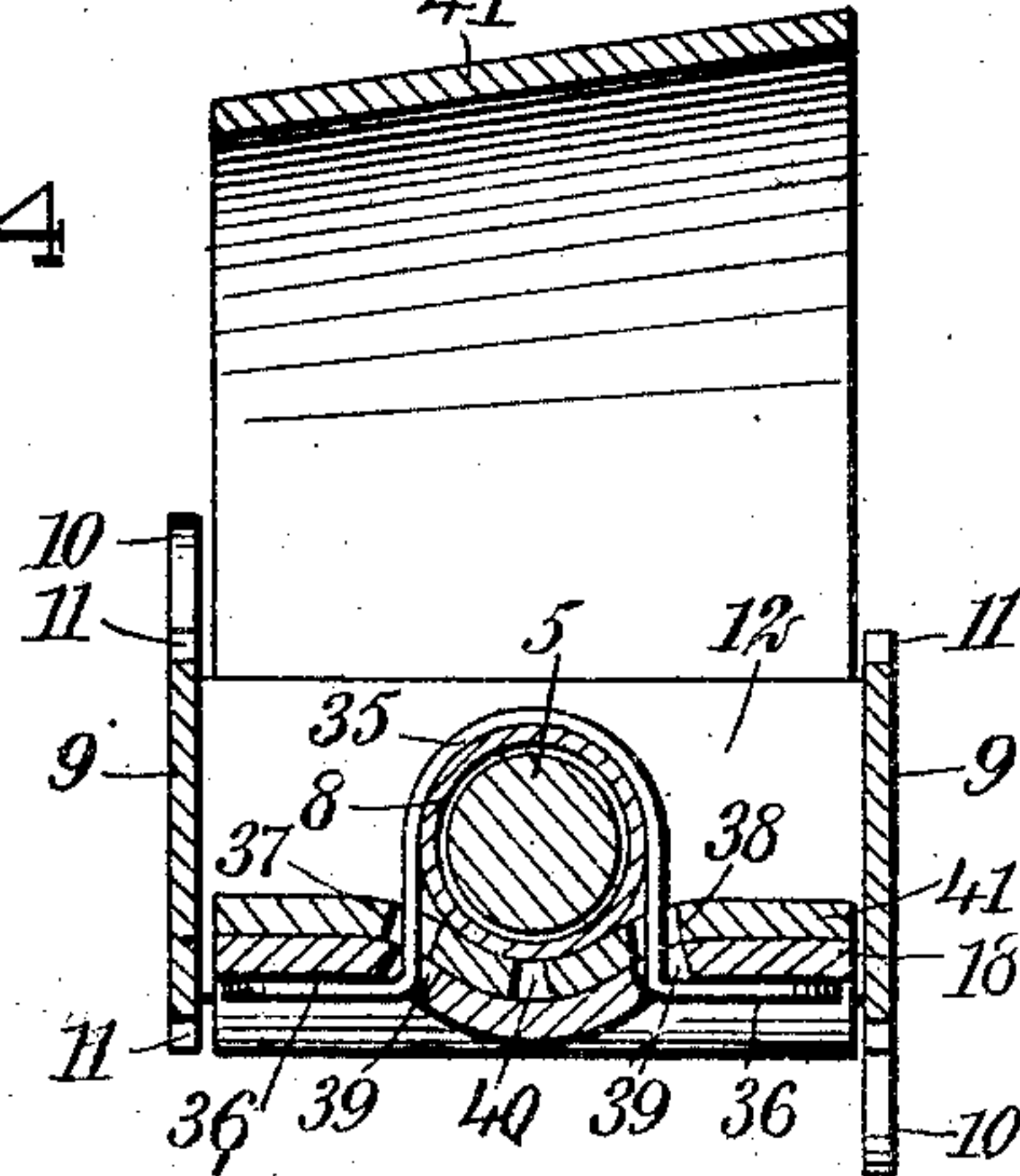


Fig. 5

Fig. 4



WITNESSES

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# UNITED STATES PATENT OFFICE.

FREDERICK J. McMONIES AND WALTER H. McMONIES, OF PORTLAND, OREGON.

## TOE-CLIP.

No. 859,684.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed November 2, 1906. Serial No. 341,740.

To all whom it may concern:

Be it known that we, FREDERICK J. McMONIES and WALTER H. McMONIES, citizens of the United States, and residents of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Toe-Clip, of which the following is a full, clear, and exact description.

Our invention relates to toe-clips of the general type described in our Patent No. 712,953, dated November 4, 1902, our present improvements consisting in certain details of construction whereby the means for attaching the toe-clip to the pedal are greatly simplified.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section through a pedal provided with our improved toe-clip and showing in section the arch plate 29 for securing the strap 15 upon the pedal; Fig. 2 is a central vertical cross-section through Fig. 1, and showing how the arch plate 29 encircles the pedal pin, and how it may be connected to the strap 15 by means of bolts 31; Fig. 3 is a perspective showing one form of the leather strap 15 as removed from the pedal; Fig. 4 is a central cross section through a pedal to which the leather strap 37 is secured by an arch plate 35, the lower ends 36 of this plate being merely bent outwardly and thus secured in position; and Fig. 5 is a reduced perspective of the leather strap 37, and showing the form given to the slots 38 and 39.

A crank pin 5 of the usual construction is provided with a shoulder 6, and with a threaded portion 7. Encircling this crank pin is a sleeve 8 supporting tread plates 9 provided with guards 10 and with teeth 11, these plates being connected together with end pieces 12. Rigidly engaging the end pieces 12 are ball bearing cups 13 and 14, the internal construction of which being well known will not be here described. The cups 13, end pieces 12 and sleeve 8 being rigid relatively to each other, ordinarily act as a unit, and as such are revoluble in relation to the crank pin 5, and vice versa. The sleeve 8 and its accompanying parts we designate as the "pedal pin".

At 15 is shown a leather strap which is cut-away at 16 and bifurcated at 17, being thus provided with two tongues 18 each having a rounded end 19; these tongues are provided with holes 20, 21, 22, 23, 24 and 25 arranged in parallel rows as shown. The strap 15 at its other end is provided with holes 26, 27, 28 and similarly arranged in rows parallel with each other. The arch plate 29 made preferably of sheet metal is bent outwardly at its ends 30 so that these ends rest flatly upon the strap 15; bolts 31 provided with nuts 32

and with heads 33 are used for securing the arch plates 29 upon the pedal pin, and also for securing the opposite ends of the strap together, as will be understood from Fig. 1. A flat plate 34 having a width approximately equal to that of the leather strap is used for the purpose of preventing the heads 33 from cutting into or otherwise injuring the leather strap. The strap 15 is placed upon the pedal as indicated in Figs. 1, and 2, that is to say, the strap is bent around until its ends overlap, and the arch plate 29 is then fitted over the sleeve 8, the ends 30 being brought flatly down upon the inner face of the strap. The plate 34 being now applied in the center, the bolts 31 are passed upwardly through the plate 34 and through the holes in the strap; these bolts being then secured in position by the nuts 32. The device thus described is now ready for use as a toe-clip.

In the form shown in Figs. 4 and 5 the arch plate 35 is of sheet metal and is sufficiently malleable quality to be bent outwardly so as to form flattened portions 36. Before the arch plate is thus bent outwardly at its ends, the latter are passed through slots 37, 38, 39 in the strap 41, as will be understood from Fig. 4. This strap is bifurcated at 40. The end portions of the arch plate 35 having been thrust through the slots 37, 39, as just described, and said ends 36 having been bent outwardly, as indicated in Fig. 4, the device is complete and ready for use.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. A toe-clip comprising a pedal provided with a pedal pin, a strap of flexible material fitted to said pedal and provided with ends overlapping each other on the under side thereof, and an arch plate connected with the ends of said strap and securing the same together, said arch plate being connected directly with said pedal pin.

2. The combination of a pedal provided with a pedal pin, an arch plate engaging said pedal pin and partially encircling the middle portion thereof, and a strap bent around so as to form an endless member, said strap being connected directly to said arch plate.

3. The combination of a pedal provided with a pedal-pin, a strap connected with said pedal-pin, said strap having its ends overlapped, and a member connected with said strap and supported directly upon said pedal-pin.

4. The combination of a pedal provided with a pedal pin, a strap engaging said pedal and bent around so that one end of said strap overlaps the other end thereof, and a member secured to said strap and suspended from said pedal-pin.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK J. McMONIES.  
WALTER H. McMONIES.

Witnesses:  
CURTIS SARGENT,  
G. W. BEVER.