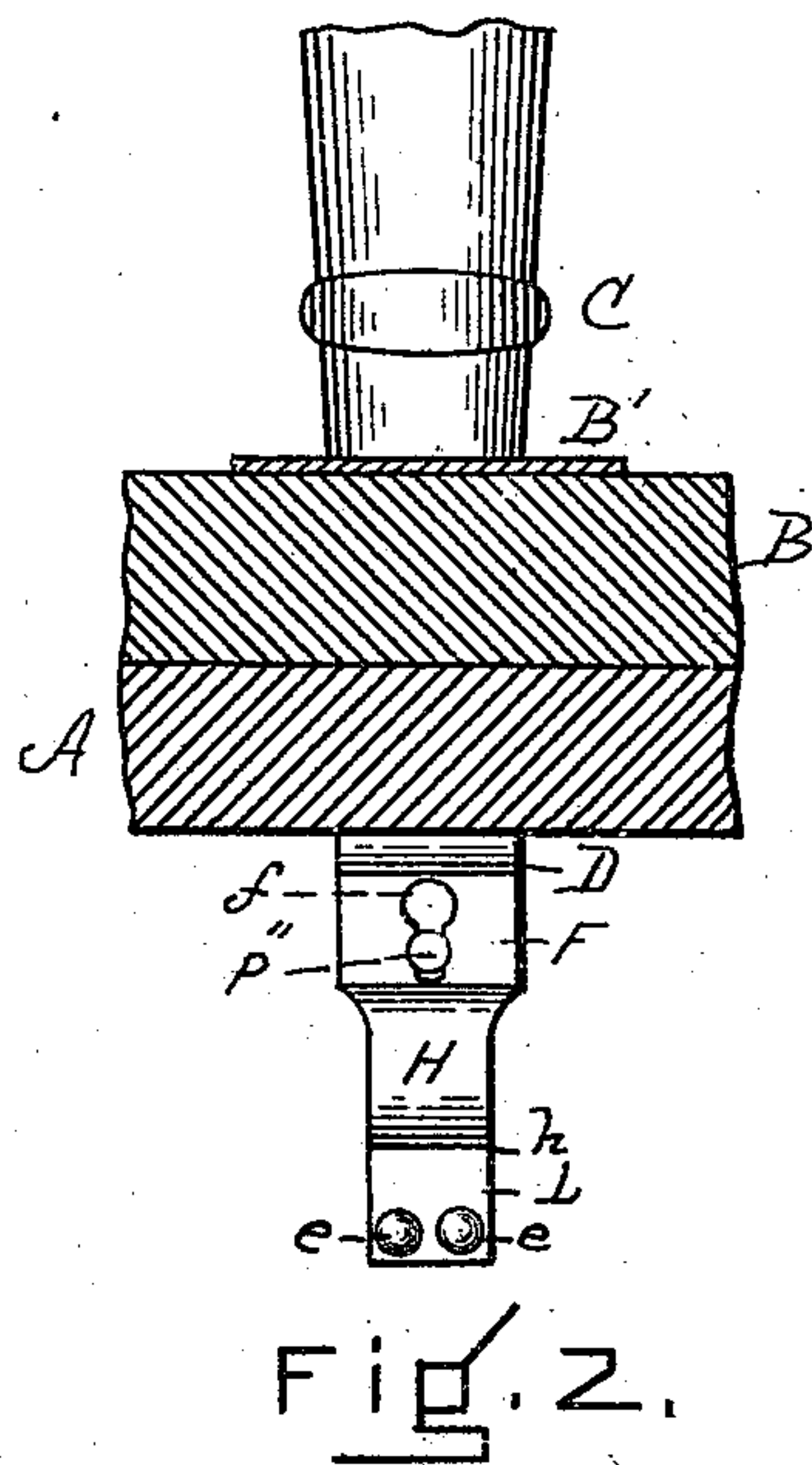
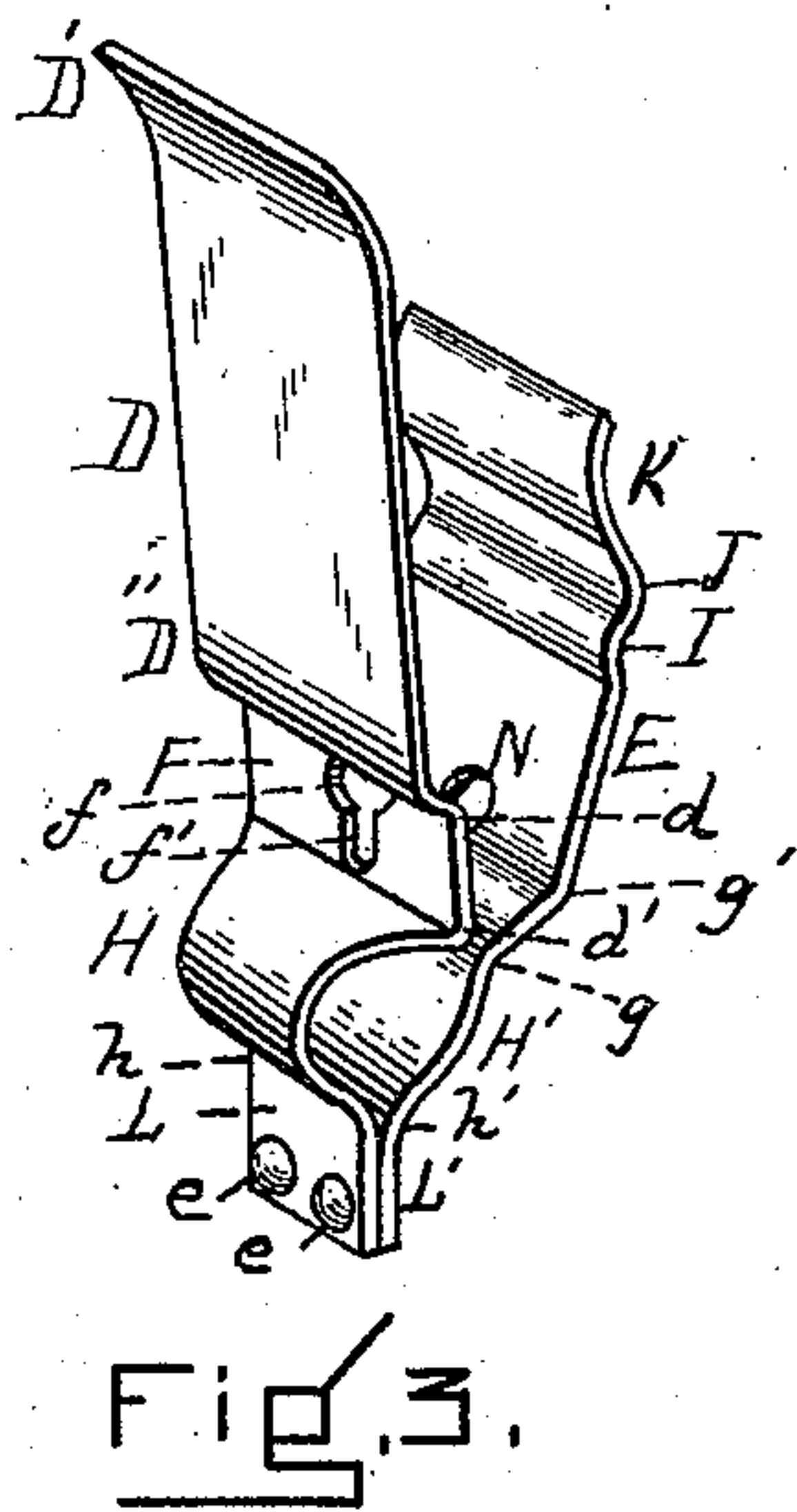
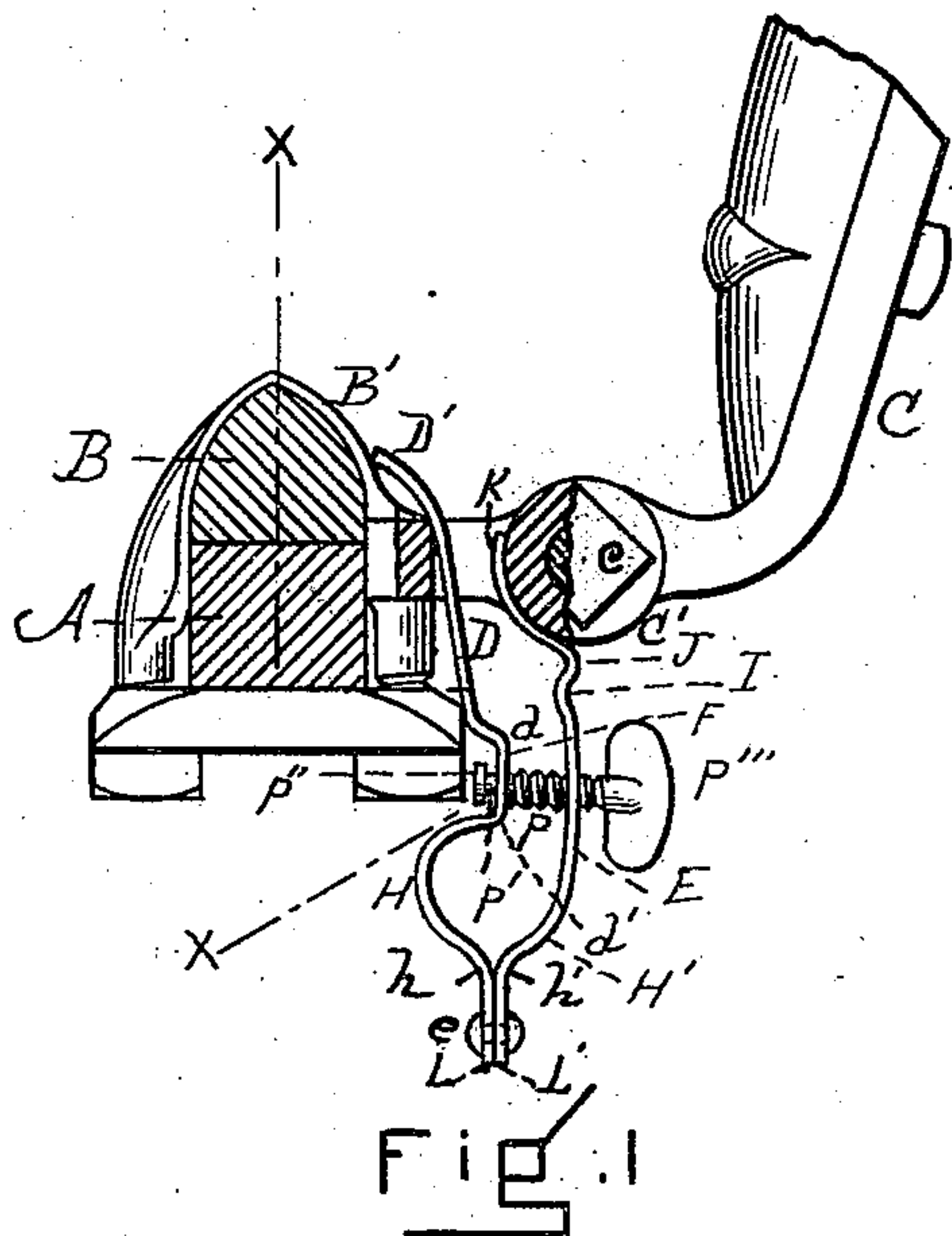


(No Model.)

J. W. WILLARD.  
ANTIRATTLER FOR THILL COUPLINGS.

No. 574,840.

Patented Jan. 5, 1897.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JOHN W. WILLARD, OF PITTSFORD, VERMONT, ASSIGNOR TO CHARLES G. FARWELL, OF QUINCY, MASSACHUSETTS.

## ANTIRATTLER FOR THILL-COUPPLINGS.

SPECIFICATION forming part of Letters Patent No. 574,840, dated January 5, 1897.

Application filed September 9, 1896. Serial No. 605,251. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. WILLARD, a citizen of the United States, residing at Pittsford, in the county of Rutland and State of Vermont, have invented a new and useful Improvement in Antirattlers for Thill-Couplings, of which the following is a specification.

This invention relates to an improvement in devices for preventing rattling in thill-couplings for vehicles, and particularly to the class of antirattlers to which the invention belongs, which is illustrated and described in the Letters Patent of the United States numbered 561,188 and granted June 2, 1896. In that invention the two members are bent into the form shown and are therefore of a single piece. In my improvement there are two spring-jaws secured rigidly together, preferably at their lower ends, and drawn toward or from each other by a bolt or screw, which extends from one jaw into engagement with the other.

This invention is therefore somewhat of the nature of an improvement over the device in the Letters Patent aforesaid, and by means of the improved construction greater elasticity is afforded, inasmuch as the point at which the jaws are connected is lower than the bending-point in said patented invention, and there is less danger of breakage, as the bending is divided and occurs at two points instead of at one central point, as in the patented invention. Moreover, when the antirattler is bent into shape it is found difficult and practically impossible to make the holes for the operating-screw register perfectly invariably, as such holes must be made before the plate is bent into shape. The result is that a large handle must be provided for the screw in order to obtain power enough to operate it in view of the additional friction or jamming produced by the imperfect registering of the holes. In this improvement the holes can be made to register perfectly, as there is no central bending required, the jaws being secured together with absolute accuracy. For this reason, and also because of the additional elasticity above mentioned, a small handle can be provided for the screw, the advantage of which is obvious especially

when the location and limited size of the antirattler are considered. Moreover, inasmuch as large handles must necessarily be made separately from and afterward joined to the shank of the screw, thus adding greatly to the expense, a small-handled screw possesses the advantage of economy.

The nature of the invention in detail is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved antirattler placed in position, the axle, clip, and a portion of the socket on the thill-iron being represented in transverse vertical section. Fig. 2 is a section taken on line  $\alpha$ , Fig. 1. Fig. 3 is a perspective view of the antirattler removed.

Similar letters of reference indicate corresponding parts.

A represents an axle; B, the clip; C, the thill; C', the thill-socket, and  $c$  the bolt securing the thill to the lugs  $a$ , connecting with the axle.

My improved antirattler comprises two spring jaws or plates, preferably of steel, rigidly connected, preferably, at their lower ends, and a bolt or screw extending from one jaw to the other. The jaw D is the one next to the axle, has its upper end curved at D' outwardly toward the clip, and is provided with the recessed portion F, formed by the bends D'',  $d$ , and  $d'$  and the curvature H. The jaw E is provided with the curvature H', the bends  $g$  and  $g'$ , the inward bend I, the shoulder J, and the inward curvature K. The shapes of these jaws are preferably, therefore, substantially the same and perform the same function as the members in the Letters Patent numbered 561,188, but instead of being connected by an integral curved bend the curved portions H H' are bent downward at  $h$   $h'$  into the parallel portions L L', which are riveted together at  $e$ .

The jaw E is provided with the screw-threaded perforation N and the jaw D with the slot  $f$   $f'$ , and a screw P, provided with the groove P' and flange P'', engages the jaw E by means of the thread and the jaw D by means of said slot, groove, and flange, whereby the jaws may be drawn toward or from each other and the antirattler contracted and



expanded by turning the thumb-piece or handle P''', all as fully described in the said Letters Patent.

It will readily be seen that by making the jaws in two pieces instead of connecting them by an integral curve the bending-point (or points) is carried farther down from the screw, thus increasing the elasticity, while the bending is produced in this device mainly at two points—viz., in the curvatures *h h'* on opposite sides of the rivets *e*—and in the patented invention referred to the bending is, principally, necessarily at one point—viz., in the middle of the curved portion H. Thus in the present improvement the bending is distributed and danger of breakage lessened. The difficulty of bending the integral steel plate shown in the said patent into two members in such a manner that the previously-formed holes for the screw will register accurately can be easily appreciated. This difficulty and the consequent binding and jamming of the screw are entirely obviated by my improvement, in which two rigidly-connected jaws are substituted for an integral bent plate. Correctly registering the screw-holes and rigidly connecting the jaw at a point below the line of curvature shown in an integral antirattler combine to enable the screw to be worked more easily, and hence with a smaller thumb-piece or handle.

Having thus fully described my invention, I do not claim, broadly, the employment of a pair of metallic jaws rigidly secured together at one end; nor do I confine myself to the exact shape of the jaws or the exact construction of the expanding and contracting mechanism; but

What I claim, and desire to secure by Letters Patent, is—

1. An antirattler for thill-couplings, comprising a pair of spring-jaws rigidly secured together; and an adjusting mechanism connecting and in engagement with said spring-jaws whereby they may be positively drawn toward or forced from each other thus contracting or expanding the antirattler, as desired, substantially as described.

2. In an antirattler for thill-couplings, a pair of spring-jaws secured together near one end by a rigid connection; and an adjustable mechanism connecting and in engagement with said jaws whereby they may be positively drawn toward or forced from each other and thus contract or expand the antirattler, as desired, such adjusting mechanism being intermediate of the point of rigid connection and the point of engagement with the thill-coupling, substantially as set forth.

3. The herein-described improved antirattler for thill-couplings, comprising a pair of spring-jaws formed with upwardly diverging or spreading portions near their lower ends, and having said lower ends formed to extend down from said diverging or spreading portions into the substantially parallel portions L, L'; rigid connections uniting said parallel portions; and an adjusting mechanism connecting and in engagement with said jaws whereby they may be positively drawn toward or forced from each other and thus contract or expand the antirattler, as desired, such adjusting mechanism being intermediate of the point of rigid connection and the point of engagement with the thill-coupling, substantially as described.

JOHN W. WILLARD.

Witnesses:

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A. N. BONNEY.