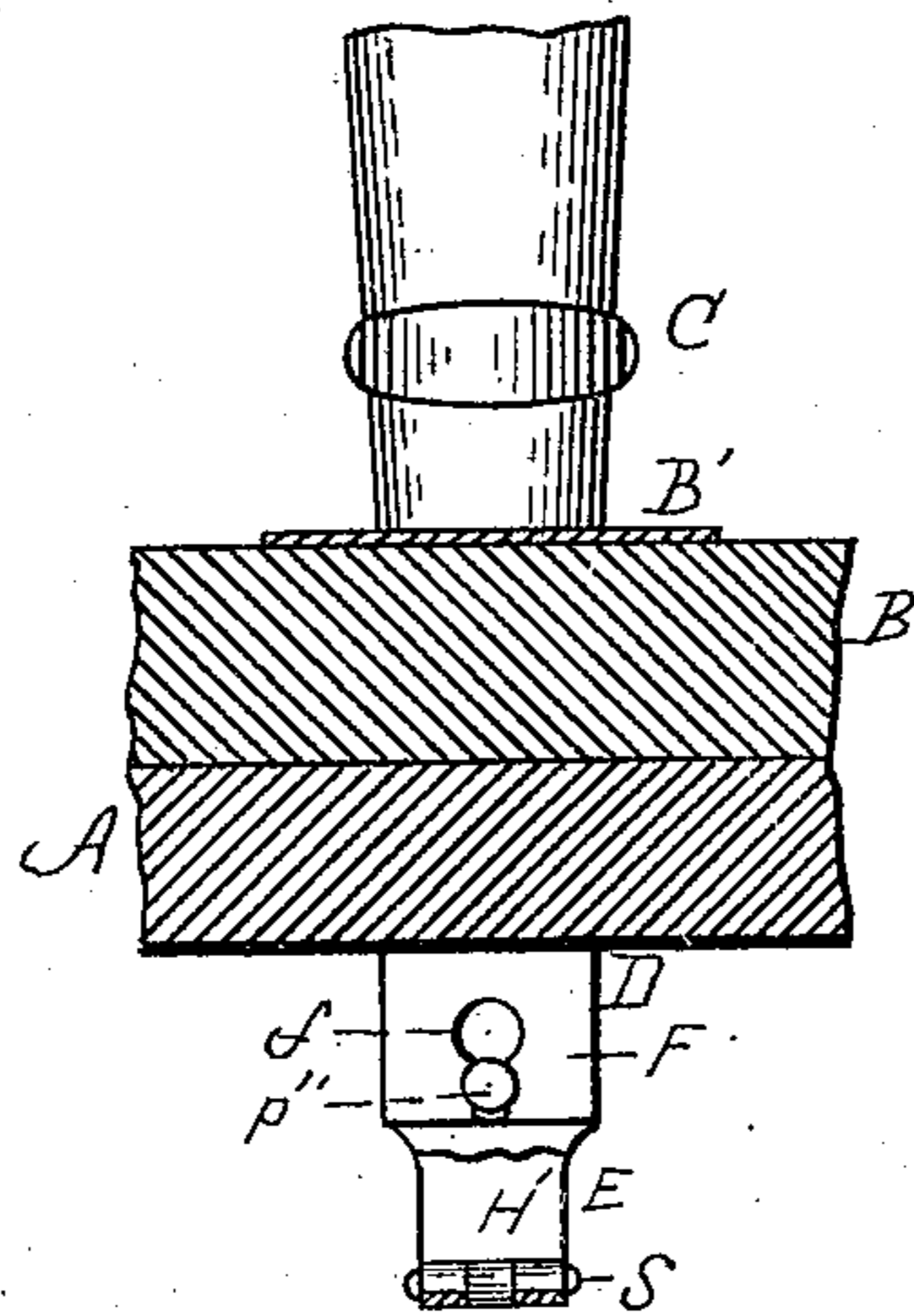
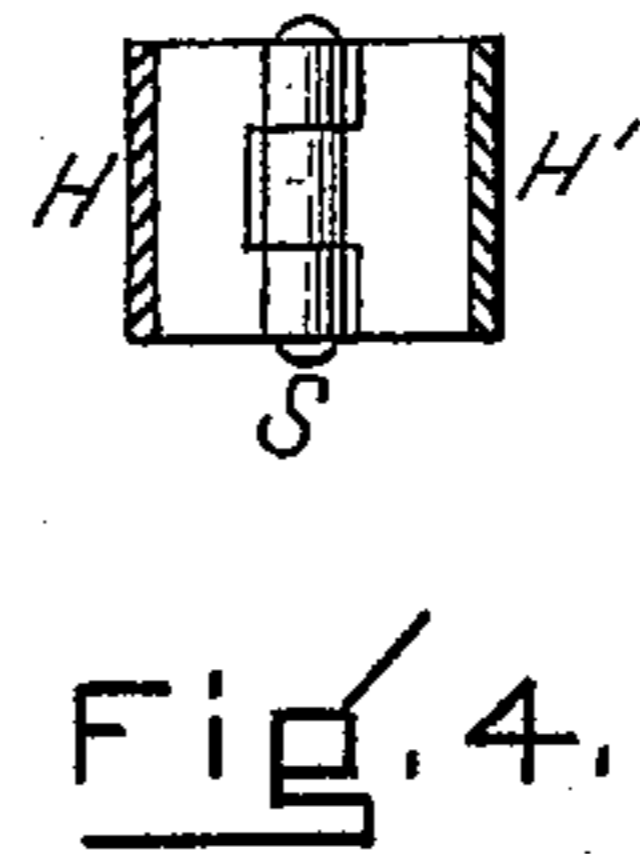
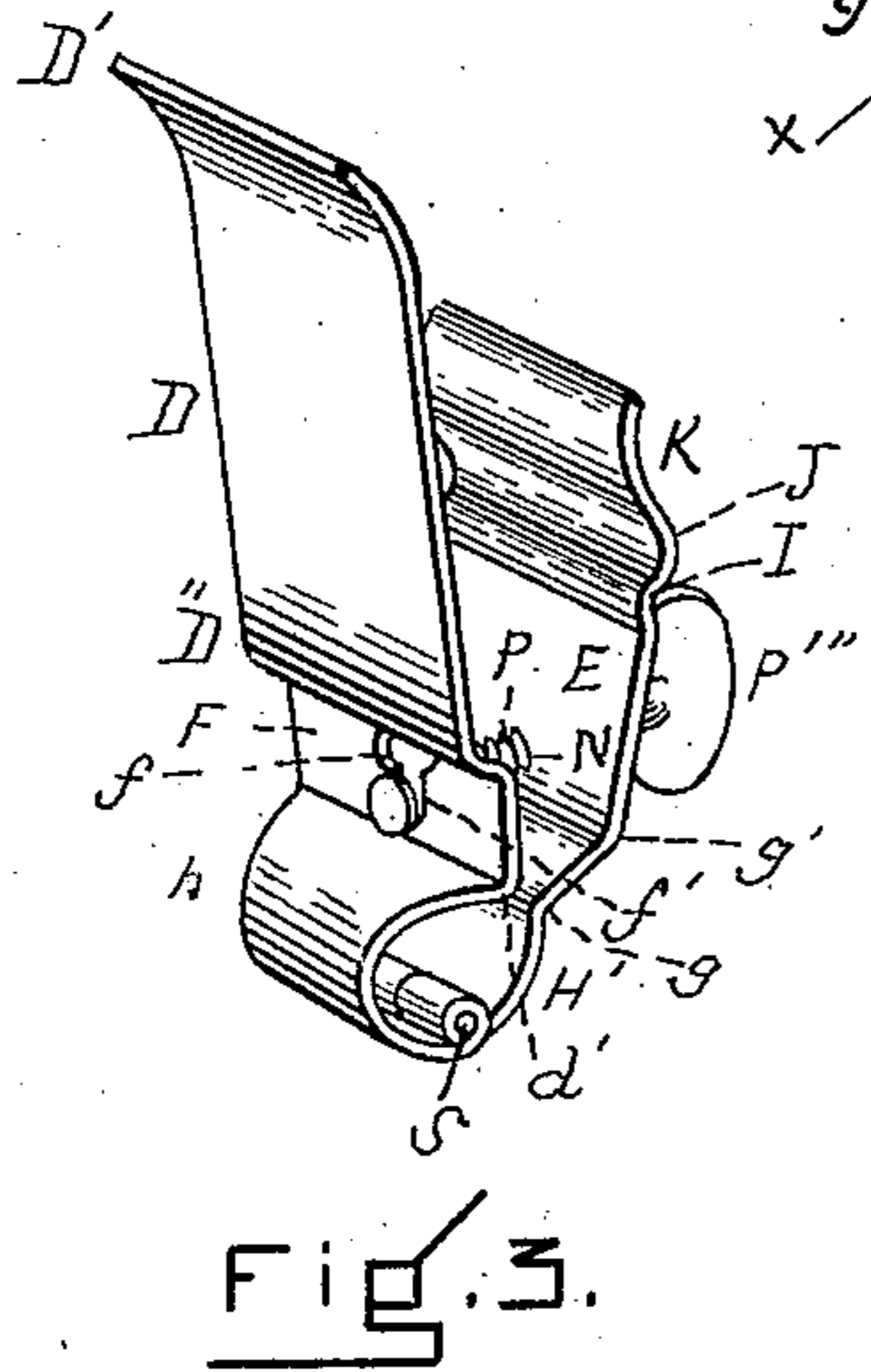
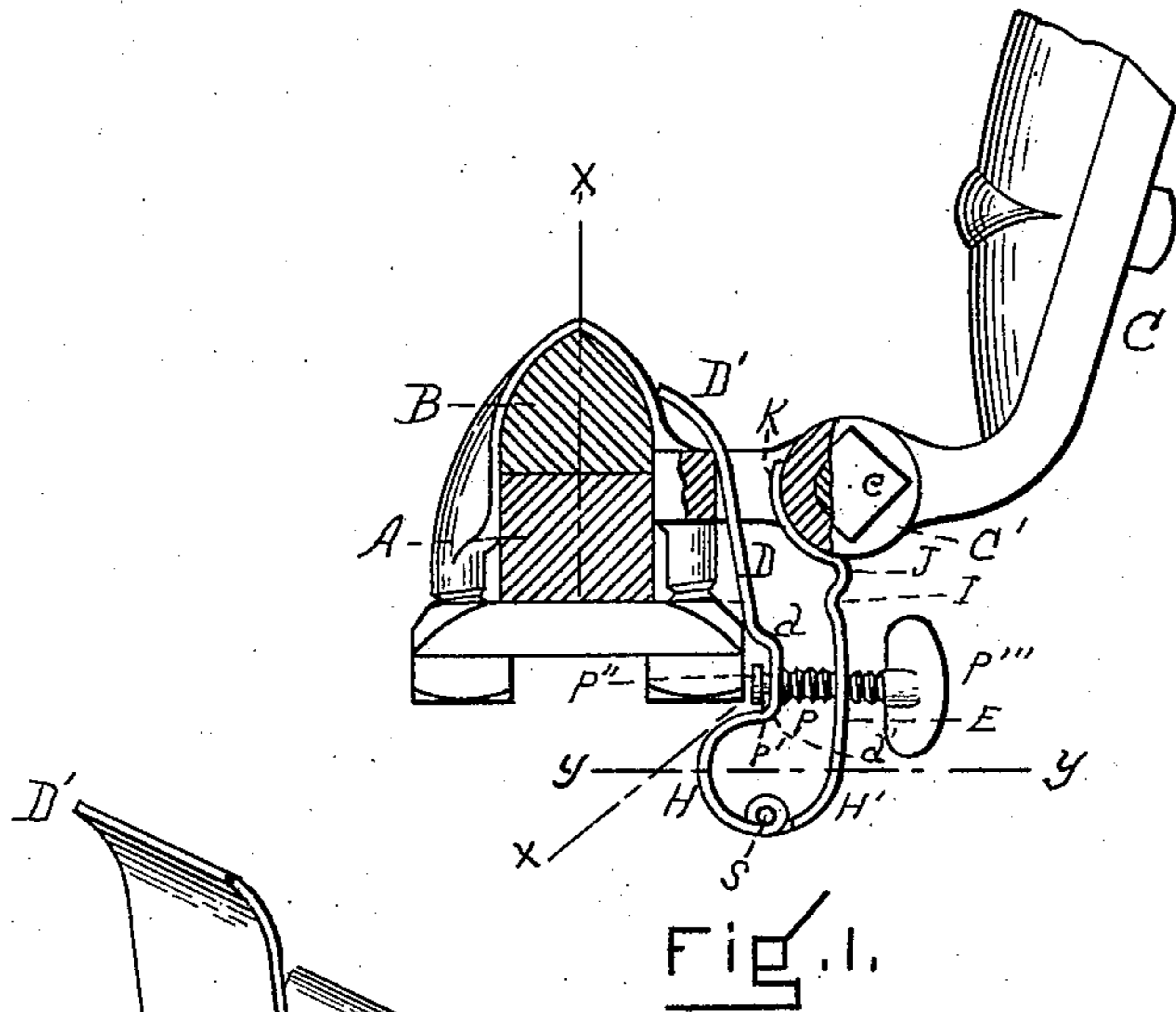


(No Model.)

J. W. WILLARD.
ANTIRATTLER FOR THILL COUPLINGS.

No. 574,769.

Patented Jan. 5, 1897.



WITNESSES
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ANTIRATTLER FOR THILL-COUPPLINGS.

SPECIFICATION forming part of Letters Patent No. 574,769, dated January 5, 1897.

Application filed September 9, 1896. Serial No. 605,250. (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 a spring-steel plate is formed into two members by being bent into the shape shown therein, and the said members are drawn toward or forced from each other against the power of the spring in said members by a screw or bolt. In my present improvement there are two jaws hinged or pivotally secured together, and the mechanism for moving said jaws toward or from each other accomplishes this result without any opposing spring-pressure below such mechanism. Thus the expansion or contraction of the antirattler may be accomplished with great ease and with exactness and positiveness, there being no spring-pressure in opposition thereto when the antirattler is contracted, and when it is expanded (and in position) only the spring-pressure above the mechanism, that is between the screw and the open end.

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 *x*, Fig. 1. Fig. 3 is a perspective view of the antirattler removed. Fig. 4 is a horizontal section taken on line *y*, Fig. 1.

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, pivotally connected, preferably at their lower ends, such connection being illustrated in the drawings by a hinge, of which S is the pintle. 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 a 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 as in the Letters Patent numbered 561,188, but instead of being connected by the integral curved spring connection (designated as H in the said patent) the curved portions H H' are hinged together at their lowest point, as shown.

The jaw E is provided with the screw-threaded perforation N and the jaw D with the slot *ff'*, 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 and connecting them pivotally instead of making them in one piece and connecting the members by an integral spring curve said jaws do not, when the screw is operated, spring below the point of said screw, and therefore neither make resistance to nor aid the screw below said point. All the resistance which the screw encounters is produced by the upper portions of the jaws, and then only when said jaws are expanded by the screw and prevented from further expansion by their position in the thill-coupling. Hence the screw has exact, absolute, and unimpeded power in operating the antirattler as far as the portions of the jaws below it are concerned. Moreover, by reason of said lack of resistance on the part of the jaws, the handle of the screw may be made smaller than would otherwise be the case.

I do not confine myself to the exact shape of the jaws, nor to the exact construction of the contracting and expanding mechanism, such shape and construction being preferably
5 substantially as illustrated in the Letters Patent above referred to.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

10 1. An antirattler for thill-couplings, comprising a pair of pivotally-connected jaws; and an adjusting mechanism connecting and in engagement with said jaws whereby they may be positively swung toward or from each
15 other, thus contracting or expanding the antirattler, as desired, substantially as described.

2. In an antirattler for thill-couplings, a pair of jaws hinged together; and an adjust-

ing mechanism connecting and in engagement with said jaws whereby they may be positively
20 swung toward or from each other and thus contract or expand the antirattler, as desired, substantially as set forth.

3. In an antirattler for thill-couplings, in combination, a pair of jaws permanently con-
25 nected together when in operative position by a hinge; and an adjusting mechanism connecting and in engagement with said jaws whereby they may be positively swung toward or from each other and thus contract or ex-
30 pand the antirattler, as desired, substantially as described.

JOHN W. WILLARD.

Witnesses:

HENRY W. WILLIAMS,
A. N. BONNEY.