

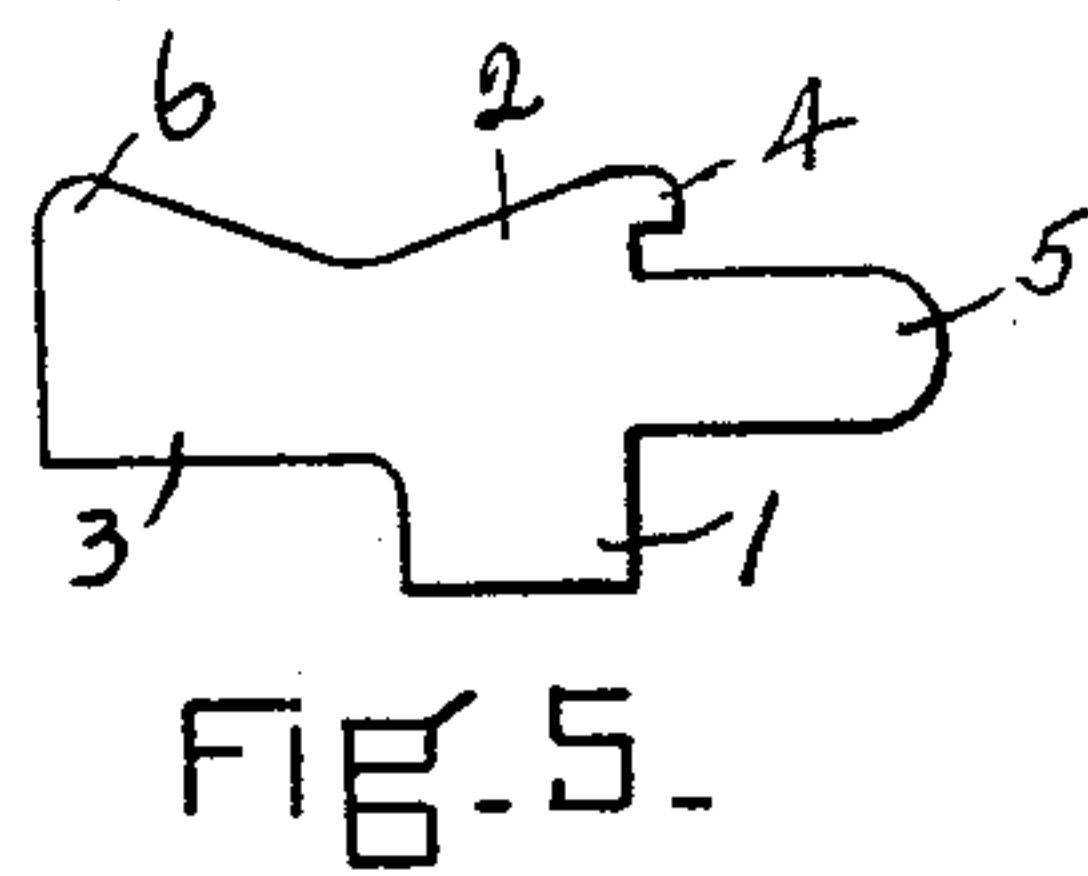
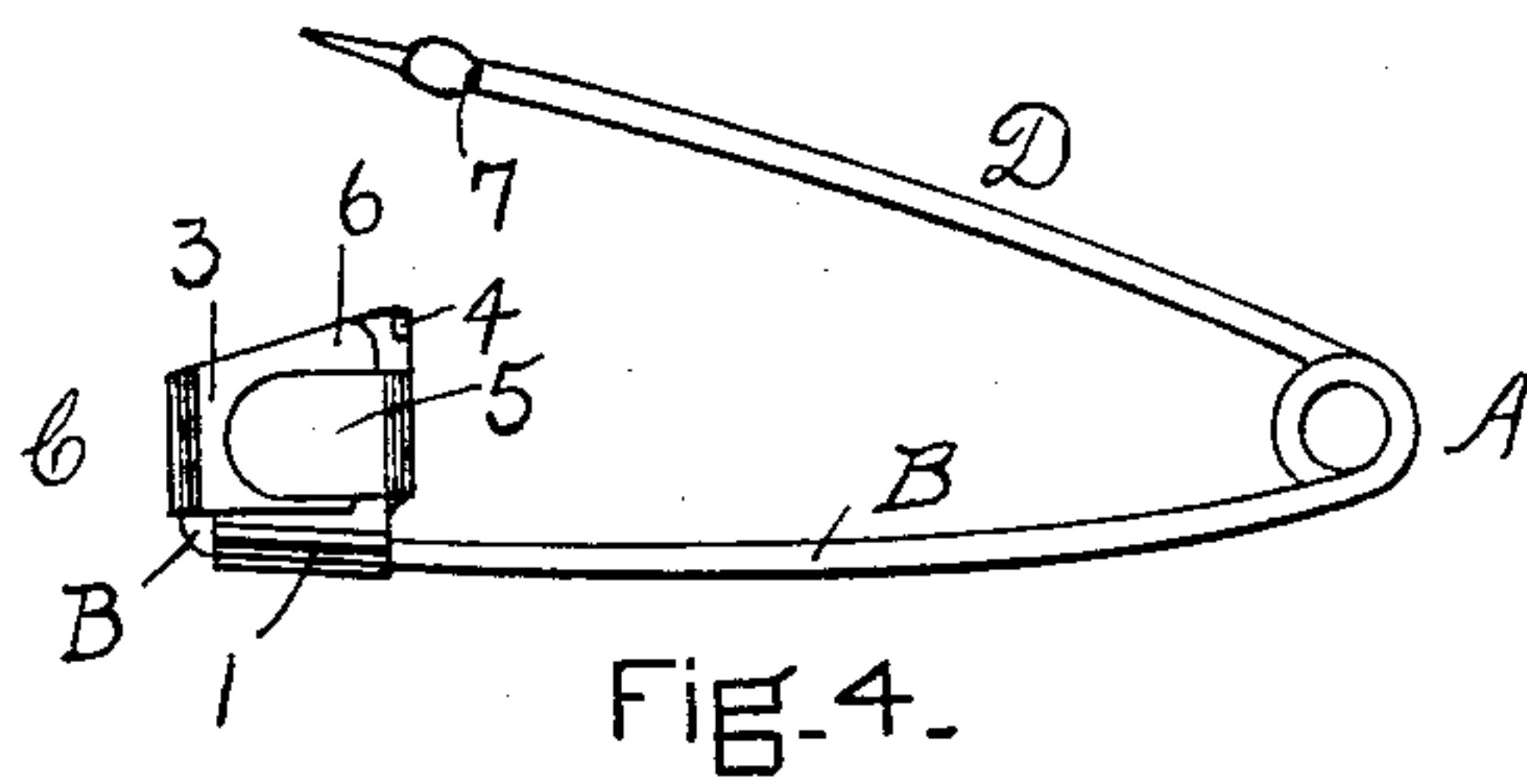
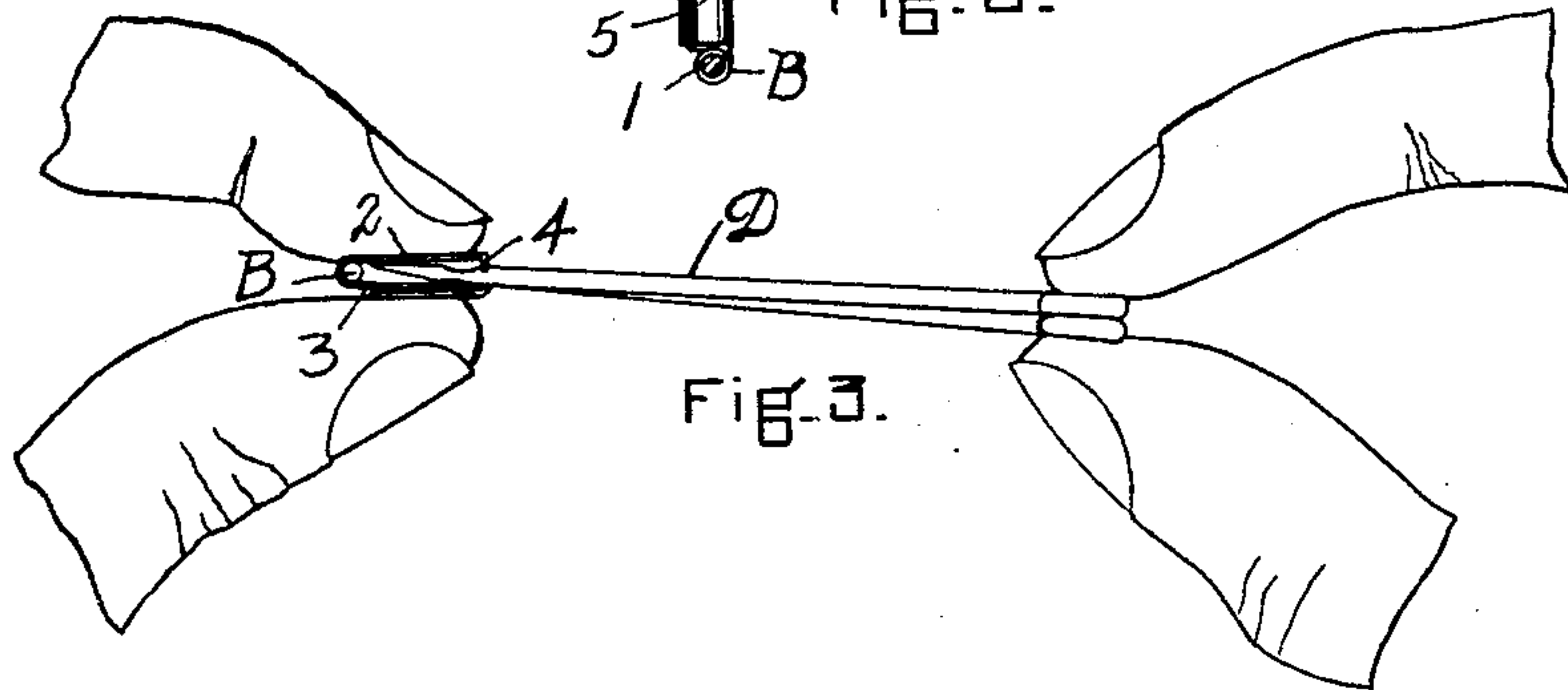
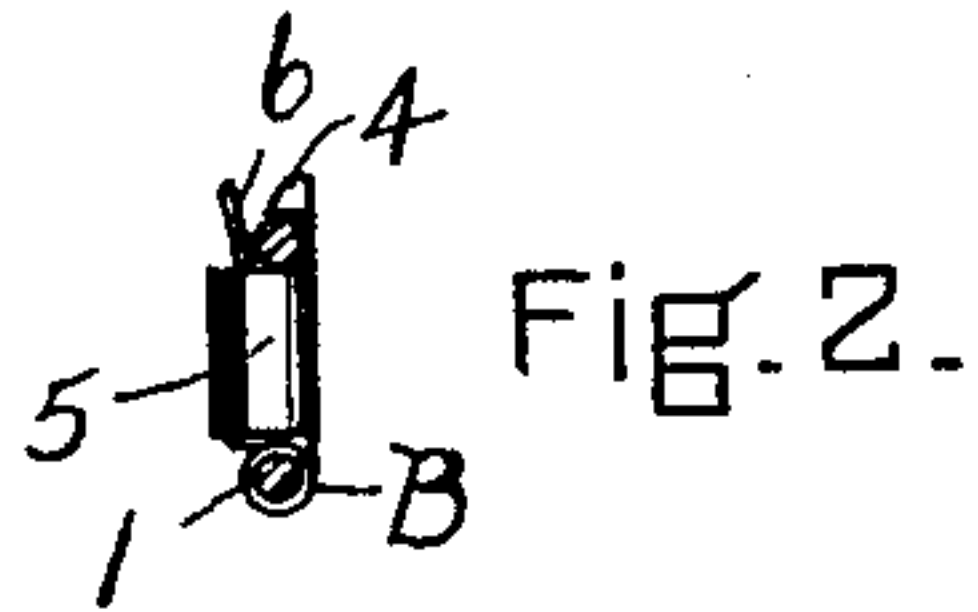
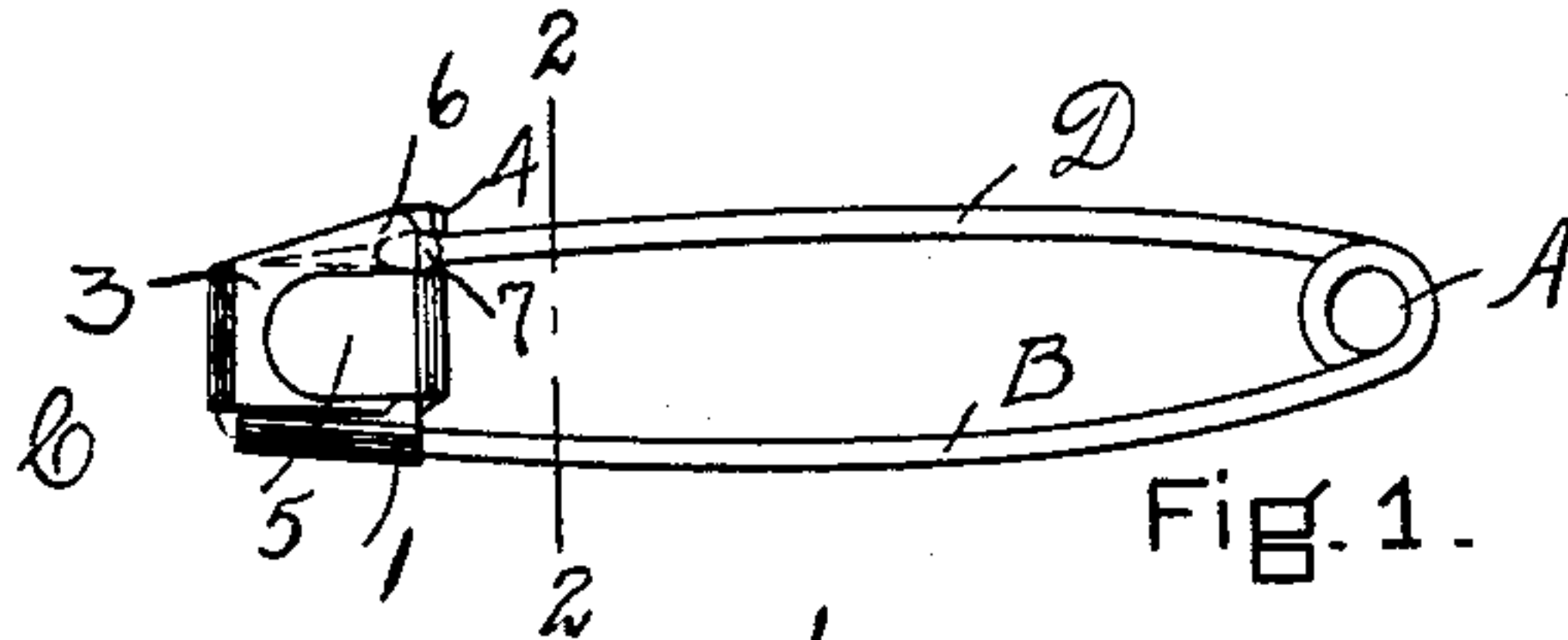
No. 702,916.

Patented June 24, 1902.

G. BODEN.
SAFETY PIN.

(Application filed May 10, 1900.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

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SAFETY-PIN.

SPECIFICATION forming part of Letters Patent No. 702,916, dated June 24, 1902.

Application filed May 10, 1900. Serial No. 16,135. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BODEN, of Watertown, county of Litchfield, State of Connecticut, have invented a certain new and useful Safety-Pin; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact description thereof.

10 The invention relates to safety-pins; and one object is to provide a pin of this class in which the pointed leg of the pin may be engaged with the catch or shield by simply forcing said leg toward the back of the pin.

15 A further object is to provide a pin in which the point shall be firmly locked in the catch, so that it cannot be withdrawn therefrom by an outward strain on the pointed leg, which in the usual forms of pin would bend said leg, thus drawing the point out of the catch.

To these ends the invention comprises the features and constructions hereinafter set forth in the claims.

25 In the drawings, in which all the features of invention in their preferred forms are shown embodied in a single structure, Figure 1 is a side elevation showing the pin closed. Fig. 2 is a sectional view on line 2 2, Fig. 1. Fig. 3 is a view showing the manner of opening the pin, and Fig. 4 is a side elevation showing the pin open. Fig. 5 is a view of a shield-blank before it is bent.

30 The body of the pin is formed of wire coiled at A in the usual manner and having a back or leg B, to which the shield C is secured, and a pointed leg D, which is movable into and out of engagement with a catch on or in the shield. Shields as heretofore formed, whether made separate from the body of the pin and secured thereto or formed by bending the wire into the proper form, have been closed at the top, and the pin-point has entered the shield, or at least moved into what may be termed the "catch" of the shield, in an outward direction. It has heretofore been necessary in closing the old form of pins to force the pointed leg nearer the back of the pin than its final position and then move it laterally and then allow it to spring out into the catch of the shield. The thickness of the materials inclosed by the legs of the pin was

thus limited by the inward position to which the pointed leg must be moved in closing the pin. In opening the pin it was again necessary to force the pointed leg toward the back of the pin and then move it laterally out of the shield. This manner of manipulating the pin in opening and closing the same is inconvenient and is an objection common to all the forms of safety-pins heretofore in use.

60 With the present invention the point of the pin is engaged with the catch of the shield by merely forcing the pointed leg of the pin toward the back, the point entering through the top of the shield. Thus the pin may be more conveniently closed than the old forms of pins. Moreover, it is not necessary to force the pointed leg beyond its final position, and more material may be inclosed between the legs of the pin. In opening the pin, also, it is not necessary to manipulate the pointed leg of the pin; but the pin-point may be allowed to spring out of the shield by merely twisting the shield or the coil end of the pin.

75 The preferred form of shield shown is formed of a metal plate cut in the required shape and having its parts bent into the form shown. The shape of plate before it is bent to form the shield is shown in Fig. 5. The part 1 is bent about the wire B and serves to secure the shield to said wire. The part 2 forms one side of the shield, and the part 3 is brought into position parallel to part 2 and forms the other side of the shield. The lip or projection 4 is bent at right angles to the side 2 and forms the outer wall of the catch in which the pointed leg is held when the pin is closed. The part 5 is brought around outside the side 3 and forms a guard for sustaining the pressure when the shield is twisted to open the pin. The upper edge of the side 3 is bent or flared outward somewhat at 6 to form a guide for directing the pin-point into the shield. In using this pin the pointed leg is thrust through the material and then forced toward the back of the pin. As the point is pressed down between the lip 4 and the plate 3 the plate 3 yields, allowing the point to pass downward until it passes the lower edge of lip 4, when the plate 3 springs back to its normal position, forcing the point laterally under the lip 4 and holding it there until re-

leased. The plate 3 and the edge of the lip 4 form the sides of a passage into the catch, one side of which is yielding. The pin may be opened by twisting or springing the shield to one side, as shown in Fig. 3. As the shield is moved to one side the side 2 of the shield strikes the end of the pointed leg and forces said leg laterally against the side 3, which yields, allowing the point to move out from under the lip 4 and spring outward, as shown in Fig. 4. The pin may also be opened by twisting or springing the coil end of the pin, when the point of the pin will strike the side 2 and the leg be disengaged from the lip 4, as above described.

In order that the pointed leg may be firmly locked in position and any outward strain thereon tending to bend said leg and draw the point longitudinally out of the catch may be resisted, the catch is provided with inner and outer walls or sides, and the pointed leg is provided with shoulders for engaging said walls. In the shield shown that part of the outer edge of the part 5 which is in line with lip 4 forms the inner wall of the catch, the outer wall being formed by the inner edge of the lip 4. The shoulders on the pin are formed by swaging the sides of the pointed leg, as at 7, thus enlarging the leg at this part and forming shoulders on the top and bottom of the leg. When the pointed leg is engaged with the catch, the enlarged part 7 lies just beyond the lip 4 and part 5 and prevents the point from being pulled out of the catch by any outward strain on the leg D. Even if the leg D should be bent outward by the strain thereon the pin cannot open, as the shoulders on the pointed leg will still engage the inner and outer walls of the catch.

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

1. A safety-pin provided with a shield hav-

ing a rigid catch for the pointed leg of the pin, and a passage to said catch through the top of said shield.

2. A safety-pin provided with a shield having a rigid catch for the pointed leg of the pin, a passage thereto through the top of said shield, a yielding plate forming one side of said passage and arranged to force the pointed leg into the catch.

3. A safety-pin provided with a shield having a rigid side provided with a laterally-projecting lip to engage the pointed leg of the pin, and a yielding plate at one side of the lip for directing the pointed leg into engagement with the lip.

4. A safety-pin provided with a shield having a laterally-projecting lip, a yielding plate at one side of said lip, and a guard for said plate.

5. A safety-pin provided with a shield having a rigid side, a lip projecting laterally therefrom, a yielding side having a flaring outer edge, and a guard extending from the rigid side around outside the yielding side.

6. A safety-pin provided with a shield having a lip arranged to overlie the end of the pointed leg and hold it in closed position, and a wall disposed opposite to said overhanging lip, and a pointed leg having an enlarged part which will not pass between said lip and oppositely-disposed wall.

7. A safety-pin provided with a shield having a laterally-projecting lip, a yielding side, a guard, the edge of which is in the plane of the lip, and a pointed leg provided with an enlarged part which will not pass between the lip and the edge of said guard.

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Witnesses:

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