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SAFETY PIN

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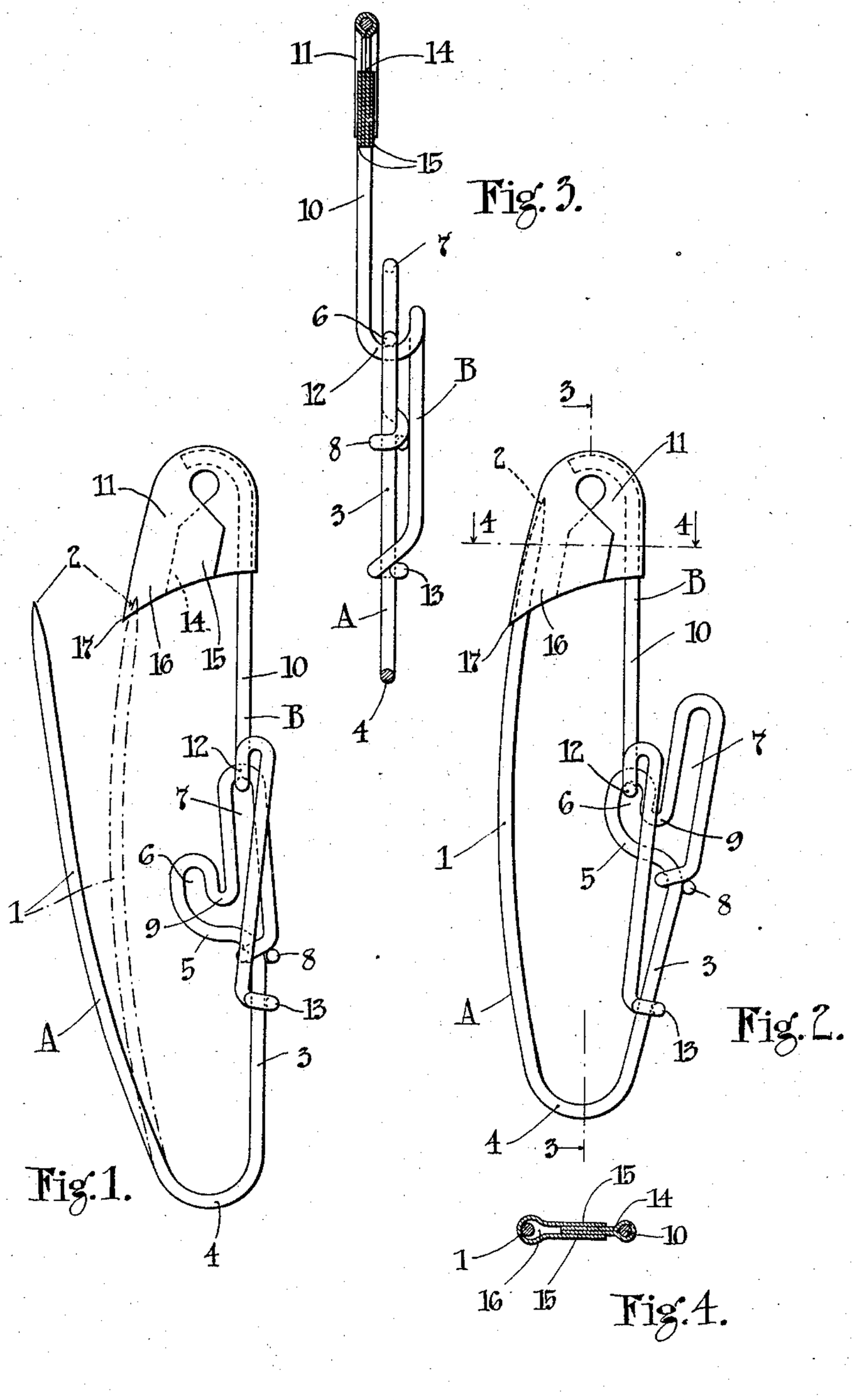

Fig. 3.

Fig. 1.

Fig. 2.

Fig. 4.

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SAFETY PIN

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This invention relates to safety pins and especially to the type which comprises two relatively movable parts, one carrying a guard member and the other a pin point to be locked in the guard member.

A number of devices of this type have been proposed which are open to objection in that they fail to provide the desired added security, or are too expensive to construct or difficult to operate. Others are unreliable in that a slight deformation of the pin would render them inoperative or have coiled or hooked parts which become entangled with the material to be pinned together.

The object of the present invention is to provide an improved safety pin which is free from these disadvantages.

The invention consists in the construction, combination and arrangement of parts hereinafter described and more particularly pointed out in the appended claims.

Referring now to the accompanying drawings, which illustrate, by way of example, one convenient embodiment of the invention,

Figure 1 is a side elevation of the improved pin in open position,

Figure 2 is a side elevation of the pin in closed position, and

Figures 3 and 4 are sections on the lines 3—3 and 4—4 respectively of Figure 2.

The improved pin comprises two portions which for convenience may be called a pin portion and a guard or locking portion. The pin portion and guard portion are indicated generally by the letters A and B respectively.

The pin portion A is made of wire of resilient metal and consists of a front part 1 formed with a point 2, and a rear part 3 connected to the part 1 by a substantially semicircular bend 4. The rear part 3 is formed with a loop 5 which has a short U-shaped slot 6 in front and a longer U-shaped slot 7 at the rear. The loop 5 is closed by wrapping the end of the wire tightly around the part 3, as indicated at 8. A U-shaped part 9 separates the slots 6 and 7.

The guard portion B consists of a wire part 10 which is secured at one end in a guard member 11. About midway between its ends the wire part 10 is bent laterally and then upwardly to form a U-shaped bend 12, and is formed at its lower end with a small loop 13 which loosely embraces the part 3 of the pin portion below the end 8 of the loop 5.

The guard member 11 may be made as shown from a single piece of thin sheet metal. In this form, the rear portion closely engages the wire 10 and is formed with two flanges 14 which engage each other. The front portion has two flanges 15 which engage the outer surfaces of the flanges 14. The flanges 14 and 15 may be connected together by any suitable means, or may be merely pressed together. The flanges 15 are separated by the flanges 14 and a hollow part 16 is thus formed at the front of the guard 11. The lower edge of the guard is shaped to provide a downwardly extending, pointed portion 17.

The operation of the device is as follows:—

Assuming that the pin is in the open position, as shown in full lines in Figure 1, the pin 1 is inserted through the materials to be pinned together, and is then pressed rearwardly, so as to move the pin point 2 past either side of the point 17 on the guard. The pin point is then guided into the end of the hollow portion 16 of the guard, as indicated by the chain-dotted lines in Figure 1, the action thus far described being similar to the closing operation of an ordinary safety pin.

The pin portion A is then moved towards the guard 11 to cause the pin point 2 to move up into the closed upper part of the hollow portion 16 and the bend 12 to slide down the long slot 7. The bend 12 reaches the end of the part 9 and the point 2 reaches the limit of its movement into the guard almost simultaneously. When this position is reached the part 9 is snapped past the bend 12 and the

latter enters the short slot 6, as indicated in Figure 2. In this position the pin point 2 is securely locked in the guard 11, and as the rear part of the pin portion presses rearwardly against the bend 12, the latter remains in the short slot 6 and has no tendency to enter the long slot 7. The part 9 forms a further obstacle to the entrance of the bend 12 into the slot 7, and the pin thus remains securely locked against accidental release of the pin from the guard 11.

The pin is of simple construction and is free from any coiled or hooked parts of a kind which would become entangled with knitted fabrics. It is, moreover, inexpensive and easy to operate as well as strong, reliable and efficient.

To open the pin the closing operation is reversed. That is to say, the downwardly extending part 9 is pressed forwardly over the bend 12 and the latter is slid up the slot 7 to bring the pin 1 to the position shown in dotted lines in Figure 1. The pin point is then pressed rearwardly through the open side of the hollow part 16, pressed laterally and allowed to spring out to the full line position in Figure 1.

It may be mentioned that in the drawings certain dimensions and proportions are somewhat exaggerated for clearness of illustration.

The foregoing description and accompanying drawings are given by way of example only, and modifications within the scope of the appended claims may be made without departing from the invention.

I claim:

1. A safety pin comprising a pin portion and a guard portion connected so as to be capable of relative movement longitudinally of each other, a loop on the pin portion having a long slot and a relatively short slot, both extending longitudinally of the pin, a member on the guard portion adapted to receive a pointed end on the pin portion, and a part on the guard portion arranged to enter said short slot to lock said pointed end in said member or to enter said long slot to permit release of the pointed end from said member.

2. A safety pin comprising a pin portion having at the rear thereof a closed loop formed with a short front slot and a long rear slot, a guard member having a hollow front portion open at the rear at the lower end only, a wire member rigidly connected to said member at the rear thereof and slidably connected to the pin portion at a point below said loop, a laterally extending part on said wire member arranged to engage said short slot to lock the pin in the closed hollow portion of said member and to engage the long slot to permit the free end of the pin to be withdrawn into engagement with the lower end of said hollow portion in which withdrawn position said free end can be manually released from said member.

3. A safety pin as claimed in claim 2, wherein a downwardly extending part is formed between the two slots so positioned that its lower end is engaged by said laterally extending part at the same time as the pin reaches the limit of its movement into the guard member.

In testimony whereof I have affixed my signature.

GEORGE WILLIAM HAWES.