Jan. 30, 1962 D. V. BAGNASCO 3,018,533

SAFETY PIN

Filed July 22, 1960

Fig. 1.

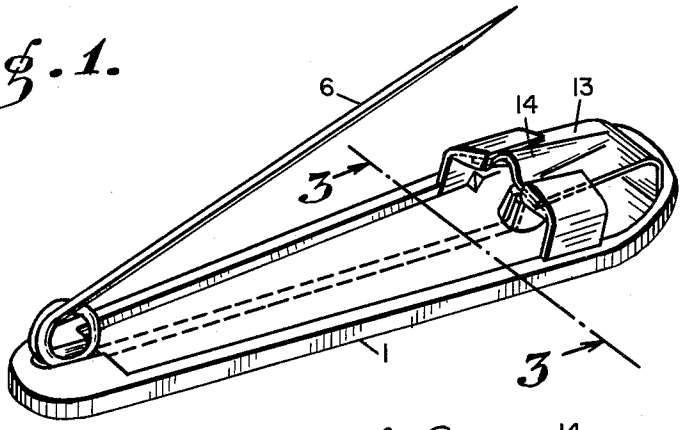


Fig. 3.

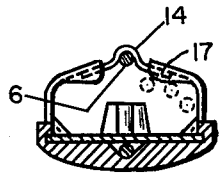


Fig. 2.

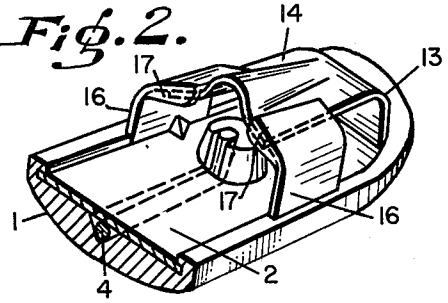


Fig. 4.

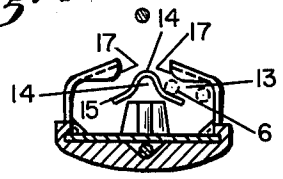
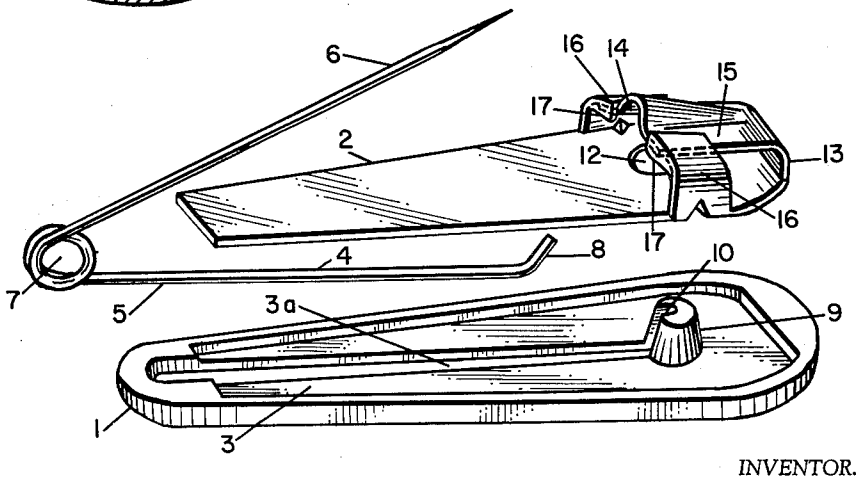


Fig. 5.



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SAFETY PIN

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This invention relates to a flat spring pin of the general safety pin type.

It is an object of this invention to provide a pin the body of which will lie flat against the person or whatever it is used with, and which will remain closed when closed unless expressly opened, but which may be easily opened.

This invention is an improvement on my prior Patent No. 2,546,662.

The invention comprises accordingly the device as shown in the accompanying drawings, in which FIGURE 1 is a perspective view of the pin open, FIGURE 2 is an enlarged section of the head portion of the pin in perspective, FIGURE 3 is a section on the line 3—3 of FIGURE 1 with the pins in closed position, FIGURE 4 is a view similar to FIGURE 3 with the pin in the position of being closed, and FIGURE 5 is an exploded view of the portion of the device when disassembled.

In the drawings the numeral **1** is a back plate, the numeral **2** is a base plate lying within the back plate, and constituting the pin retaining mechanism, and the numeral **3** is a recess in the back plate **1** to receive the base plate **2**.

The back plate **1** has also a longitudinal slot **3***a* to receive the lower arm **4** of a pin **5**, the other arm **6** of the pin being pointed.

The arms **4** and **6** are connected by a coil **7** in the usual manner.

The back plate **1** is provided with a post **9** having a slot **10** to receive the bent up end **8** of the pin **5**, and the base plate **2** is provided with a hole **12** through which the post **9** extends. The lower arm **4** of the pin **5** is bent upwardly as shown at **8**, and this bent up end rests in the slot **10** in the post extending through the hole **12** in the plate **2**. By this construction the pin is firmly held in its upright position. The plate **2** is crimped into the recess **3** in the back plate **1** to hold it and the pin **5** in proper place.

The base plate **2** has its end corresponding to the free end of the pin bent over parallel to the body as shown at **13**, and the end of the bent over portion as shown at **14** is shaped in such a manner as to provide a central inwardly facing groove **14** on the inner face to receive the point of pin **5**, and it is shaped to provide lateral faces **15** on each side of the groove.

The plate **2** also has side wings **16** at the same end, which are bent up to fit up over and engage the upper face of these lateral faces **15** of the bent over end **13** to limit the outward movement, forming a socket for the pin point.

In order to prevent the point of the pin from inadvertently sliding between the lateral faces **15** of the member **13** and the side wings **16**, so as to open the pin, each of

the side wings **16** has a downwardly bent edge **17** extending over the edge of the lateral faces of the ends **15**. Thus the point of the pin is held below the level of the end **15** and cannot slip below it to release the pin, unless the spring end **14** is positively depressed below the bent edge **17**. This guarding against undue opening is shown in FIG. 3.

The base plate **2** and its parts may be made of a spring material such for example as spring sheet brass, and the side wings **16** are held in contact with the plate **13** which serves as spring arm **13**.

The position of the parts when the pin is being closed is shown in FIG. 4 in which the end **13** is depressed to let the point of the pin **6** slide between it and the side wings **16** as shown at **17**. As soon however as the pin point passes beyond the edges of the bent over portion **13** the latter snap into engagement with the lateral side wings **16** of the faces **15**, affording a greater degree of safety against opening.

The pin is easily opened by depressing the central member **14** while moving the point of the pin **6** to the side, letting it slide over the edge of the member **14** in the usual manner for such pins.

What is claimed:

1. A safety pin comprising a substantially flat body member having a cutout in one face to receive a plate, a flat plate within said cutout to lie parallel to said body member, said body member having a longitudinal slot beneath said plate of a shape to receive a pin, a bifurcated spring pin having one leg lying within said slot and said leg being held in position by said plate said plate having an opening through it, an upwardly extending post on said body member passing through said opening in said plate a second leg overlaying said plate, said post having a vertical groove in the same plane as said slot, said one leg member having a bent up end lying in said groove in said post, a socket on the end of said plate having a spring closed opening on its side to receive the free end of said second leg.

2. A device according to claim 1 in which the said plate has end and side flanges on the socket end, said flanges being bent back parallel to the body of the plate to form said socket, said end flange being resiliently flexible, so as to permit it to be depressed sufficiently to permit the free end of said pin to be snapped in place into the socket between the end flange and the side flanges to rest beneath the end flange.

3. A device according to claim 2 in which the lateral edge of the side flanges have their edges bent down below the free edge of the end flange, whereby the point of the pin cannot slip out between the end flange and the side flange unless the end flange is bent inwardly far enough to permit the pin to pass under the bent down portion of the side flanges.

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