

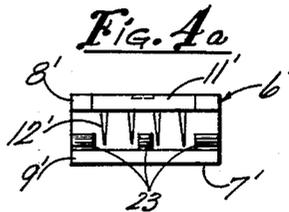
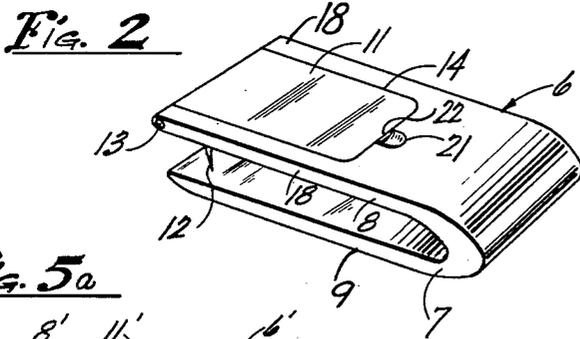
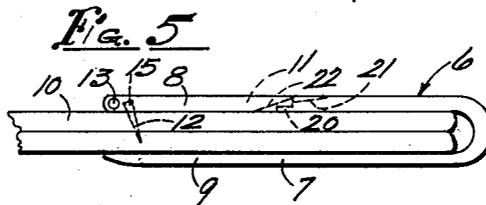
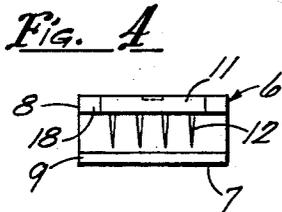
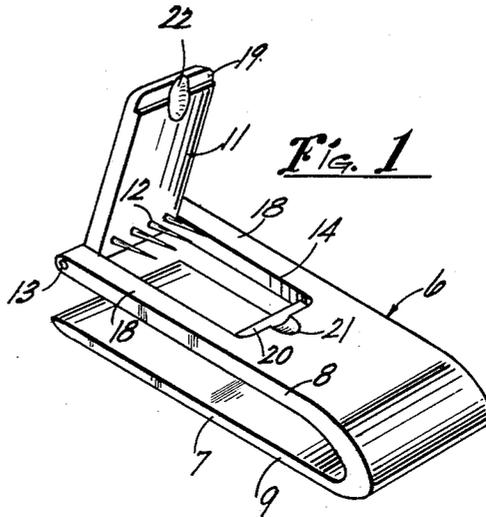
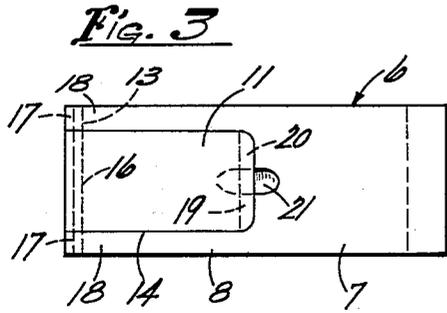
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SAFETY-PIN CLIP

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3,148,424

SAFETY-PIN CLIP

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2 Claims. (Cl. 24-160)

This invention relates to a new and improved safety-pin clip for use on diapers and other apparel wherever the safety features might be of advantage.

The principal object of my invention is to provide a safety-pin clip of simple and economical construction adapted to be applied easily and quickly and which when applied properly is not apt to open accidentally but in the event of opening cannot possibly cause injury by the scratching or pricking with the pins that are provided on the pivoted part of the clip, this part:

(1) Having the pins disposed substantially at right angles on the pivoted end of the part, and, if inclined at all, inclined inwardly relative to the open end of the U-shaped body of the clip, while the free or operated end of the part is arranged to engage a ledge on the body of the clip limiting the pivotal movement toward the body of the clip, so that any outward pull transmitted to the pins serves only to close the clip all the more tightly;

(2) Having its outside surface disposed flush with the outside of the clip body in closed position so that there is no danger of the clip being opened accidentally by rubbing contact with the bed or blankets or against the clothing of a person carrying the child, a depression being provided in the outside of the clip body registering with a fingernail depression in the underside of the pivoted part of the free end thereof to enable easy opening of the clip when that is desired, and

(3) Having the pins, which are disposed in laterally spaced relation in a single row on a line parallel to and adjacent the pivot axis in substantially parallel relation to one another arranged to cooperate with laterally spaced aligned projections on the inner side of the other jaw of the U-shaped body of the clip in alignment with but alongside the pins in their operative position, whereby to cause deeper penetration by the pins of material entered between the jaws of the U-shaped body of the clip.

Another object is to provide a safety-pin clip of the kind mentioned adapted to be produced in large quantities at low cost using mostly molded plastic material, so that there is little or nothing to corrode, the pins, which can be of stainless steel to resist corrosion, being molded in place in the pivoted part.

The invention is illustrated in the accompanying drawing in which:

FIGS. 1 and 2 are perspective views of a safety-pin clip made in accordance with my invention shown open in FIG. 1 and closed in FIG. 2;

FIGS. 3, 4 and 5 are respectively a top plan view, an end view, and a side view of the same safety-pin clip, the latter indicating diaper material held between the jaws of the clip, and

FIGS. 4a and 5a are views similar to views 4 and 5 showing a modified or alternative construction.

Similar reference numerals are applied to corresponding parts throughout the views.

The safety-pin clip of my invention is indicated generally by the reference numeral 6 and comprises a generally U-shaped molded plastic body 7 providing spaced parallel jaws 8 and 9 between which the portions of a diaper indicated at 10 in FIG. 5 that are to be fastened together can be entered readily when the hinged part 11 that carries the row of spaced parallel pins 12 near the pivot pin 13 at the outer end of the part 11 is swung outwardly, as shown in FIG. 1, to open position from the

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rectangular opening 14 provided therefor in the jaw 8. The part 11 is preferably molded of the same plastic material as the body 7 with the shanks or butt portions 15 of the pins 12, as shown in FIG. 5 molded in place near the hole 16 provided for the pivot pin 13, the pin 13 having a working fit in the hole 16 and a pressed fit in the registering holes 17 in the opposite side portions 18 of body 7 on opposite sides of the opening 14. The free end of the part 11 is relieved on the under side as indicated at 19 where it engages a ledge 20 provided therefor on the body 7 at the inner end of the opening 14 to limit closing movement and support the part 11 with its outside surface substantially flush with the outside of the body 7, as appears in FIGS. 2 and 5. The operator, however, can insert his thumbnail or fingernail in a depression 21 in the body adjacent the ledge 20 and engage the same in a cut-away portion 22 in the under side of the inner end of the hinged part 11 to raise it when the clip is to be unfastened from the diaper, the inward inclination of the pins 12 indicated in FIG. 5 being enough to insure holding the hinged part 11 closed otherwise, by reason of whatever tension on the diaper material tending to swing the hinged part 11 in a clockwise direction, as viewed in FIG. 5.

In operation, it is a simple matter to insert the portions of the diaper 10 between the jaws 8 and 9 and swing the hinged part 11 down to engage the pins 12 in the diaper material, as illustrated in FIG. 5, good leverage being obtained by reason of the extent of spacing of the pins 12 from the operated inner end of the hinged part 11. Any outward pull on the material tends only to hold the clip more tightly closed, and there is therefore no need for any separate latch means being provided for releasably securing the hinged part 11 in its closed position. The body 7 and hinged part 11 being both made of plastic material, the clip is not subject to corrosion and can be produced at low cost. The pivot pin 13 and pins 12 can be supplied of stainless steel or other rust resistant metal to reduce likelihood of corrosion. The pins 12 (which, conceivably, may also be made of a suitable plastic material) being enclosed are never apt to come into contact with the baby's skin even if, due to carelessness or hurry in the application of the clips or any other usual circumstances, the hinged part 11 should not remain tightly closed as intended.

Referring to FIGS. 4a and 5a, in which parts corresponding to parts shown in FIGS. 1 to 5 have been indicated by prime numerals, in the modified form of the safety pin clip 6', attention is called to the rounded projections 23 molded integral with the inner side of the lower jaw 9' in laterally spaced relation on a transverse line in alignment with but spaced from the pins 12. These projections do not interfere noticeably with the insertion of the edge portions of the diaper indicated at 10' and yet they result in a much better hold for the pins 12 by reason of the extent to which the diaper is pierced by the pins when the clip is closed on the diaper. In that way an unusually active baby is not so apt to get the diaper loose. I have shown three of these projections in FIG. 4a but it should be understood that there may be no need for any more than just the two outer ones, the middle one being omitted. Conceivably only the middle one of these projections might suffice.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claims have been drawn to cover all legitimate modifications and adaptations.

I claim:

1. A safety-pin clip comprising a generally U-shaped body providing a pair of spaced substantially parallel elongated generally rectangular jaws between which the material to be pinned may be entered, one of said jaws having

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an elongated generally rectangular opening provided therein measured lengthwise thereof from the outer end, an elongated generally rectangular hinged member disposed in said opening and pivoted transversely of one end with respect to the outer end of said jaw, a single row of a plurality of pins disposed on a line parallel to and adjacent the pivot axis and mounted on said hinged member in laterally spaced substantially parallel relation to one another and substantially at right angles to said hinged member, whereby to enable easier penetration of material by said pins by virtue of the leverage obtained by reason of the extent of spacing of the pins from the operated inner end of said hinged member, all of said pins being of a length to reach substantially all the way to the second jaw of the body in the closed position of said hinged member, and means for limiting the closing movement of said hinged member when it reaches a position substantially flush with the outside surface of said body.

2. A safety-pin clip as set forth in claim 1 including laterally spaced aligned projections on the inner side of the second jaw in alignment with but alongside said pins in their operative position, whereby to cause deeper pene-

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tration by said pins of material entered between said jaws.

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