May 6, 1958 C. R. GRAHAM 2,833,014

BABY'S SAFETY PIN

Filed Sept. 20, 1956

FIG. 1

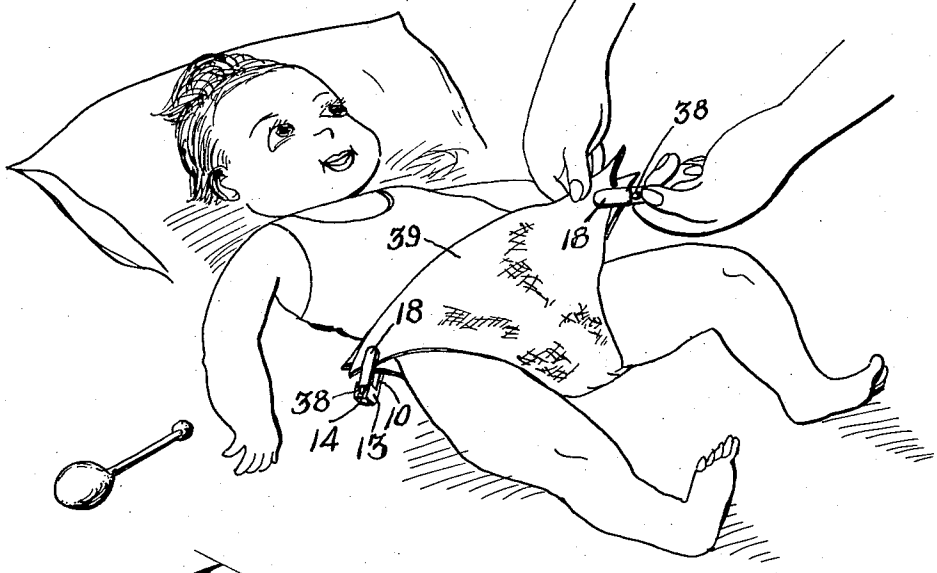



FIG. 2

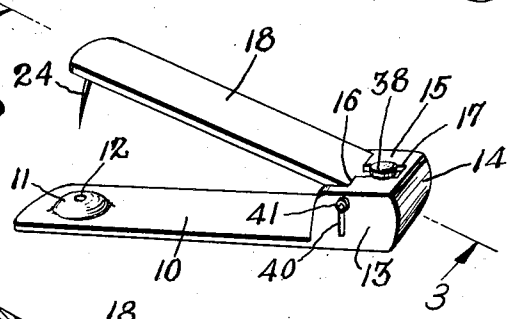



FIG. 3

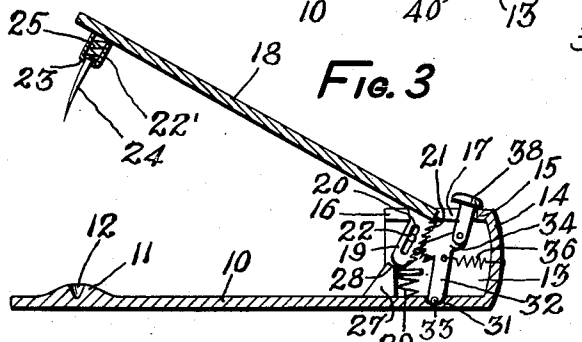



FIG. 4

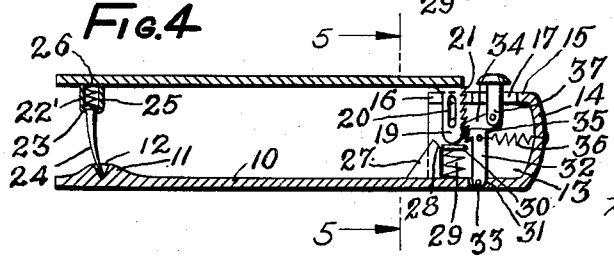
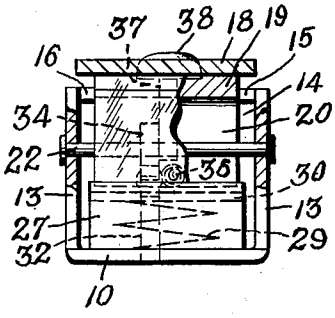



FIG. 5

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# BABY'S SAFETY PIN

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3 Claims. (Cl. 24—160)

This invention relates to safety pins.

It is an object of the present invention to provide an improved baby's safety pin which is more quickly attached to the diaper or the like and wherein the fear of sticking the baby or the parent is avoided.

It is another object of the present invention to provide a safety pin of the above type wherein once the pin is clamped in place it is almost impossible to dislodge and wherein the pin may be fastened with only one hand, permitting the other hand to be used to hold the baby.

It is still another object of the present invention to provide a baby's safety pin of the above type which is so constructed that when in use the baby cannot swallow it and wherein the possibility of sticking the baby or the mother is removed.

Other objects of the present invention are to provide a baby's safety pin bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in use.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a perspective view of a preferred embodiment of the present invention shown in operative use;

Fig. 2 is an enlarged perspective view of the invention shown open;

Fig. 3 is a vertical sectional view taken along the line 3—3 of Fig. 2;

Fig. 4 is a view similar to Fig. 3 but showing the safety pin in the closed position and

Fig. 5 is a vertical sectional view shown partly in elevation taken along the line 5—5 of Fig. 4.

Referring now more in detail to the drawing, the baby's safety pin comprising the present invention includes an elongated rectangular base portion **10** integrally formed at one end on the upper surface thereof with the hemispherical protrusion **11** having a conical opening **12**, substantially as illustrated.

The bottom portion **10** at the other end thereof is integrally formed at right angles thereto along the opposite longitudinal edges with the side walls **13** and the arcuate end wall **14**, the upper edges of the side walls **13** and end wall **14** being connected by the horizontal top wall **15**.

As shown in Fig. 2, the forward end of the top wall **15** is provided with the rectangular cutout **16** which connects with the centrally located, rearwardly extending slot **17** which terminates short of the end wall **14**.

An elongated rectangular upper portion **18** is provided and is adapted to fit downwardly between the side walls or portions **13** within the cutout **16**, being integrally formed at this end with a depending lug **19** having a rounded lower end and an elongated vertical slot **20** therethrough.

The rear vertical edge of the lug **19** is integrally formed with rearwardly and upwardly extending teeth **21** which extend down to the curved lower end of the lug and the lug itself is pivotally mounted between the side walls **13**



by means of a pin **22** which connects the opposite sides **13** and which passes through the elongated slot **20**.

The other end of the upper portion or jaw **18** on the undersurface thereof fixedly mounts the hollow cylindrical member **22'** having a bottom wall **23** having a central circular opening through which passes a curved pinpoint or pin **24**, the downward displacement of the pin **24** through the opening being limited by the enlarged head **25** thereof, the lower point of the pin **24** being adapted to be received within the conical bore **12** of the protrusion **11**, as shown in Fig. 4. A coil spring **26** is positioned within the hollow cylindrical member **22'**, the upper end thereof abutting the upper portion **18** while the lower end thereof abuts the head **25** of the pin **24**, whereby to normally urge the pin **24** to the extended position of Figs. 3 and 4.

Means are provided for opening and closing the jaws **10** and **18** relative to each other and include a transverse ridge **27** secured to the upper surface of the lower portion **10** intermediate the forward edges of the side walls **13**, the upper edge of the ridge **27** being inclined downwardly and rearwardly as at **28**.

A compression coil spring **29** is mounted behind the ridge **27** centrally thereof and has its lower end suitably secured to the bottom portion or jaw **10**, the upper end of the compression spring **29** fixedly mounting a horizontal disc **30** which bears on the rounded lower end of the lug **19**, as shown in Fig. 4, to bring the lower end of the slot **20** into abutment with the pin **22**.

As shown in Fig. 3, the bottom portion **10** rearwardly of the spring **29** is formed with a semicircular recess **31** within which is pivotally mounted the lower end of the link **32** by means of the pin **33**, an upper end of the link **32** being integrally formed with the forwardly and downwardly extending enlargement **34** having the downwardly and forwardly extending teeth **35** which are adapted to mesh with the teeth **21**, as shown in Fig. 4. The lever **32** is normally retained in the forward position of Fig. 4 with the teeth **35** in mesh with the teeth **21** of the lug **19** by means of the compression spring **36** having its forward end connected to the lever **32** below the enlargement **34** and its rear end connected to the end wall **14**.

A link **37** positioned within the slot **17** and having an enlarged knob **38** at its upper end is pivotally connected to the rear end of the enlargement **34** at one side thereof to complete the structure.

The pin is shown in closed position in Fig. 4. In order to open the same, the non-operative end of the pin is grasped between the fingers and thumb of one hand with the thumb positioned above the operating knob **38**. It will be noted that the opening movement of the upper jaw **18** is prevented by the teeth **35** which are in mesh with the teeth **21** at the lower end of the lug **19** (Fig. 4), these teeth being urged into intermeshing relationship by the compression spring **36**. However, upon pressing the knob **38** forwardly and downwardly with the thumb, the teeth **35** will be brought out of mesh with the teeth **21** by the resulting pivotal movement of the lever **32** about pin **33** away from the lug **19**. The rear end of the portion **18** is then pressed downwardly to move the pin relatively upwardly within the slot **20** and moving the teeth **21** downwardly against the action of the spring **29**. Release of the knob **38** will again urge the teeth **35** into mesh with the teeth **21** at a higher position than that of Fig. 4 and upon pressing the knob **38** downwardly and rearwardly, the lever **32** will pivot about the pin **33** in the rearward direction and rotate the portion **18** upwardly to the open position, the pin being retained in the open position by the action of the spring **36**. In order to close the pin, it is only necessary to press the knob **38** downwardly and rearwardly to disengage the teeth **35** of the lever from the teeth **21** of the lug **19**, whereby the jaw **18** may be

rotated to a closed position. In use, the corners of the diaper **39** will be pulled together into overlapping relationship and secured between the jaws **18** and **10** with the pin **24** piercing the corners and positioning itself within the conical bore **12** of the protrusion **11**. It will be noted that when the pin is attached with pressure, it will not be tight on the baby's skin as the cotton diaper gives until the pin is freely displaced therefrom.

The pin may be made of plastic, steel, aluminum or other similar material and can be made in various colors, such as blue for boys, pink for girls and so forth. Initials or names may be placed on them as well as other ornamental designs.

The cost of manufacture is relatively small considering the length of time the pin would last. The pin may also be used as a dress fastener and for fastening other garments.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

The pin **22** may be made adjustable vertically in the side walls **13** by the provision therein of the vertically extending slot **40** and the locking collar **41** screw threaded onto the end of the pin and which will lock the vertical position of the same within the slot **40**, as shown in Fig. 2.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. A safety pin comprising a flat, elongated base member, a second flat elongated separable upper member, means pivotally mounting said flat upper member at one end on the adjacent end of said base member, means for opening and closing said upper member relative to said base member, said base member at the end remote from the pivotal connection with said upper member having an enlargement, said enlargement at the top thereof having an opening, a pointed pin adapted to fit within said enlargement opening, and means for connecting the end of said pin remote from said enlargement to the adjacent end of said upper portion, said means for mounting said pin comprising a hollow depending member secured to the undersurface of said upper portion at the end thereof remote from the pivotal connection with said base portion, said hollow member having a bottom wall having a circular opening receiving said pin downwardly therethrough, said pin having an enlarged head of greater diameter than said opening whereby to prevent complete downward displacement therethrough and a coil spring within said hollow member having one end bearing on said upper portion and the other end on said pin head.



2. A safety pin according to claim 1, said means pivotally mounting the end of said upper portion on said base portion comprising said base portion along the opposite longitudinal edges thereof at the end thereof remote from said protrusion having upwardly extending side walls, a rear wall connecting the vertical edges of said side walls at the end of said base portion, and a top wall connecting the upper edges of said side and end walls, said top wall at the forward edge thereof having a rectangular cutout receiving the end of said upper portion downwardly therewithin, said upper portion having a depending lug adapted to fit downwardly intermediate said side walls within said cutout, said lug having a vertically elongated slot, and a pin connecting said side walls and passing through said slot.

3. A safety pin according to claim 1, said means for opening and closing said upper portion relative to said base member comprising said lug along the rear vertical edge thereof being formed with rearwardly and upwardly extending teeth and having a rounded lower end, a transverse ridge secured to said base portion intermediate said side wall forward edges and having a forwardly and upwardly extending upper surface adapted to permit the forward movement of the rounded lower end of said lug, a compression coil spring positioned behind said ridge centrally thereof and having its lower end connected to said base portion, a disc secured to the upper portion of said spring and adapted to bear on the lower rounded end of said lug, a first link pivotally mounted at its lower end on said base portion rearwardly of said compression spring, said link at its upper end being integrally formed with a downwardly and forwardly inclined enlarged portion being formed with downwardly and forwardly extending teeth at its forward end adapted to mesh with said lug teeth, a second compression spring connected at its forward end to said lug below said enlargement and at its rear end to said end wall whereby to normally urge said teeth into mesh with each other, said top wall at the center thereof having a longitudinally extending slot communicating at its forward end with said cutout portion, a second link extending downwardly within said slot, said second link at its lower end being pivotally connected to the rear end of said enlargement, and an enlarged knob on the upper end of said second link.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 479,938 | Fredlihp | Aug. 2, 1892 |
| 897,976 | Germann | Sept. 8, 1908 |
| 1,456,301 | Diefenbacher | May 22, 1923 |
| 2,667,676 | Sampson | Feb. 2, 1954 |