July 2, 1935. V. G. JONES 2,006,923

SAFETY PIN AND SPRING THEREFOR

Filed Sept. 4, 1934

Fig. 1

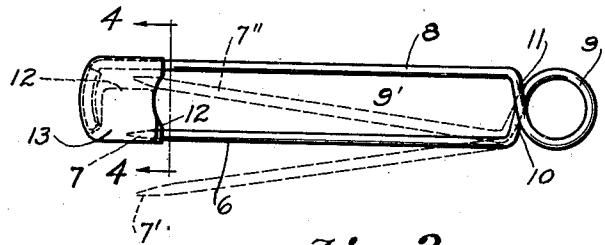


Fig. 2

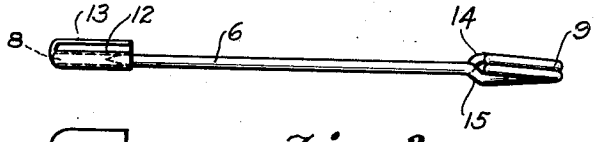


Fig. 3

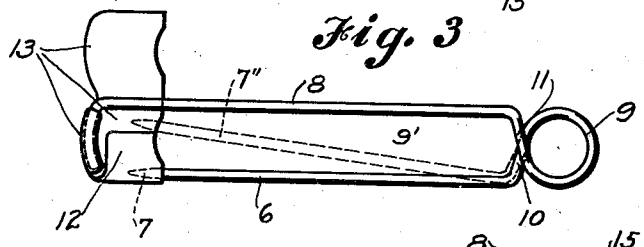
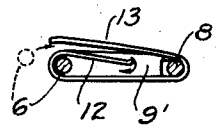


Fig. 4



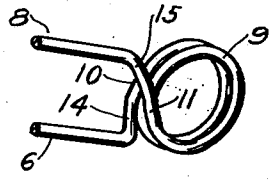


Fig. 5

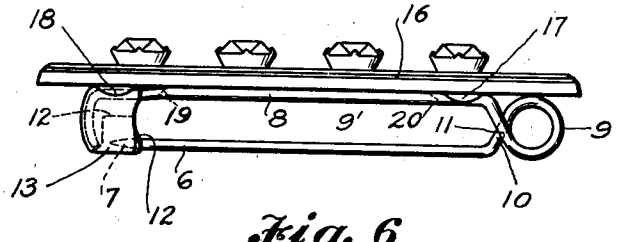


Fig. 6

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UNITED STATES PATENT OFFICE

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SAFETY PIN AND SPRING THEREFOR

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Application September 4, 1934, Serial No. 742,528

1 Claim. (Cl. 24—161)

This invention relates to safety pins, and to springs and guards for safety pins and for brooches and the like.

It is well known that the ordinary safety pin is a frequent cause of injury, and sometimes death to young children, who have swallowed them. The sharpened prongs of such pins are normally projected resiliently at approximately right angles from the other shank of the pin, and so present great difficulty in attempts to remove such pins from throats and stomachs of children who have so swallowed them.

Such ordinary pins are usually provided with a coil spring, at one end formed with less than two complete turns of the coil material. This tends to maintain such prongs in extended positions, and facilitates the loss of such pins and the loosening of the material or fabrics to be held thereby, as the pins tend to fall from such positions when the wearer moves about. Such ordinary coils are also formed within one end of the ordinary loop designed for holding the fabric, and when such coils are thus located the fabric tends to work out from its loop, and becomes pinched and injured between the bends of the spring coils. When fabric is so enmeshed it is difficult for the operator to separate the pins therefrom.

Jewelry when attached by the ordinary folding pins or prongs is also easily detached from clothes of the wearer, and is frequently lost for that reason.

It is therefore an object of this invention to provide a safety pin, which is actually safe, and which will not cause injury if swallowed by a child, and which is unlikely to be loosened from fabric or clothing, or to be lost therefrom.

Another object is to provide a safety pin with a double acting coiled spring at one end thereof formed by two complete coils of the material thereof, with the two shanks of the pin in substantially parallel positions with each other. A sharpened end of one of such shanks adapted to be sprung outward for insertion into any material or object desired, and adapted to be also compressed close to the other shank for insertion beneath any suitable latch member. Such coils to be provided with suitable cross and lateral bends to provide bars to prevent material from becoming pinched between the coils, and to maintain the shanks in the same plane for facility and neatness in the use thereof.

A further object is to provide a guard on one end of the pin, for receiving and holding the sharpened end of the prong member, to prevent it from being accidentally dislodged from its desired position in holding fabric or other material, and to prevent injury to infants therefrom, whether swallowed or only toyed with by them.

A still further object is to provide such a double coil spring and a safety guard for adaptation to, or use with, jewelry, for maintaining a holding prong normally in parallel relation with a jewelry bar, and to prevent the loss of such jewelry by becoming accidentally loosened from the clothing of the wearer.

With these and other objects that may appear I have illustrated my invention by the accompanying drawing, of which:

Figure 1 is a side view,

Figure 2 is an edge view,

Figure 3 is a side view with one side of the guard attached but not yet folded into place,

Figure 4 is a section view, taken on lines 4—4 of Figure 1,

Figure 5 is a fragmentary perspective view of the double coil spring,

Figure 6 is a view of the pin adapted to a jewelry brooch.

Like numerals on the different figures represent like parts.

Numeral 6 represents the lower (called "lower" for purpose of description) shank, or movable prong of the safety pin with its front end 7 sharpened in the usual manner. The prong and upper shank 8 are preferably formed of one piece of resilient metal wire, and designed to normally rest parallel in spaced relation to each other. The rear portions of the shanks are bent into two complete circles and so provide a double acting coil spring 9. The formation of this coil is an important feature of the invention. This coil is made outside of and extends outward and beyond the fabric loop 9' or space between the shanks, thus leaving such space 9' unobstructed.

In the formation of my double coil, the rear portion of the prong 6 is bent upward to a point substantially even with the upper shank, and the rear portion of said upper shank is bent downward to a point substantially even with the lower shank or prong, providing respectively bars 10 and 11 across the rear end of the said area 9' and between the shanks. Double turns are then given to the shanks thereby forming said double acting spring coil 9. By means of this coil the prong 6 is resiliently sustained in said parallel spaced relation with the lower shank. The point 7 may however be manually extended outward as shown in dotted lines 7' for insertion into any fabric or material to be pinned; or it

may be compressed toward the upper shank as shown on dotted lines 7'' to permit such point to be inserted beneath any suitable catch as 12, in a guard member as 13. The bars 10 and 11 prevent any portion of the fabric working from the loop and becoming pinched between the coils, and the guard 13 prevents any portion of the fabric working out from its respective end of the fabric space 9'. The guard 13 is preferably attached to the curved front end of the upper shank by folding and compression, as shown in Figure 3, but it may be affixed in any other suitable manner as by solder or spotweld. Normally the point 7 of the prong will come to rest and remain between the walls of the guard 13, and catch 12. There are normally no rough or sharp projections about the pin, and the same is normally smooth. The edge of the guard 13, extends above the normal position of the point as sharpened on the respective prong, and is spaced apart from the catch body sufficiently to leave an open entry for the automatic entry in such space of such sharpened point, when the spring draws the two shanks parallel with each other. Such point is thus covered or protected against contacting with anything outside or beyond the guard. Therefore even in case such safety pin is swallowed by an infant the prong point would remain within the guard and cause no injury therefrom.

The cross bars 10 and 11 are also bent inward laterally, or offset as at 14 and 15 thereby placing the shanks 6 and 8 in the same plane as shown in Figure 2, and providing an additional guard to prevent fabric from becoming enmeshed between coils.

In Figure 6 I have shown the pin adapted to or constructed with a brooch or jewel bar 16. This bar may be soldered or spot-welded as at 17 and 18 to respective ends of the shank 8, and the prong 6 may be used for attaching the brooch to clothing of the wearer. The double acting coil 9 will retain the point 7 within the folds of the guard 13 for ordinary safety even if said point is not placed beneath the catch 12. The danger of loss of the brooch is so eliminated and the point 7 of the prong is also securely covered to prevent the same catching into clothing of other persons, or other objects.

In order to provide a greater opening or space 9' for heavy fabric, that portion of the shank 8 between the dotted lines 19 and 20 may be cut away, and thus leave the bar to serve in lieu of such portion of the shank.

Various other adaptations of my invention may occur, and such as lie within the scope of my invention are intended to be covered by my Letters Patent.

Having described my invention I claim as new—

A safety pin with a smooth exterior to prevent injury if swallowed, comprising two pin shanks connected together at one end thereof by a double acting coil spring, said spring adapted to normally maintain said shanks in substantially parallel spaced relation with each other in substantially the same plane, the unconnected end of one of said prongs sharpened, and a guard member attached to the opposite end of the other shank, and extending above the normal position of the sharpened point for covering the same, a catch within said guard for positively retaining said point from expanding when placed behind the same, and spaced apart from the guard sufficiently to leave an unobstructed entry between such guard and catch for the free and automatic passage of said point between the same, for the protection of said point.

VICTOR GRANT JONES.