No. 842,600. PATENTED JAN. 29, 1907.

H. M. WILLIS.

SAFETY DEVICE OR PIN.

APPLICATION FILED APR. 10, 1905.

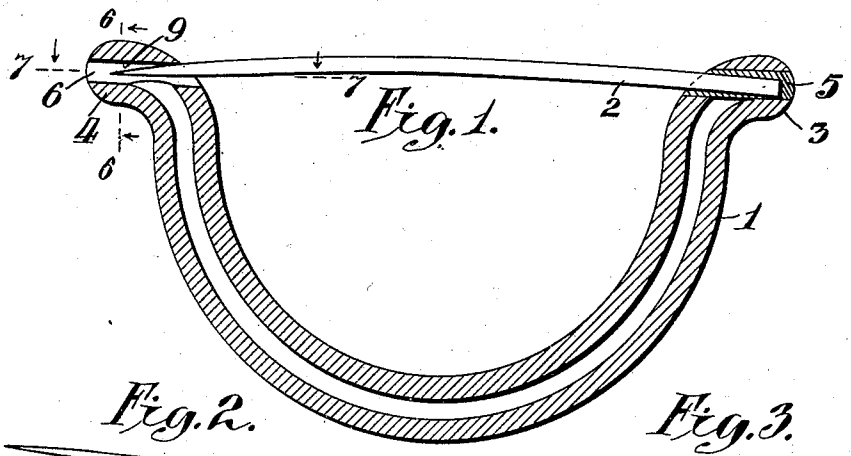


Fig. 1.

Fig. 2.

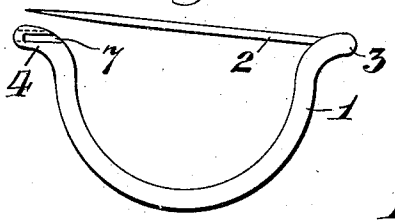


Fig. 3.

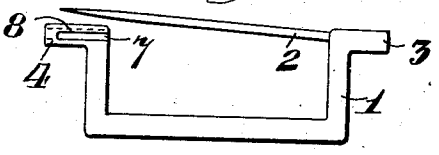


Fig. 4.

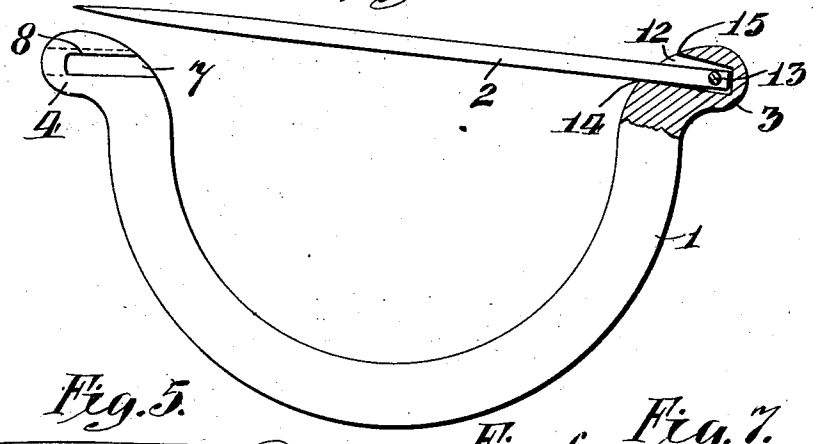


Fig. 5.

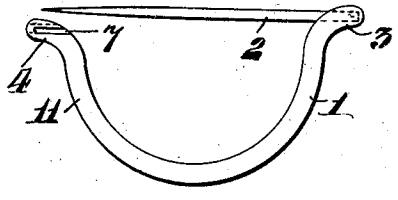


Fig. 6.

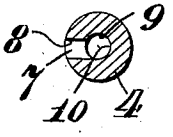
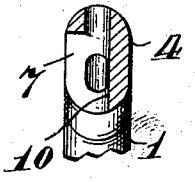


Fig. 7.



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UNITED STATES PATENT OFFICE.

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SAFETY DEVICE OR PIN.

No. 842,600. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed April 10, 1905. Serial No. 254,745.

To all whom it may concern:

Be it known that I, HENRY M. WILLIS, a citizen of the United States, residing in East Williston, Nassau county, and State of New York, have invented a new and useful Improvement in a Safety Device or Pin, of which the following is a description.

This invention relates to an improvement in safety devices, pins, and structures of like character.

An object of this invention is to provide a device which may be used as a safety-pin, breast-pin, watch-chain, or fob-guard, bouquet-holder, and for any and all other purposes for which safety-pins are ordinarily used.

Another object of this invention is to provide a device of the character noted by means of which the pin can be forced through the material to which it is to be attached or secured by means of the body of the device—viz., by grasping the body of the device and forcing the pin through the material without fear of the pin bending, breaking, or swinging in such manner as to render its manipulation impossible or ineffective.

Other objects of this invention will be set forth during the course of this description; and with them all in view the invention consists in the parts, features, and combination of elements hereinafter described and claimed.

In the drawings forming part of this description, Figure 1 shows in enlarged vertical section one form of this invention. Fig. 2 shows in elevation, on smaller scale, the form of device of Fig. 1. Fig. 3 is a side elevation of another form of my invention. Fig. 4 is a side elevation of still another form of the device, parts being in section. Fig. 5 is a side elevation showing still another form. Fig. 6 is a cross-section taken on the line 6 6 of Fig. 1, and Fig. 7 is a section taken on the line 7 7 of Fig. 1.

The body or frame of the safety device or pin is indicated by 1, the pin by 2, the socket end, in which the pin 2 is secured, by 3, and the catch end, in which the free end of the pin is held, by 4.

The body portion may be composed of either solid or tubular material, and the material may be any kind of metal, precious or otherwise, or may be made of any character of composition. By forming the body portion tubular, however, it can be made much smaller in cross-section and still be strong enough to stand all the strains of wear and use without bending or losing its shape. The tubular form is specially desirable when the body portion is made of soft or precious metals. The ends 3 and 4 are turned or bent aside from the body portion, as shown, for the purpose of forming bearings and retainers for the pin.

In the forms of Figs. 1, 2, 3, and 5 the end 3 has the butt-end of the pin 2 firmly secured in a socket therein by means of solder 5 or in any other suitable manner, the said pin being so secured in its socket end 3 as to extend therefrom in the general direction of the catch end or bearing 4 at the opposite end of the body portion, but at an angle or laterally thereto, so as to normally stand separated therefrom. This disposition of the pin relatively to the body portion or the catch end thereof is for the purpose of enabling the pin to be properly held in the catch by its own resilient strength, said pin being usually made of tempered or flexible or elastic metal, so as to be flexed or sprung into the catch.

The catch end of the device may or may not be closed or plugged when the body is tubular, said end being usually open, as shown at 6, and said catch end is formed at its side with the longitudinally-cut slot or depression 7, which is sufficiently wide or large to admit the end of the pin 2 and is also provided with the ear, lip, or catch 8, by which the free end of the pin is retained in the depression or groove 9, the side wall 10 limiting the lateral movement of the pin 2.

The precise shape of the body portion 1 is not material, but depends entirely upon the use to which the device is to be put—that is to say, if used as a bouquet-holder the body portion will be given the large bow or swell shown in Figs. 1, 2, 4, and 5; if to be used as a safety-pin, the radius of the bow will not be so great and may be given any other shape besides semicircular or curved—as, for example, the angular form shown in Fig. 3; if used as a watch-chain guard, it may be made quite small and more closely approximating a circle, and if used as a watch-fob guard or retainer it may be made either angular or semicircle or otherwise formed to suit the width of the fob-ribbon. Obviously any other form or shape can be given the device, and, in fact, the body portion

may be made flat, angular, or given any other general contour or form in outline or cross-section suitable for the purposes and uses to which it may be put. The angular form shown in Fig. 3 is useful for various purposes—such, for example, as watch-fobs, belts, &c. In other respects this form of Fig. 3 may be substantially identical in structure with that shown in Figs. 1, 2, and 3.

In the form shown in Fig. 5 the catch end or leg portion 11 of the body portion is shown slightly shorter than the socket end 3, and the pin 2 is shown as set substantially straight in the socket end 3, instead of at an angle relatively thereto, as in the other forms. By this construction obviously the same function is obtained—viz., enabling the pin to be flexed or sprung under the lip 8, and be thereby retained by its resilient strength in groove 9, the walls of which latter, as in the other forms, afford a substantial bearing for the free end of the pin.

In the form of Fig. 4 the pin 2 instead of being soldered or rigidly set or secured in the socket end 3, as shown in Figs. 1, 2, 3, and 5, may be pivoted in said socket end. In this construction the socket 12 in the end 3 will be slightly larger in diameter than the butt-end of the pin 2, so as to permit of a slight freedom of movement, as shown in Fig. 4. In this latter figure the pivotal pin is indicated by 13, which passes through the walls of the socket end 3 and also through the butt-end of the pin. In this form a limitation will be placed upon the movement of the pin 2 by shoulder 14 on one side, and the shoulder 15 on the other side, of the mouth of the socket 12. The shoulder 14 will limit the inward movement of the pin 2 and cause the latter to stand normally at the angle shown in Fig. 4, which is similar to that shown in other figures, thus rendering it necessary to spring the pin 2 into the socket 9 of the catch end 4 and cause the resiliency of the pin to retain its end in the catch and cause the said pin to assume the bowed outline indicated in Fig. 1. Thus even in this pivotal form the distinguishing feature and one of the principles of applicant's invention are retained.

The shoulder 15 constitutes the outer limit of movement of the pin 2 and prevents the same from being pressed too far away from the catch end or too far back relatively to the body portion 1 of the device. In other words, if this limiting-shoulder were not present and the pin were allowed to have free sweep or outward movement it would not be possible without holding the pin 2, as well as the body portion of the device 1, in the hand to effectively force the pin through the goods or material to which the device is to be fastened. In other words, one of the leading features of this invention is to provide means by which the pin 2 may be rigidly held in a given position while the body portion is grasped to force the pin into the garment or other thing to which it is to be fastened. The pivoted form of Fig. 4 permits the device to be used on garments or materials of greater thickness or bulk than is possible with the form of the other figures without bending the pin 2, and this additional advantage forms an important and useful feature of my invention.

Obviously any other form of hinge or pivotal connection 13 may be substituted for that shown in Fig. 4, this feature of my invention being intended to comprehend the idea of means which will permit the movement of the pin 2 in and relatively to the socket end 3 of the device within certain limitations, as described.

The various uses, shapes, and forms indicated and illustrated in the drawings are intended to be merely suggestive of the scope and objects of my invention and are not to be considered as limitations thereof, except as required by the scope of the claims. Moreover, this device may be made in the form of a ring or loop which may be completed by joining the ends of the body portion by a pin, either pivotally or rigidly connected to one end and movable relatively to the other end of the body portion.

From the above-detailed description the mode of operation of my invention will be obvious and further explanation will be unnecessary.

Having thus described my invention in several of the various forms conceived by me, what I claim, and desire to secure by Letters Patent, is—

1. A safety-pin having the body portion thereof tubular and bent into loop form, and provided at one end with a catch portion and at the other end with a pin-bearing, and a pin secured to the said bearing lengthwise thereof and held by the latter at an angle thereto so as to normally extend laterally away from the said catch and body portions.

2. A safety device comprising a body portion having at one end thereof a catch, and at the other end thereof a socket portion formed integral therewith, and a pin secured in said socket portion lengthwise of the latter by means which causes it to set normally at an angle to said socket portion whereby said pin must be flexed into engagement with said catch.

3. In combination, a body portion having its ends extended at an angle to and projecting beyond the same to afford elongated bearings, a pin rigidly secured to one of said bearings lengthwise of the latter, and a catch carried by the other of said bearings, whereby the said pin is firmly supported and held by the respective bearings.

4. A device of the kind described having a

body portion formed at one end into an extension projecting beyond its body at an angle and provided with a socket, and a pin rigidly secured in said socket lengthwise of said extension, the latter thus affording a bearing for said pin substantally from end to end of said socket.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY M. WILLIS.

Witnesses:

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M. HERSKOVITZ.