F. E. FARNHAM.

SAFETY CATCH FOR PINS OR BROOCHES.

APPLICATION FILED MAR. 8, 1916.

1,271,297. Patented July 2, 1918.

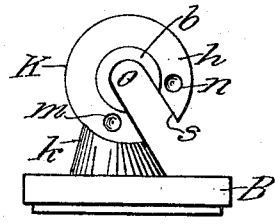


Fig. 1.

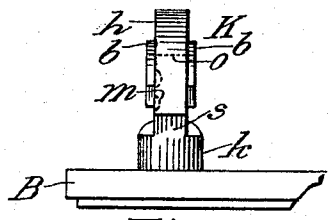


Fig. 2.

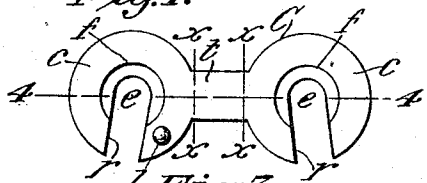


Fig. 3.

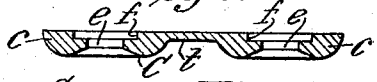


Fig. 4.

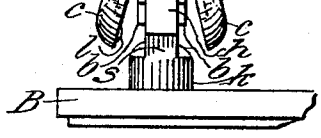


Fig. 5.

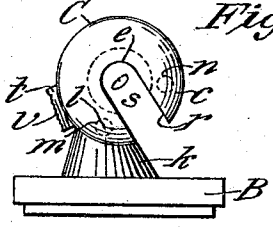


Fig. 6.

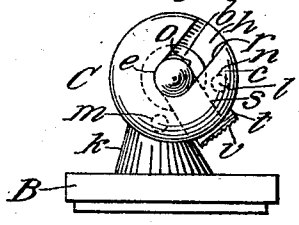


Fig. 8.

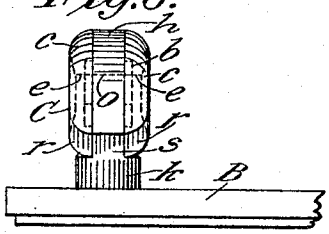


Fig. 7.

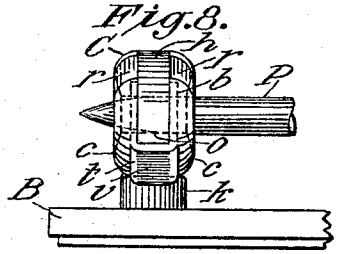


Fig. 9.

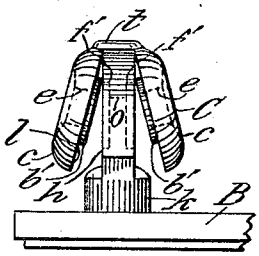


Fig. 10.

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UNITED STATES PATENT OFFICE.

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SAFETY-CATCH FOR PINS OR BROOCHES.

1,271,297. Specification of Letters Patent. Patented July 2, 1918.

Application filed March 8, 1916. Serial No. 82,790.

To all whom it may concern:

Be it known that I, FRANK E. FARNHAM, a citizen of the United States, residing at Providence, in the county of Providence, State of Rhode Island, have invented certain new and useful Improvements in Safety-Catches for Pins or Brooches, of which the following is a specification.

My invention is an improved safety-catch or guard for the pins of brooches and similar articles of jewelry to secure them from accidental unfastening. The objects of my improvement are to simplify the construction, reduce the cost of manufacture and to render the device more efficient for the purpose intended and more durable in use.

The manner and means for carrying out the improvement are fully described in the following specification, illustrated by the accompanying drawings, in which like reference characters designate like parts. In the drawings:—

Figure 1 is an end view of a bar-pin or brooch showing the hooked post or keeper for the pin-stem;

Fig. 2, a side view of the same;

Fig. 3, a plan view of the blank from which a part of my improved safety-catch is formed;

Fig. 4, a longitudinal, sectional view of the same taken on the line 4—4 of Fig. 3;

Fig. 5, a view similar to Fig. 2 showing the method of assembling the catch on the pin-hook or keeper;

Fig. 6, a view illustrating the parts assembled and showing the catch in open position to allow the pin-stem to be hooked into its keeper;

Fig. 7, a side view of the parts in this position;

Fig. 8, a view of the device showing the catch closed to secure the end of the pin-stem against displacement from the keeper;

Fig. 9, a side view of the same showing the pin-stem held in place by the catch; and

Fig. 10, a view showing a modification in the construction of the device.

My improved safety-catch is adapted for use on brooches, bar-pins, chatelaines, badges or other like articles of jewelry and ornament, and is employed in combination with the usual arrangement of a spring pin-stem and hooked keeper for holding its end. Referring first to Figs. 1 and 2, B designates the bar or body of the brooch or other article on the back of which a pin is employed for fastening it in place. My improved catch or guard is used in connection with the pin-keeper or hook K which as here shown is preferably constructed with a lower post *k* having a relatively broad, flat base which may be easily soldered to the back of the body B. At its top the keeper K is formed with a circular hook-portion *h* having a central opening *o* and a slot *s* leading downwardly therefrom to the side of the post or base *k*. The keeper K is preferably struck up in dies by a stamping or swaging operation with its base portion *k* rounded or swelled out in oval form and the opposite sides of its hook-portion *h* flattened in parallel planes as shown more particularly in Fig. 2. Projecting from the opposite, flat sides of the hook *h* are raised bosses *b*, *b* forming circular hubs surrounding the central opening *o*. The hubs or bosses *b*, *b* are designed to serve as central bearings for pivotally mounting the rotatable catch-member C of the device as shown in Fig. 5 and more fully explained hereinafter.

Referring now to Figs. 3 and 4, the catch-member C is constructed of flat stock stamped out in the form here shown with two spaced disks or circular ears *c*, *c* connected by a relatively narrow strip or tab-portion *t*. The ears *c*, *c* are formed with central openings *e*, *e* having radial slots *r*, *r* leading therefrom to their margins and positioned to adapt them to register one with the other when the blank C is folded or bent on the lines *x*—*x*, *x*—*x* of Fig. 3 to bring the disks opposite each other in parallel relation, see Figs. 5 and 7. Referring particularly to Fig. 4, one side of the blank C is cupped out to form two circular recesses *f*, *f* at the centers of the ears *e*, *e*, while on the opposite side of the blank the metal is swelled out to provide a rounding contour on the margin of the ears and a concaved form at their centers. This formation tends to reinforce the metal surrounding the central openings *e*, *e* of the ears *c*, *c* while also eliminating sharp edges and giving a more finished appearance to the catch. It will also be noted from Fig. 4 that the connecting-strip *t* between the ears *c*, *c* is relatively thin in cross-section to adapt it to be easily bent as shown in Fig. 5.

In assembling the catch C on the keeper or hook K the ears *c*, *c* are bent around to

straddle its opposite sides, as shown in Fig. 5, with the strip or tab *t* overlying its peripheral edge, see also Fig. 9. As the ears *c*, *c* are brought into place flush against the flat sides of the hook K the hubs *b*, *b* will be received in the circular recesses *f*, *f* to hold the catch C in place while allowing it to be rotated on the hook. Usually the sides of the catch C are sprung together sufficiently to adapt the ears *c*, *c* to exert a slight pinching effect against the sides of the hook K to provide a friction action thereon. Through this means there will be a slight tendency to resist the rotation of the catch on the hook to provide against accidental or unwarranted movement thereof.

Referring to Figs. 6 and 8, the folded strip or tab *t* which connects the side ears *c*, *c* and acts as a spring-element to maintain the ears in contact with the hook K, also serves the further purpose of a finger-lever for operating the catch and of a stop to limit its throw. When the tab of finger-lever *t* is turned around the hook to the left it brings up against the post *k* as shown in Fig. 6, and with the catch C in this position the slots *r*, *r* in the ears *c*, *c* will register with the slot *s* of the keeper K to allow the insertion of the pin-stem into the central opening *o*. After the end of the pin has been sprung into place in the hook of the keeper K the catch C is turned to the right until the tab *t* strikes against the opposite side of the post *k*, see Fig. 8. The slots *r*, *r* will then be carried past the slot *s* as shown in Fig. 8 and the end of the pin P will thus be locked in the keeper K, see also Fig. 9, to prevent it from springing out of place or from being accidentally disengaged therefrom. Preferably, the outer end of the tab or operating-lever *t* is knurled or scored on its surface with teeth or serrations *v* which adapt it to be more easily moved by the operator's finger without requiring the insertion of the finger-nail under its edge. The operation of knurling or swaging the teeth on the end of the tab or lever *t* acts to harden and set the metal at this point so that the catch is stiffened and its ears caused to set more snugly against the sides of the keeper K.

While for most purposes the frictional contact between the ears *c*, *c* of the catch C and the sides of the keeper K is sufficient to retain the catch in whichever position it may be adjusted, in some instances I prefer to provide an additional detent-means for this purpose. As shown in Fig. 4 this may consist of a rounded protuberance or teat *l* projecting from the face of one of the ears *c* and adapted to snap into suitably positioned indentations or recesses *m* and *n* on the side of the hook K, see Figs. 1 and 5. It will be understood that the teat *l* engages with the recess *m* when the catch C is turned clear to the left to open the slot *s* in the keeper K; and with the recess *n* when the catch is rotated to its opposite extreme to close the slot.

In Fig. 10 I have illustrated a slight modification in the construction of the parts of the device in which the bearings hubs or bosses *b'*, *b'* are formed on the inner faces of the ears *c*, *c* of the catch C, while the circular recesses *f'*, *f'* are indented in the sides of the keeper K to receive the hubs. The coöperation of the parts in this arrangement is the same as in the first described embodiment of the invention and with either construction a pivoted bearing is provided for the catch C without the use of a pin, stud or other separate element.

I am aware that it is old in the art to which this invention relates to employ a safety-catch pivoted on the pin-keeper to adapt it to be operated to secure the pin-stem therein. In my present improvement, however, I have devised a construction which greatly simplifies the method of manufacture of the device while cheapening its cost of production, and which also provides other advantages as now pointed out. In the first place, the keeper-hook or post K as herein shown can be made with a relatively broad base for fastening it to the body of the brooch and this provides that it may be set in place thereon for soldering without danger of its toppling over or falling off. Furthermore the post or keeper K may be soldered in place before the catch C is assembled thereon and this is of considerable advantage as next explained. For instance, if the keeper K is attached to the brooch before the catch is assembled thereon the soldering operation will not draw the temper from the catch so that the latter will retain the desired stiffness and rigidity after being swaged in place. This method of construction is also of particular advantage because the metal of the post will be somewhat annealed or softened while the metal of the catch will remain relatively hard, thus providing the ideal arrangement of different degrees of hardness between the bearing parts to insure for long wear. It is to be understood, however, that the invention is not limited to this particular method of applying it to the brooch, but on the contrary, if desired, the post and catch may be provided as an assembled finding and applied to use in this form.

Another important feature of my improved construction is that the parts of the device may be made relatively light while possessing the required strength and rigidity owing to their peculiar form. Moreover through their peculiar arrangement when assembled the parts serve mutually to reinforce each other and hence the whole device is made stronger and more durable

for this reason. The novel and ingenious form of the device also gives it an extremely neat and finished aspect with the appearance of strength without being cumbersome. My improved catch is also easier to operate, more efficient in use and less liable to derangement than other devices of a like nature. The operating-lever *t* is normally held out of the way in close relation to the base of the keeper K so as not to be liable to accidental movement yet it is easily accessible for operation when desired.

Having now described the nature of my improvement, the manner of carrying it out and the advantages to be secured thereby, what I claim is:—

1. In a safety-catch for pins and brooches, the combination with a keeper-member having a flat-sided circular hook with a post at its lower end of substantially greater thickness than the hook to provide a relatively broad base for uniting it to the back of the brooch, and with a hook portion formed with a radial slot inclined upwardly from the base of the post and terminating concentrically with the center of the hook, of a bifurcated catch-member constructed with two circular ears joined by a relatively narrow tab, said ears extending in parallel relation at right-angles to the tab to adapt them to overlie and bind against the flat sides of the hook portion of the keeper-member, with circular bosses on one of the members entering recesses in the sides of the other member to provide a pivot bearing to adapt the catch-member to be rotated on the keeper-member, said catch-member formed with opposite radial slots terminating concentrically with the center of the circular ears and adapted to register with the slots in the keeper to allow for the entrance of the pin-stem therethrough, and detent-means acting between the keeper-member and the catch-member to hold the latter in open or closed position.

2. In a safety-catch for pins, brooches or the like, the combination with a keeper-member having a post formed with a flat-sided hook at its top having laterally-projecting circular hubs and a central opening with a radial slot leading thereto, of a bifurcated catch-member having ears straddling the sides of the keeper and mounted to rotate on the hubs, said ears formed with opposite radial slots adapted to register with the slot in the hook and a projection on one of the ears adapted to engage suitable depressions in the side of the keeper to frictionally resist the movement of the catch-member to retain it in the opposite positions to which it is rotated.

In testimony whereof I affix my signature.

FRANK E. FARNHAM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."