

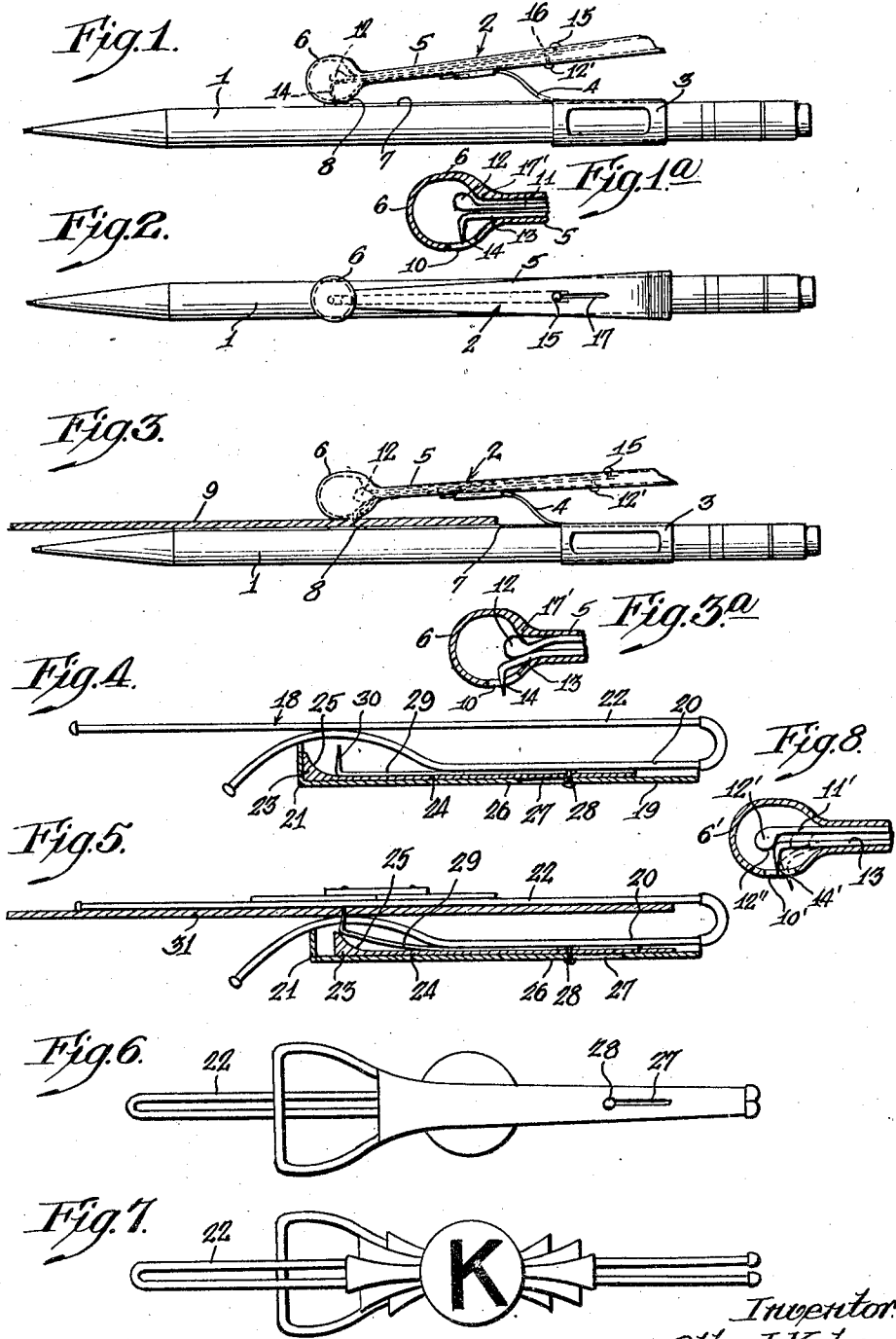
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SAFETY GLASP

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SAFETY CLASP

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8 Claims. (Cl. 24—12)

This invention relates generally to the class of safety clasps and pertains particularly to improvements in clasps designed for securing pencils in the pocket or for securing necktie clips in position to prevent loss of the attached articles.

The primary object of the present invention is to provide a new and novel means of holding in position a pencil or necktie clasp in such manner that the clasp cannot become accidentally detached from the clothing but may be easily and quickly disconnected by the wearer when desired without damaging the clothing with which it is engaged, and it may be repeatedly applied and taken off without causing such damage and will, when applied, securely hold the pencil, clasp or other article to which it is attached, against loss.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not to be confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing—

Fig. 1 illustrates the application of the present safety device to a clasp of the type commonly employed for holding pencils in the pocket, the clasp and pencil being shown in side elevation.

Fig. 1^a is a sectional view on an enlarged scale of the pin enclosing ball showing the pin in retracted position.

Fig. 2 is a view in top plan of the structure as shown in Fig. 1.

Fig. 3 is a view similar to Fig. 1 but showing the safety device in operative engagement with a portion of a pocket in which the pencil is disposed.

Fig. 3^a is a sectional view on an enlarged scale of the pin enclosing ball showing the pin projected.

Fig. 4 is a view partially in side elevation and partially in section of a necktie clasp showing the safety device associated therewith.

Fig. 5 is a view similar to Fig. 4 but showing the device in engagement with a cloth body such as a necktie.

Fig. 6 is a rear view of the clasp structure shown in Fig. 4.

Fig. 7 is a front view of the clasp.

Fig. 8 is a detailed sectional view showing a slight modification of the structure as illustrated in Fig. 1^a.

Referring now more particularly to the drawing, reference will first be made to the application of the safety device to a clasp of the type em-

ployed for securing a pencil or pen in the pocket, such clasp being shown in Figs. 1 to 3. In these views, the numeral 1 designates a pencil while the numeral 2 generally indicates the clasp which may be of standard design.

The clasp indicated generally by the numeral 2 and with which the present safety device is associated includes a collar portion 3 through which the pen or pencil is slidably extended and with which is integrally connected a longitudinal finger extension 4, and a lever arm 5 which may be tubular or transversely arcuate and which is coupled with the free end of the finger 4 and which terminates at its forward end in the hollow ball 6. The finger extension 4 is of resilient character and is biased toward the pencil so that the ball end 6 of the lever arm 5 is normally urged toward the body of the pencil and there is integrally connected with the sleeve 3 an elongated flat metal strip 7 which terminates at its forward end in a plate 8 located between the ball 6 and the body of the pencil, this plate end being preferably of a suitable soft material for the purpose hereinafter stated. The plate 8 lies flat against the side of the pencil so as not to interfere with the passage of the outer wall of the material forming a pocket into which the pencil is extended, which wall of material is indicated at 9 in Fig. 3.

As previously stated, the ball 6 is hollow and the side opposing the pencil is provided with an opening or window 10.

Extending longitudinally within the arm 5 is a resilient camming strip 11 which terminates at its forward end in a cam head 12. Also disposed within and extending longitudinally of the arm is a resilient pin strip or wire 13, the forward end of which terminates within the ball 6 in the angularly directed pin 14, the point of which is directed toward the window 10. This pin strip is secured to the arm 5 against longitudinal movement, as by the rivet 12' or in any other suitable manner. The camming strip which, as previously stated, is of resilient metal, has limited longitudinal movement within the arm 5 and at the end remote from the head 12, this camming strip is joined with an actuating button 15 which is located upon the top side of the arm by a stem 16 which passes through the longitudinal slot 17 formed in the top side of the arm 5.

Within the ball 6 a curved wall portion 17' is formed to provide a camming surface against which the head 12 engages when the strip 11 is shifted rearwardly.

In the operation of the safety device thus described, it will be seen that when the pencil is inserted into a pocket so as to force the edge of the wall 9 of the pocket between the ball 6 and the plate 8, the point of the pin which is normally retracted into the ball will be directed to-

ward the cloth of the pocket wall through the opening 10. It is then necessary only for the user of the device to shift the button 15 rearwardly on the lever arm 5 or away from the ball 6, thereby pulling the camming strip 11 and the head 12 so as to bring the head into contact with the camming face 17' of the ball, causing the strip 11 to be flexed toward the pin strip 13. The head 12 will then bear against the pin strip and flex this strip so that the point 14 of the pin will be projected through the opening or window 10, as shown in Fig. 3^a.

The soft metal plate 8 protects the point of the pin from damage as the point will enter this metal without injury instead of being driven against the hard material of the pen or pencil. Detachment of the clasp by shifting the button 15 in the opposite direction is effected to permit the resilient strip 11 to return to its straightened condition and also to permit the resilient pin strip 13 to straighten out so as to withdraw the point of the pin from the cloth of the pocket.

In the application of the idea to a necktie clasp such as is shown in Figs. 4 to 7 and indicated generally by the numeral 18, there is employed a carrier plate 19 which is secured to and longitudinally of the resilient back arm 20 of the tie holder, which arm is made up of two parallel bars in the usual manner. At its forward end the plate 19 merges into a shell-like or housing body 21, which has an open side directed toward the front arm 22 of the clasp.

Within the housing portion 21 of the plate there is disposed a cam body 23 which is joined with an elongated longitudinally shiftable plate 24 and which has the arcuate camming surface or face 25 which is directed toward the short arm 20 of the clasp. To the plate, adjacent the end remote from the camming body or head 23, is secured a pin 26 which extends outwardly through a slot 27 which is formed longitudinally of the adjacent wall of the housing and which terminates in the button 28 which is employed for engagement by the fingernail to facilitate shifting the plate.

Interposed between the shiftable cam plate 24 and the short arm or rear arm 20 of the clasp is the flexible pin arm 29 which is secured to the arm 20 and which extends longitudinally of the plate 24 to a point adjacent the camming surface 25 where it terminates in the angularly directed pin 30. This resilient arm or strip 29 which carries the pin 30 is adapted to be flexed at the pin end by the camming surface 25 when the camming plate 24 is shifted within the limits of the slot 27.

When the tie clasp is mounted in position upon a tie or upon any other body of cloth material such as is indicated at 31, the long arm 22 will be disposed upon one side of this piece of material while the short arm 20 will be disposed at the opposite side and the pin 30 will be retracted due to the fact that the camming body is shifted away from the pin toward the adjacent end of the housing body 21. The projection of the pin into the material 31 is accomplished by shifting the button 28 to the opposite end of its slot 27 so as to draw the head 23 toward the pin 30 and thus cause the inner end of the pin and the end of the strip to which it is attached to ride onto the curved surface 25. This causes the pin to be shifted transversely of the arm 20 of the clasp and the point thereof to enter the material 31.

By this means, it will be readily seen that the

accidental removal or displacement of the clasp cannot occur until the safety pin controlling button 28 is shifted back to its initial position so as to remove the camming head 23 and permit the resilient strip 29 to straighten out and retract the point of the pin from the material.

In Fig. 8, a slightly modified form of the construction shown in Fig. 1^a is illustrated. In this form the ball, here indicated by the numeral 6', houses the camming strip 11' and a cam head 12' which is turned down toward the end of the resilient strip 13' which carries the pin 14'. By this arrangement, it will be seen that the rounded camming face 12''' of the head will ride against the inner end of the pin when the strip 11' is shifted away from the head 6', thus causing the pin strip 13 to be flexed in a manner to direct the point of the pin through the opening 10'.

From the foregoing, it will be apparent that the device embodying the present invention is of relatively simple design and may, therefore, be inexpensively made and incorporated with pencil holding devices or tie clasps in the manner illustrated and described, and that the device will function efficiently to secure the article with which it is associated against accidental displacement.

What is claimed is:

1. In a safety clasp of the character described, an article engaging body, an arm coupled with the body and having an end adapted to bear against a side of the article, an elongated resilient strip extending longitudinally of and slidably supported by said arm, the strip having one end disposed adjacent the said end of the arm, a second resilient strip carried by the arm, a pin carried by the second strip at the said end of the arm and having its point directed toward the article with which said body is connected, means carried by the first strip and slidably connected with the arm for effecting limited longitudinal movement of the first strip on the arm, and cooperating means between the said one end of the arm and the adjacent end of the first strip for effecting the flexing of the first strip against the second strip to move the point of said pin toward the adjacent article when the first strip is shifted in one direction.

2. In a safety clasp of the character described, an article engaging body, an arm coupled with the body and having an end adapted to bear against a side of the article, an elongated resilient strip extending longitudinally of and slidably supported by said arm, the strip having one end disposed adjacent the said end of the arm, a second resilient strip carried by the arm, a pin carried by the second strip at the said one end of the arm and having its point directed toward the article with which said body is connected, means carried by the first strip and slidably connected with the arm for effecting limited longitudinal movement of the first strip on the arm, the said one end of the arm being formed to provide a hollow ball having an open side directed toward the article and toward which open side the point of the pin is directed, a fixed camming means in the ball, and a member carried by the first strip and disposed within the ball and coacting with the camming means when the first strip is shifted in one direction to effect the flexing of the second strip and the projection of the pin point through the open side of the ball.

3. In a safety clasp of the character described,

an article engaging body, an arm coupled with the body and having an end adapted to bear against a side of the article, an elongated resilient strip extending longitudinally of and slidably supported by said arm, the strip having one end disposed adjacent the said end of the arm, a pin resiliently carried by the arm at the said end thereof and having its point directed toward the article with which said body is connected, means carried by said strip and slidably connected with the arm for effecting limited longitudinal movement of the strip on the arm, cooperating means between the said one end of the arm and the adjacent end of the strip for effecting the flexing of the strip in a direction to engage the pin and move the point of the pin toward the adjacent article when the strip is shifted in one direction, a plate carried by the body and adapted to lie against a side of the article engaged by the body and terminating between the article and the point of said pin, and said plate at the terminal portion being formed of soft material into which the point of the pin may be pressed.

4. A safety securing means for a necktie clasp having a relatively long front arm and a rear arm connected at one end with an end of the front arm, the arms being resiliently coupled and having their unconnected ends in separable contact to receive a body of material therebetween, comprising an elongated strip extending lengthwise of said rear arm, means supporting said strip for limited longitudinal movement on the rear arm, a pin member resiliently supported on the rear arm and having a pointed end directed transversely of the arms, means for effecting the longitudinal shifting of said strip, and means carried by the strip against which an end of said pin contacts when the strip is moved in one direction to effect lateral flexing of the pin support and the movement of the pin transversely of the arms and into the material disposed between the arms.

5. A safety securing means for a tie clasp having a front arm portion and a rear arm portion, the rear arm portion being resiliently coupled at one end with the front arm portion and having its other end in yielding contact with the front arm to facilitate insertion of a body of material between the arms, comprising an elongated body rigidly secured to and longitudinally of the rear arm portion and terminating at one end adjacent the contacting portions of the two arms between which portions the body of material is resiliently held, an elongated strip of material supported by said body for limited longitudinal movement thereon, said strip having one end disposed adjacent the said one end of the body, a pin member resiliently supported at the said one end of the elongated body and directed toward and transversely of the said arm portions, means facilitating longitudinal shifting of said strip, and a camming surface carried by the strip at the said one end thereof for engagement with the pin member when the strip is shifted in one direction to facilitate flexing of the pin member and the transverse movement of the pin toward a body of material held between the arm portions.

6. A safety clasp, comprising a body member, an elongated element yieldingly connected at one end to the member and having its other end in yielding contact with the member for removable connection with a support, an elongated

strip supported on said element for limited lengthwise movement thereon, a pin yieldingly attached to said elongated element and having a point in close proximity to the said other end of the elongated element and directed toward the body member, and a thrust element mounted on said elongated element for movement in a longitudinal direction thereon and when moved in one direction engaging the pin and forcing the same to yield to thrust the point thereof past the said other end of the elongated element toward the body and into the support.

7. A safety clasp for a pencil, pen or the like, comprising a pencil engaging body, an elongated body member secured to the first body to position against and longitudinally of the side thereof, an elongated tubular element yieldingly coupled to the body member and having one end in the form of a hollow head having yielding contact with said member for removable connection with a support, the said tubular element opening into the hollow head, an elongated strip slidably supported within the tubular element, an actuating button connected with said strip and extending through a slot in the tubular member for effecting longitudinal movement of the strip, said strip having a ball end disposed within the hollow head, a pin having a shank portion lying within the tubular member and extending longitudinally toward said head and terminating in an angularly directed point lying within the head and directed toward the body member, said head having an opening through the wall adjacent the body member for the extension of said point therethrough, and said ball end strip being so constructed and arranged with respect to the pin shank that upon movement of the strip in one direction the ball end will apply lateral thrust to the pin shank to transversely flex the same to effect projection of the point through the opening of the ball head.

8. A safety clasp for a pencil, pen or the like, comprising a pencil engaging body, an elongated body member secured to the first body to position against and longitudinally of the side thereof, an elongated tubular element yieldingly coupled to the body member and having one end in the form of a hollow head having yielding contact with said member for removable connection with a support, the said tubular element opening into the hollow head, an elongated strip slidably supported within the tubular element, an actuating button connected with said strip and extending through a slot in the tubular member for effecting longitudinal movement of the strip, said strip having a ball end disposed within the hollow head, a pin having a shank portion lying within the tubular member and extending longitudinally toward said head and terminating in an angularly directed point lying within the head and directed toward the body member, said head having an opening through the wall adjacent the body member for the extension of said point therethrough, and a cam means formed upon the wall of said hollow head within the head and arranged for engagement by said ball end of the strip to effect the flexing of the strip toward the pin shank, said ball end when so flexed applying lateral pressure to the pin shank to flex the latter and effect the projection of the pin point through the opening in the wall of the hollow head.

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