April 11, 1939. C. R. TOST 2,153,818

CLASP

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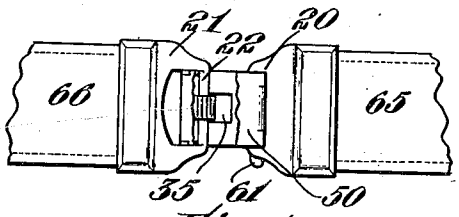


Fig. 1

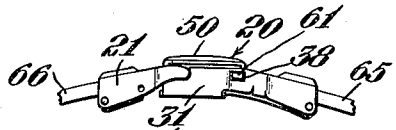


Fig. 2

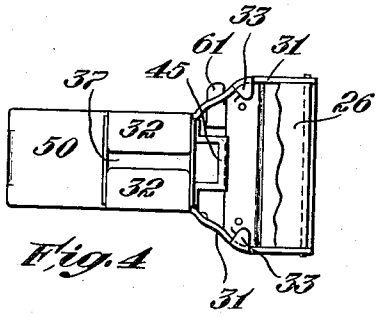


Fig. 4

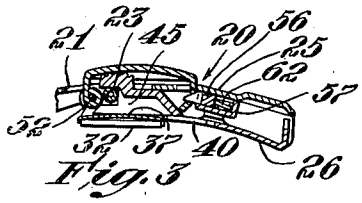


Fig. 3

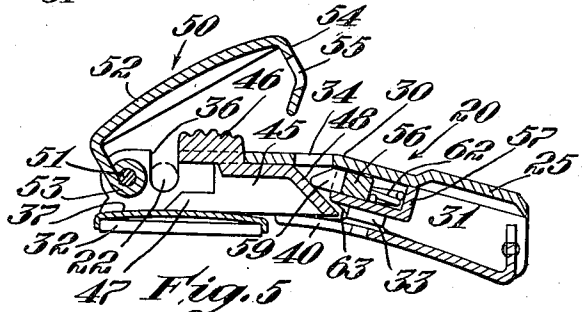


Fig. 5

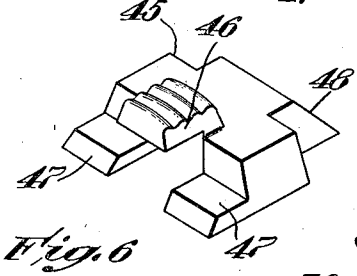


Fig. 6

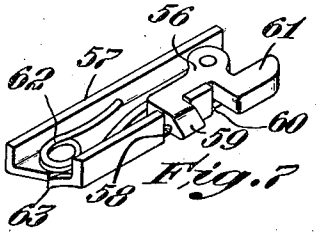


Fig. 7

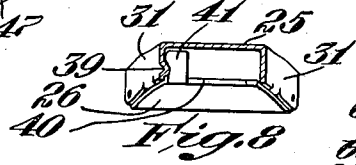


Fig. 8

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UNITED STATES PATENT OFFICE

2,153,818

CLASP

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Application April 11, 1938, Serial No. 201,297

7 Claims. (Cl. 24—241)

This invention relates to an improvement in clasps and more particularly in clasps of the type set forth in my Patent No. 2,086,450, dated July 6, 1937, wherein are provided safety catches so designed that each must be separately released but, upon the closing of one catch, the other catch is automatically closed and so held until the first-named catch is released.

The primary object of this invention resides in the provision in a clasp of that type of releasable means for holding the locking means against involuntary release and insuring the closure of the clasp. Further objects of the invention reside in structural details of the various elements and in the provision of a clasp of the above type which possesses simplicity in design and a pleasing appearance.

These and other objects will be apparent from a consideration of the following description of one embodiment of the invention and accompanying the drawing which forms a part thereof and in which:

Fig. 1 is a top plan view of a portion of a bracket provided with a closed clasp embodying this invention, a portion thereof being broken away;

Fig. 2 is a side elevation of such bracket;

Fig. 3 is an enlarged longitudinal sectional view thereof;

Fig. 4 is an enlarged bottom plan view of the clasp in the fully open position;

Fig. 5 is an enlarged longitudinal sectional view of the clasp in an intermediate position; and

Figs. 6, 7 and 8 are isometric views of certain units of the clasp, a portion of the unit illustrated in Fig. 8 being removed.

The clasp 20 is illustrated in Figs. 1 and 2 in locking engagement with a coupling element, as for example an eye 21. The eye 21 may be of any desired construction and, as here shown, includes a bar 22 supported at each end.

The clasp 20 is a substantially hollow member formed by an upper plate 25 and a lower plate 26. The upper plate 25 forms the top wall 30 of the clasp member, and the side walls 31 thereof the lower ends of which are bent inwardly to provide flanges 32 which form a portion of the bottom wall of the clasp member. From the lower edges of the side walls extend inwardly tongues 33 spaced from the flanges 32. In the top wall 30 are formed a traversely extending slot 34 and a slot 35 which extends longitudinally from the inner edge. The side walls 31 extend inwardly beyond the inner edge of the top wall and are provided with notches 36 in the upper edges thereof which define a recess adapted to receive the bar 22 of the eye 21, as shown in Fig. 5. The flanges 32 similarly extend inwardly and support a spring-friction plate 37, the ends of which are bent downwardly about the opposite ends of the flanges to hold the plate in position. In one of the side walls is formed an aperture 38 and in the other side wall is formed a boss 39.

The lower plate 26 is pivotally secured to the side walls of the upper plate and constitutes substantially the remainder of the bottom wall of the clasp member. At the inner end of the plate 26 is formed a notch 40 which, as shown in Fig. 5, registers with the slot 34 in the top wall. At the inner end of the plate is provided an upwardly extending tongue 41 having a notch in one edge thereof which receives the boss 39 and thus removably positions the plate 26 (see Fig. 8).

Slidably movable on the spring-friction plate 37 within the clasp member is a primary catch 45. The catch includes at its inner end an upper central nose 46 which enters the slot 35 and a pair of feet 47, and at its outer end a cam surface 48 disposed at an angle to its line of travel. The nose 46 and feet 47 define a recess for a purpose to be set forth below, and the upper surface of the nose is knurled to provide a finger piece. As shown in the drawing, particularly in Fig. 6, the primary catch 45 is a single integral element, but it may, if desired, be made of several elements.

A secondary catch 50 is pivotally supported between the side walls 31 upon a pintle 51. This catch includes a spring plate 52, one end of which is bent downwardly and terminates in a sleeve 53 through which the pintle 51 is passed. At the free end of the plate 52 is provided a downwardly bent finger 54 which is adapted to enter the slot 34 and engage the cam surface 48 of the catch 45.

When the clasp is closed, plate 52 of the secondary catch extends over and conceals the inner end of the top wall 30 and engages the nose 46 of the primary catch 45 by which it is slightly flexed. The secondary catch 50 is releasably secured in such position by locking means which engage an aperture 55 in the finger 54. Such locking means comprise a latch 56 pivotally supported in a housing 57. The housing 57 is U-shaped in cross-section, the inner wall being cut away to provide a notch 58 through which the nose 59 of the latch projects and a notch 60 for the finger 61 of the latch. A spring 62 acts to hold the latch normally in the operative position shown in the drawing. The housing 57 is mounted in the upper plate 25 between the side

walls 31 and rests upon the tongues 33. Further positioning of the housing 57 is provided by tabs 33 which project downwardly from the base of the housing. The finger 61 of the latch projects through the aperture 38 in the upper plate and is thus readily accessible from outside the clasp.

When both catches are in the open position, the bar 22 of the eye 21 is placed in the recess defined by the notches 36, as shown in Fig. 5. The secondary catch 50 is then swung downwardly on the pintle 51 until it is closed, as shown in Fig. 3. The finger 54 of the cacth 50, after entering the slot 34, bears against the cam surface 48 of the primary catch 45, causing it to advance until the bar 22 is received in the recess at the inner end thereof, the nose 46 being over and the feet 47 being below the bar so that the bar is locked to the clasp. Thereupon the latch 56 enters the slot 55 in the finger 54 of the secondary catch and holds it in the locking position. Both catches are thus secured and any unwanted or involuntary opening of the clasp and release of the bar is prevented. When the latch is released by the application of pressure upon the finger 61, the catch 50 will spring open due to the flexing caused by its contact with the upper surface of the nose 46. The primary catch 45 will not, however, be affected by the release of the secondary catch but will remain in the locking position by the action of the spring-friction plate 37 until it is positively moved out of that position by the application of a retractive impulse to the now exposed nose 46. Hence, even though the finger 61 should be inadvertently tripped to release the second catch, the bar 22 would still be secured to the clasp and would not separate therefrom.

While the clasp is shown associated with an eye, both clasp and eye being enlarged at the outer ends so that they receive and are secured to the ends of straps 65 and 66, which may support a wristwatch or the like (not shown), it will be understood that the invention herein relates to the structure and function of the clasp per se and is not limited to the embodiment and use here shown, and that other embodiments and uses may be made without departing from the spirit and scope of this invention as set forth in the following claims.

I claim:

1. A clasp adapted to engage and releasably hold an eye or other coupling element, comprising a body member having a recess therein in which the coupling element is received, a primary catch slidable in said body member and provided with a nose which in the locking position of the catch holds the coupling element in the recess of the body member, a secondary catch which, as it approaches the locking position, contacts with and slides the primary catch into locking position and upon reaching its locking position holds said primary catch in its locking position, and releasable holding means for securing said secondary catch in its locking position, said holding means including interengaging parts carried by said second catch and body member, said parts being relatively movable to effect disengagement thereof, thereby to release said holding means.

2. A clasp adapted to engage and releasably hold an eye or other coupling element, comprising a body member having a recess therein in which the coupling element is received, a primary catch slidable in said body member and provided with a nose which in the locking position of the catch holds the coupling element in the recess of the body member, a secondary catch which, as it approaches the locking position, contacts with and slides the primary catch into locking position and upon reaching its locking position holds said primary catch in its locking position, and a latch for securing said secondary catch in such locking position, which latch is mounted within the body member of the clasp and includes a finger accessible from outside said body member by which said latch is actuated to release said secondary catch.

3. A clasp adapted to engage and releasably hold an eye or other coupling element, comprising a body member having a recess therein in which the coupling element is received, a primary catch slidable in said body member and provided with a nose which in the locking position of the catch holds the coupling element in the recess of the body member, a secondary catch which, as it approaches the locking position, contacts with and slides the primary catch into locking position and upon reaching its locking position holds said primary catch in its locking position, said secondary catch comprising a spring plate and a finger at one end thereof, which finger contacts with said primary catch and slides it into locking position and a latch which engages said finger and holds the secondary catch in locking position, the plate of said secondary catch engaging and being tensioned by the nose of the primary catch whereby upon release of the latch the secondary catch moves out of the locking position.

4. A clasp adapted to engage and releasably hold an eye or other coupling element, comprising a body member having a recess therein in which the coupling element is received, a primary catch slidable in said body member and provided with a nose which in the locking position of the catch holds the coupling element in the recess of the body member, a secondary catch which, as it approaches the locking position, contacts with and slides the primary catch into locking position and upon reaching its locking position holds said primary catch in its locking position, said primary catch including a cam surface, and said secondary catch including a finger which, as the catch is closed, bears upon such cam surface and causes said primary catch to slide into the locking position, and a releasable latch which engages said finger to hold the secondary catch in the locking position, said latch being mounted within the body member of the clasp and including a finger accessible from outside said body member by which said latch is actuated to release said secondary catch.

5. A clasp adapted to engage and releasably hold an eye or other coupling element, comprising a body member having a recess therein in which the coupling element is received, a primary catch slidable in said body member and provided with a nose which in the locking position of the catch holds the coupling element in the recess of the body member, a secondary catch which, as it approaches the locking position, contacts with and slides the primary catch into locking position and upon reaching its locking position holds said primary catch in its locking position, said body member having a slot therein, and said secondary catch including a depending finger which, as the catch approaches its locking position, enters the slot in the body member and slides the primary catch into its locking position, said finger having a slot therein and a latch mounted within said body member which

latch, after the finger has slid the primary catch, enters the slot therein and thereby holds the secondary catch in its locking position.

6. A clasp adapted to engage and releasably hold an eye or other coupling element, comprising a body member having a recess therein in which the coupling element is received, a primary catch slidable within said body member and provided with a nose which in the locking position of the catch holds the coupling element in the recess of the body member, a secondary catch which comprises a spring plate and a finger depending therefrom, said plate, when the secondary catch is in locking position, bearing upon the nose of the primary catch and being flexed slightly thereby and a latch for engaging the finger and holding the secondary catch in locking position with the plate flexed.

7. A clasp comprising a body member having a slot formed therein to receive a coupling member, a slide member carried by the body member and movable relative thereto for closing and opening the slot, slide-holding means engageable with the slide member for holding the same in its slot-closing position but disengageable from the slide member to allow movement thereof to open the slot, means acting on the slide-holding means, when in engagement with the slide member, tending to effect disengagement thereof, and a releasable latch device carried by the body member and operative to lock the slide-holding means in engagement with the slide member.

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