

# United States Patent

Morand et al.

[15]

3,704,717

[45]

Dec. 5, 1972

## [54] HAIR-SLIDE

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[22] Filed: **March 12, 1971**  
[21] Appl. No.: **123,784**

## [30] Foreign Application Priority Data

March 13, 1970 France.....7011355

[52] U.S. Cl.....132/46 A, 24/248 HC  
[51] Int. Cl.....A45d 8/00  
[58] Field of Search.....132/46 A, 48 R, 46 R, 50, 37, 132/139; 24/248 HC; 128/325, 337

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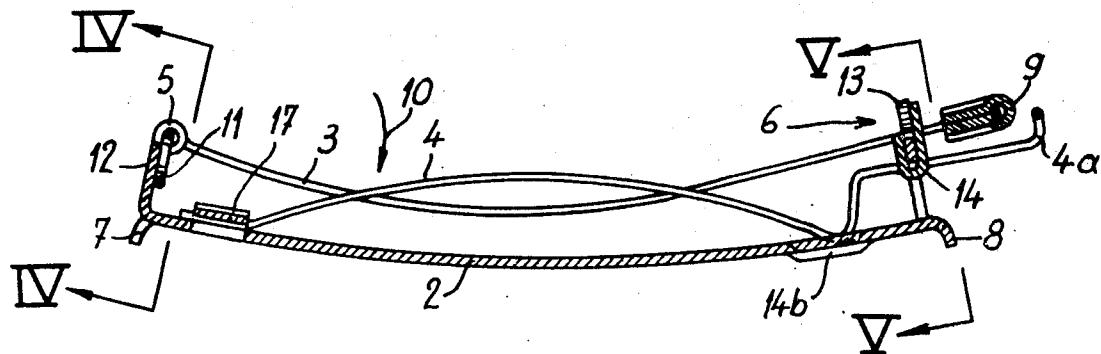
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## [57] ABSTRACT

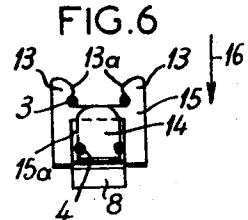
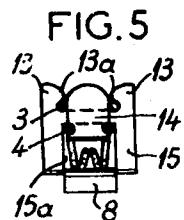
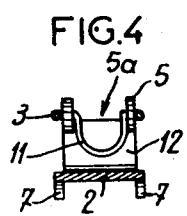
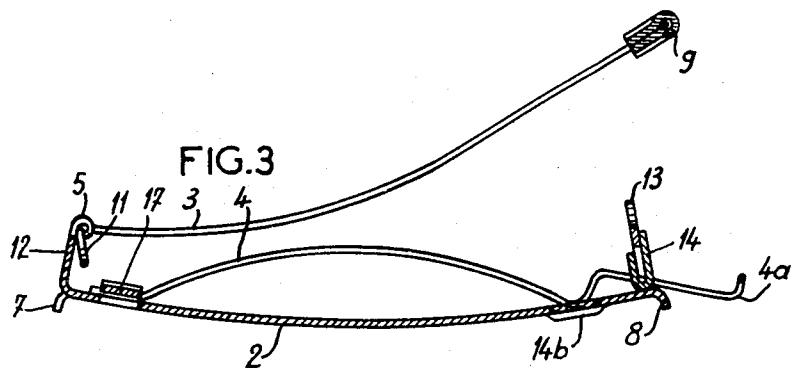
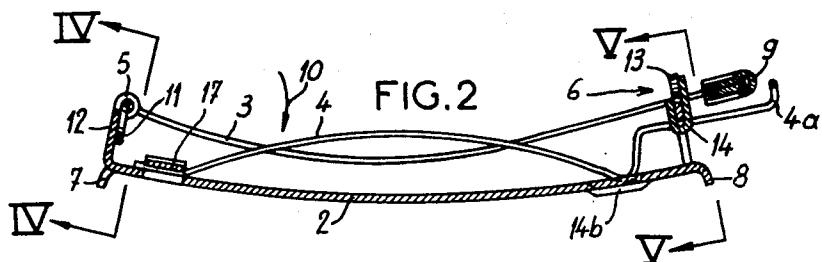
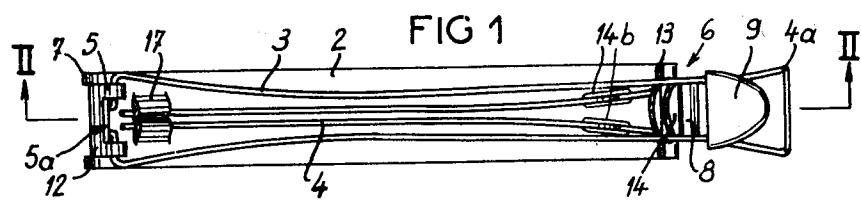
This hair-slide of the type comprising a bridge possibly provided with decorative means on its outer face, a snap-fastener and a spring strip disposed between the bridge and snap fastener, is provided at the end of said bridge which is opposite to the bridge end pivoted to said snap-fastener with fixed hooking means adapted to be resiliently engaged by the free end of said snap-fastener in the closed position thereof, a resiliently movable locking member normally retained in its locking position and adapted to engage the aforesaid end of said fastener in the zone of said hook means, so as to lock said snap-fastener in its closed position. (Figure 3).

7 Claims, 6 Drawing Figures



PATENTED DEC 5 1972

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## HAIR-SLIDE

## FIELD OF THE INVENTION

The present invention relates to hair-slides of the type comprising a bridge, a snap fastener and a spring strip disposed between the bridge and the fastener. In hair-slides of this character, means are provided, of course, for hooking the free end of the fastener to the bridge end opposite to the end supporting the pivoted end of the fastener.

## DESCRIPTION OF THE PRIOR ART

In hitherto known hair-slides of this type the hooking means are objectionable in that they tend to pinch the hair; moreover, they are fragile and have a relatively short useful life; finally, their mode of operation is scarcely reliable and/or their structure is rather complicated so that their manufacturing cost is still relatively high.

## SUMMARY OF THE INVENTION

It is the essential object of the present invention to avoid all these inconveniences by providing a hair-slide of the type broadly set forth hereinabove, wherein the bridge end opposite to that pivoted to the snap-fastener carries fixed hooking means adapted to be resiliently engaged by the free end of the fastener in the closed position thereof, a locking member resiliently movable and normally held in its locking position being also provided for engaging the relevant end of said snap-fastener in the zone of the aforesaid hooking means so as to lock the slide in its closed position.

With this arrangement the hair-slide is opened by simply moving said locking member against the resilient force of the means supporting this member.

According to a preferred form of embodiment of this invention, the snap-fastener consists of a wire of resilient material such as metal, bent to a hairpin configuration at its fulcrum end pivoted to said bridge, the free ends of the branches of said wire, which correspond to the free end of the hair-slide, being capped by an end piece permitting a slight transverse movement of said ends towards each other, and vice versa, said hooking means, consisting of a pair of fixed hooks facing each other, the relative spacing of their beaks being slightly inferior to the maximum width of the snap-fastener, said locking member consisting of a bracing member of a width corresponding substantially to the maximum width of the gap existing between the two branches of the hairpin-shaped snap-fastener said locking member being carried by spring means normally maintaining said hairpin at the level of said hooks and adapted to be moved against the resilient force of said spring means towards said bridge to permit the engagement of said hooks by said fastener and their release therefrom.

To permit the automatic opening of the slide, on the one hand, the snap-fastener is so shaped that it cannot be brought to its closed position unless a slight elastic deformation thereof is produced by depressing same in the direction tending to open the fastener, and on the other hand the beaks of said hooks are so shaped that when the locking member is in its retracted position said beaks cannot retain the fastener against the elastic force tending to open same.

According to a specific form of embodiment of the invention the locking member is carried by the relevant end of the hair-slide spring strip provided at this end with an extension constituting the means for actuating said locking member.

According to a simplified form of embodiment of this invention, the hooks are cut in a lug consisting of the relevant end of said bridge which is bent inwardly on itself, an aperture being formed at the base of said lug to permit the passage and movement therein of said spring strip extension supporting said locking member.

According to an advantageous form of embodiment the elastic force acting upon the snap-fastener in its closed position for opening same is provided by a portion thereof bent substantially at right angles and located near its pivoted end; this bent portion is adapted to pivot in an opening formed in the bearing element in which said snap-fastener is fulcrumed, and to abut against the support of said bearing when the snap-fastener is moved to its closed position and before this position is attained.

## BRIEF DESCRIPTION OF THE DRAWING

25 In any case the invention will be better understood as the following description proceeds with reference to the attached drawings illustrating diagrammatically by way of example a typical form of embodiment of the hair-slide according to this invention. In the drawing:

30 FIG. 1 is a plan view from above showing the device in its closed position;

FIG. 2 is a section taken along the line II—II of FIG.

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35 FIG. 3 is a view similar to FIG. 2 but showing the device in its open condition;

FIG. 4 is a cross section taken along the line IV—IV of FIG. 2; FIG. 5 is another cross section taken along the line V—V of FIG. 2, and

40 FIG. 6 is a cross section similar to FIG. 5 but showing the locking member in its retracted position.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

45 The hair-slide illustrated is of the type comprising a bridge 2, a snap-fastener 3 and a spring strip 4. The bridge 2 consists essentially of a curved plate carrying at one end a bearing 5 for pivoting the snap-fastener 3 and at the opposite end means 6 for hooking the free 50 end of snap-fastener and retain the latter in its closed position. Moreover, the bridge 2 comprises at either end lugs 7 and 8 respectively, for securing a decorative or like plate or element not shown in the drawing.

55 The snap-fastener 3 consists of a round-sectionned metal wire bent to a hair pin configuration at the end thereof which is to be pivotally mounted in bearing 5, the free ends of this snap-fastener being capped by an end piece 9 similar to the cap carried by safety pins and permitting a slight transverse movement of the two 60 branches of fastener 3 towards and away from each other.

65 To obtain an elastic force tending to open the snap fastener 3 when the latter is closed the central portion of bearing 5 comprises an aperture 5a and in alignment with this aperture 5a the round-sectioned wire constituting the fastener 3 comprises a substantially semi-circular loop 11 bent substantially at right angles and

adapted to engage the lug 12 of bridge 2 which supports the bearing 5 when the fastener 3 is pivoted in the direction of the arrow 10 (FIG. 2) and before this fastener has attained its closed position. Consequently, the mere fact of pressing the fastener 3 towards its closed position will generate a return force tending to open same, as a result of its elastic deformation.

The hooking means 6 for retaining the free end of snap-fastener 3 in its closed position consist of a pair of fixed hooks 13 associated with a locking member 14. These hooks are cut in a lug 15 bent at right angles in the end portion of bridge 2; their beaks 13a registering with each other are spaced by a distance slightly inferior to the maximum width of the two branches of fastener 3, whereby to assume their hooking position as illustrated in FIGS. 2 and 5; these two branches of fastener 3 must be moved towards each other. In addition, the bottoms of the notches of said hooks 13 are adapted to receive the branches of fastener 3 in their maximum spread of divergent position, as clearly shown in FIG. 5.

The locking member 14 consists of a distance-piece of a width corresponding substantially to the maximum distance between the branches of fastener 3. This locking member is carried by the relevant end of spring strip 4 extending through the lug 15 by engaging an opening 15a provided to permit its passage and transverse movements. The spring strip 4 constantly urges the locking member 14 to its locking position as illustrated in FIGS. 2 and 5, that is, level with beaks 13a of hooks 13. Thus, if the snap-fastener 3 is in its closed position as illustrated in FIGS. 3 and 5, the locking member 14 is engaged between the two branches of fastener 3 so that the latter is locked in its closed position.

To permit the opening of fastener 3 it is only necessary to bring the locking member 14, by moving same in the direction of the arrow 16, to its retracted position as shown in FIG. 6, so that the free end of fastener 3 can resiliently be pulled out from said hooks 13. On the other hand, to permit the automatic opening of snap-fastener 3 by simply actuating the locking member 14 in the direction of the arrow 16, the beaks 13a of hooks 13 are so shaped that these hooks cannot retain the fastener 3 in its closed position against the resilient force tending to open same.

As already mentioned in the foregoing, the snap-fastener 3 can be engaged between the hooks 13 due to the possibility of moving its two branches towards each other in a transverse direction. However, the return of these branches to their maximum relative spacing must compulsorily be obtained in order to keep the fastener 3 in its closed position, since the two branches of fastener 3 must be brought to their position of engagement with the bottoms of the notches formed in beaks 13a of hooks 13. This requirement is met by the provision of the aforesaid locking member 14 of which the free end, to which a rounded configuration was given on purpose, causes the branches of fastener 3 to be divericated as a consequence of the engagement of said locking member therebetween.

To permit the actuation of locking member 14 the spring 4 comprises at its end supporting this locking member an extension 4a constituting the control element of said locking member 14.

The transverse sliding movement of the round-sectioned branches of wire spring 4, when the latter is compressed by a lock of hair or during the actuation of said locking member 14, is prevented by the presence of a pair of notches 14b pressed in the bridge 2 and registering with the zones of said bridge that are engaged by said branches.

Finally, as shown in FIGS. 1 and 2, the spring 4 is anchored to the inner surface of bridge 2 at its end opposite to said extension 4a by means of a pair of lugs 17 formed by punching or cutting in said bridge 2.

Of course, this invention should not be construed as being strictly limited to the single form of embodiment thereof which is shown and described herein by way of example, since many modifications and variations may be brought thereto without departing from the spirit and scope of the invention as set forth in the appended claims.

What is claimed as new is:

1. Hair-slide of the type comprising a bridge, a snap-fastener and a spring disposed between said bridge and said snap-fastener, wherein the bridge end opposite to that pivoted to said fastener carries fixed hooking members adapted to be resiliently engaged by the free end of said fastener in the closed position thereof, a locking member resiliently movable and normally retained in its locking position being provided for engaging said end of said snap-fastener in the zone of said hooking members and thus lock the snap-fastener in its closed position.

2. Hair-slide as set forth in claim 1, wherein said snap-fastener consists of a wire of resilient material such as metal, bent to a hairpin configuration at its end pivoted to said bridge and having the free ends of the branches corresponding to the free end of said snap-fastener capped with an end piece permitting a slight transverse movement thereof towards and away from each other, and said hooking members consist of a pair of fixed hooks registering with each other with a relative spacing of their beaks which is slightly inferior to the maximum width of said snap-fastener, said locking member consisting of a distance piece having a width substantially equal to the maximum relative spacing obtaining between the two branches of the snap-fastener forming hairpin, said locking member being carried by spring means normally holding this member at the level of said hooks and against which said locking member can be moved towards said bridge to permit the engagement and release of said snap fastener in relation to said hooks.

3. Hair-slide as set forth in claim 2, wherein on the one hand said snap-fastener is so shaped that it cannot be moved to its closed position unless a slight elastic deformation is applied thereto to generate an elastic force tending to open same, and on the other hand the beaks of said hooks are so shaped that when the locking member is in its retracted position they cannot retain the snap-fastener against the elastic force tending to open same.

4. Hair-slide as set forth in claim 3, wherein said locking member is carried by the corresponding end of the spring strip provided at said end with an extension constituting the locking member control element.

5. Hair-slide as set forth in claim 4, wherein said hooks are cut in a lug constituting the end portion, bent

at right angles, of said bridge, the base of said lug being formed with an opening permitting the passage and movement of said spring extension supporting said locking member.

6. Hair-slide as set forth in claim 5, wherein the elastic force acting upon said snap-fastener in the closed position thereof and urging same to its open position is produced by a portion, bent substantially at right angles, of the pivoted end of said snap-fastener, which is adapted to pivot in an opening formed to this

end in the snap-fastener pivot bearing so as to abut against the support of said bearing when said snap-fastener is brought to its closed position, before it has actually attained said position.

5 7. Hair-slide as set forth in claim 6, wherein said locking member is shaped to cause said branches of said snap-fastener to resume their position of maximum relative spacing when said branches are engaged by said locking member.

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