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CATCH FOR WRIST BANDS AND THE LIKE

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2 Sheets-Sheet 1

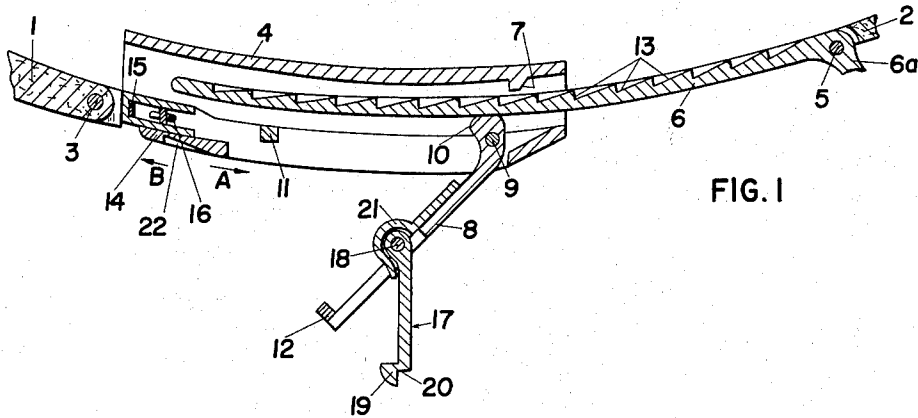


FIG. 1

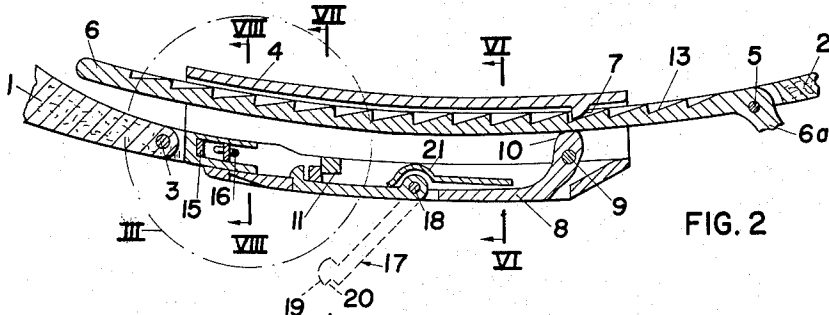


FIG. 2

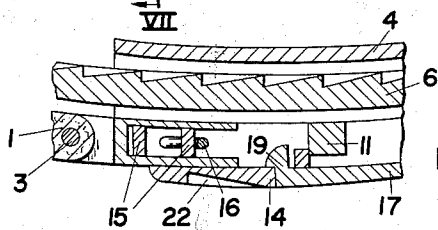


FIG. 3

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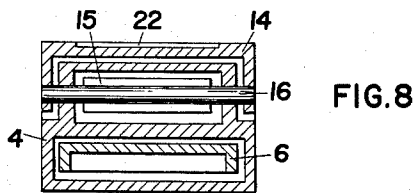
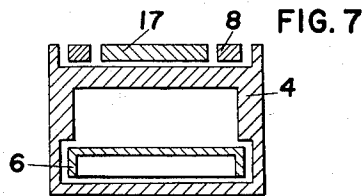
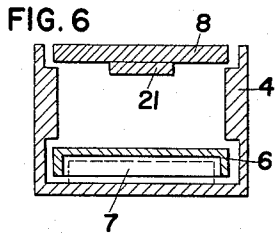
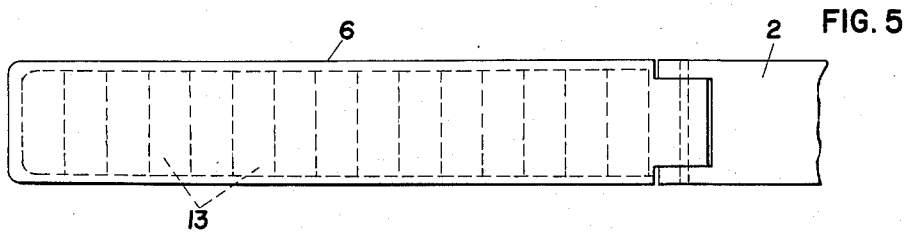
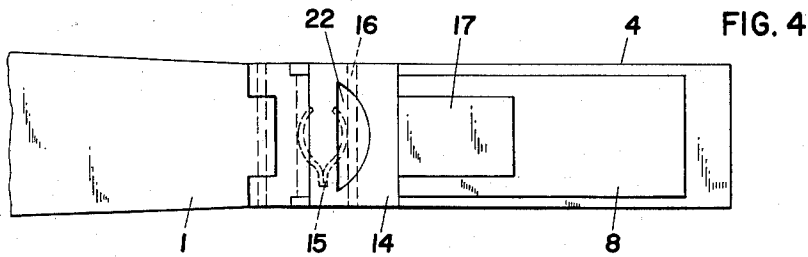
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CATCH FOR WRIST BANDS AND THE LIKE

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This invention relates to a catch for wrist bands, with or without a watch, and more particularly to a catch which can be adjusted as to its length, permitting a band to be used for a wide range of wrist sizes so that it can be used by both men and women.

Wrist watch band catches of one well-known type generally consist of a lever-operated fastener on one band portion and a set of pins, situated at various distances on another band portion so that the lever can be made to engage any one of said pins, according to the size of the wrist on which the band is to be worn. Such wrist band catches present various drawbacks among which the main ones are: the variation in the wrist band's overall length is limited by the number of pins available and the amount of the variation is fixed for each pin; there is considerable distance between one position and the next, since there is a wide space between the pins where the locking lever passes; except for its tightest position, the catch shows uncovered areas through which the underlying skin can be seen, creating an over-all unesthetic appearance; under certain conditions the catch may accidentally open.

Due to these drawbacks, it has heretofore been preferred to make wrist bands having different lengths so they can be adapted to fit each individual wrist, when they are set to the smallest size with the fastener closed at the first pin. This obliges the manufacturer and the dealer to stock wrist bands in different sizes with resulting tie-up of capital and equipment, without, however, completely solving the problem and without any guarantee against accidental opening of the bands. The safety catch of the present invention does away with all the above drawbacks and also makes it possible to adjust the length or wrist size of the band by increments of the order of 1 mm. The catch of the invention provides absolute safety against any accidental opening. The wrist on which it is worn is completely covered by the metal of the band, regardless of wrist size.

The catch of the invention comprises a metal strip having a row of ratchet teeth and adapted to be connected to one end of a band and a box adapted to be connected to the other end of the band and having at least one inwardly extending tooth for selectively engaging a ratchet tooth of the strip whereby the band may be varied in length. A lever is pivoted on the box and adapted on pivotal movement towards the box to move the strip towards the tooth of the box and to press said tooth and a ratchet tooth into engagement. There are also means to prevent accidental pivotal movement of said lever away from the box and consequent disengagement of said teeth.

Preferably the lever is locked in its closed position by engagement between a projection integral with the free end of said lever and a projecting transverse member fixed to said box, such engagement being brought about by the elasticity produced by curvature of said lever.

A preferred form of catch according to the invention comprises a safety device consisting of a sliding strip on said box at the end attached to the band and a second lever pivoted on the first mentioned lever to move outwardly thereof and provided with an outwardly facing recess, said strip being movable to extend into said recess when said first lever is in its closed position and said second lever abuts against the first lever so that said first lever cannot be moved to open position from the closed

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or locking position thereof without first moving said sliding strip from its position of engagement.

Advantageously the second lever is provided with a spring which urges it away from the first lever and the sliding strip is provided with a spring which urges it toward the free end of the box.

Thus, when the second lever is freed it will protrude from the box to make it easier to grasp it and open the first lever which may form a cover for the box.

One form of safety catch in accordance with the invention and suitable for a wrist-watch band is shown in the accompanying drawing, in which:

FIGURE 1 is a central longitudinal section of the catch in its open position;

FIGURE 2 is a central longitudinal section of the catch in its closed position;

FIGURE 3 is a view to an enlarged scale of the part enclosed within circle III in FIGURE 2;

FIGURES 4 and 5 are plan views showing the box and the metal strip, respectively, separated, and

FIGURES 6, 7 and 8 are cross sections taken on the lines VI—VI, VII—VII, and VIII—VIII of FIGURE 2.

In the drawing reference numerals 1 and 2 denote the ends of the wrist band. An elongated longitudinally curved box 4 is applied to end 1, hinging on pin 3, and an elongated metal strip 6 is applied to end 2, hinging on pin 5. Box 4 has at its free end and on its inner surface a centrally disposed tooth 7 inclined towards band end 1. The box has a cover 8 hinged on pin 9, and having a cam 10 that faces tooth 7 when the cover 8 is shut. Near its pivoted end the box 4 has a projecting rigid, transverse bar 11. A tooth 12, integral with cover 8 and projecting from the free end thereof, engages with bar 11. Metal strip 6, hinged to end 2 of the wrist band, has a set of ratchet teeth 13 arranged in a longitudinal row on the inside of the strip and of a form to fit tooth 7 of the box. The strip has an overall length equal to the length of adjustment of the wrist band.

Metal strip 6 is inserted into box 4 between tooth 7 and pin 9 with the cover 8 open. In this position the distance between the end of tooth 7 and the cam 10 is such as to allow strip 6 to slide freely. When the band has been brought to the desired length, corresponding to the size of the wrist, cover 8 is closed so that cam 10 causes tooth 7 completely to engage with one of the ratchet teeth 13 in strip 6. At the same time, tooth 12 at the end of cover 8, will engage transverse bar 11, remaining locked to it by virtue of the elasticity of cover 8 caused by its curvature. Under these conditions strip 6 is held to tooth 7 and cover 8 is locked against transverse bar 11 so that the wrist band catch will remain locked in the desired position. FIGURE 2 shows that strip 6 can extend beyond box 4 on the inside of the wrist band.

According to the invention, the wrist band catch is provided with an additional safety or holding device consisting of a slide or sliding strip 14 extending along the outside of box 4 and acted upon by a spring 15, spring 15 bearing against a bar 16 integral with strip 14. The cover 8 which constitutes lever means carries a lever 17 hinged to the cover 8 by a pin 18. The free end of the lever 17 is provided with an inwardly extending tooth 19 that is beveled on the outside thereof and with a notch 20 on the outer surface of the lever 17. A spring 21 urges lever 17 outwardly away from cover 8. On moving lever 17 inwardly, lever 17 abuts against tooth 12 and the cover turns as a unit about pin 9 until tooth 12 engages with transverse bar 11. During closure, the beveled outer face of the tooth 19 of lever 17 acts as a cam which moves strip 14 outwardly in the direction of arrow B (FIG. 1) until closure is complete whereupon strip 14 due to the action of spring 15, returns in the direction of arrow A to its original position of engage-

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ment, extending into notch 20 of the lever 17 as shown in FIGURES 2 and 3. In the closed position of the wrist band catch, the outer surfaces of cover 8 and lever 17 and of strip 14 lie flush with the outer edges of box 4 and leave no projecting surfaces for foreign matter to catch on. A notch 22 is made in strip 14 to facilitate its operation.

It is evident that it is impossible to accidentally open the catch when it is in its closed position, since it would be necessary to act on cover 8 to open it, but the movable end of cover 8 is covered by strip 14. If it is desired to undo the catch, strip 14 is shifted in the direction of arrow B. To this end a fingernail is placed in notch 22 and strip 14 is moved to clear notch 20 so that lever 17 will be pushed outwards by the action of spring 21, as shown in FIGURE 2 in broken lines. By taking hold of lever 17 by the fingers and pulling it outwards, cover 8 can be opened and strip 6 can be freed from tooth 7. Strip 6 can thus be slipped out of box 4 and the wrist band opened.

To put the wrist band back in place, using one hand only, box 4 can be held stationary between two fingers, holding on to lever 8, and strip 6 can be inserted by using other fingers acting on a lug 6a located at pin 5.

The present invention may be embodied in other specific forms and numerous variations can be made to the catch, for example, as regards the means used for engaging the cover and the form of the safety device, without deviating from the present invention.

What I claim is:

1. A catch for a wrist band and the like, comprising:
 - (a) an elongated strip member adapted to be connected to one end of said band;
 - (b) a box member adapted to be connected to the other end of said band and formed with an opening for lengthwise insertion of said strip member;
 - (c) tooth means on each of said members engageable with each other when said members move toward each other in a direction transverse of the direction of elongation of said strip member for preventing longitudinal movement of said box member relative to said strip member while the same is inserted;
 - (d) first lever means pivoted on said box member for movement in a predetermined direction toward a locking position in which said lever means urges said strip member toward said box member for engagement of said tooth means, and for movement away from said locking position in a direction opposite to said predetermined direction;
 - (e) second lever means pivoted on said first lever means toward and away from an abutting position in which said second lever means abuts against said first lever means in said predetermined direction; and
 - (f) slide means movable on said box member toward and away from a holding position for holding said second lever means in said abutting position while said first lever means is in said locking position thereof, whereby said first lever means is prevented

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from moving in said opposite direction from said locking position thereof.

2. A catch as set forth in claim 1, wherein said tooth means include at least one tooth on each of said members.

3. A catch as set forth in claim 1, wherein said tooth means include a ratchet on one of said members.

4. A catch as set forth in claim 1, wherein said box member and said first lever means are formed with respective recesses, said first lever means being received in the recess of said box member when in said locking position thereof, and said second lever means being received in the recess of said first lever means when in said abutting position thereof.

5. A catch as set forth in claim 4 wherein said box member has an outer face, the recess of said box member being formed in said face, said first and second lever means being substantially flush with said face when received in the respective recesses of said box member and of said first lever means.

6. A catch as set forth in claim 5, wherein said box member is formed with an additional recess in said face receiving said slide means, said slide means being substantially flush with said face when in said holding position, and formed with a notch for manual actuation of movement thereof.

7. A catch as set forth in claim 1, wherein said first lever means is resilient, and respective projections on said first lever means and on said box member, said projections being adapted to engage each other when said first lever means is in said locking position thereof, and being held in engagement by the resilience of said first lever means.

8. A catch as set forth in claim 1, further including resilient means urging said slide means toward said holding position.

9. A catch as set forth in claim 8, further including resilient means permanently urging said second lever means away from said abutting position.

10. A catch as set forth in claim 1, including cam face means on said second lever means engageable with said slide means for moving the same in a direction away from said holding position when said second lever means moves toward the abutting position thereof.

11. A catch as set forth in claim 1, wherein said first lever means include cam means for urging said strip member toward said box member in said transverse direction when said first lever means pivotally moves toward said locking position.

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