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CLASP FOR WRIST BAND

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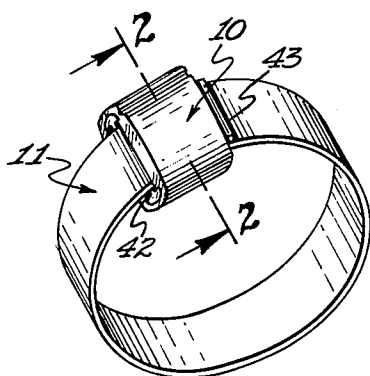


Fig. 1

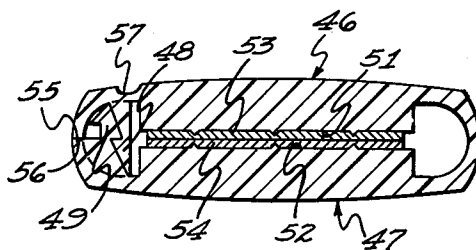


Fig. 6

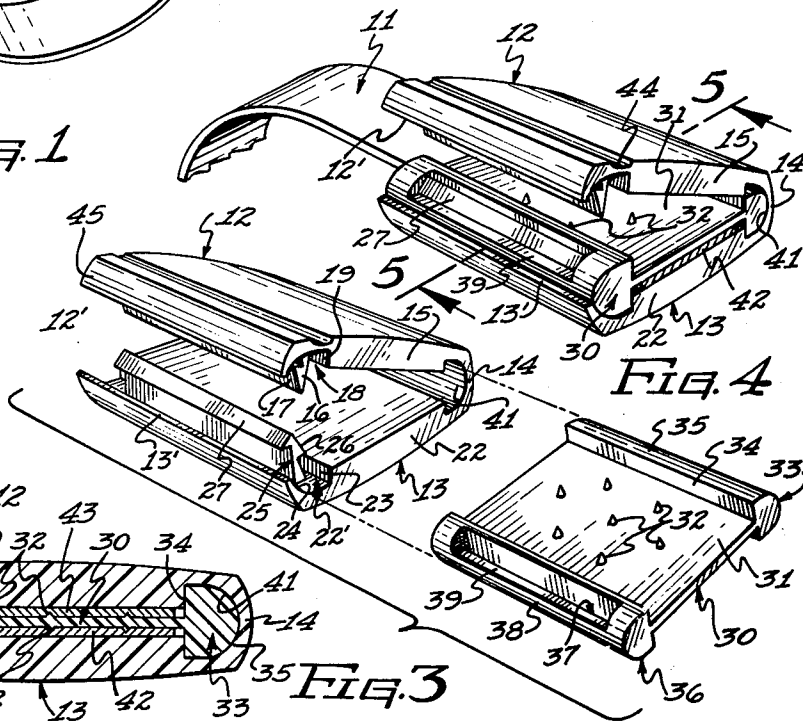


Fig. 4

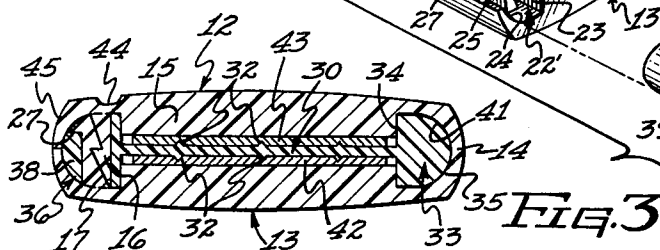


Fig. 3

Fig. 2

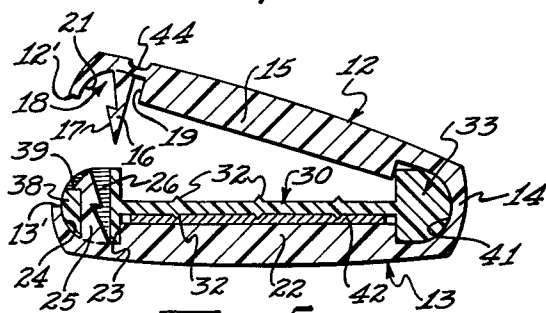


Fig. 5

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CLASP FOR WRIST BAND

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4 Claims. (Cl. 24-243)

The present invention relates to a clasp or fastener for securing an identification band to the wrist as for example to the wrist of an infant or a patient in a hospital or institution.

After an identification band has been initially applied it is important to avoid all possibility of the clasp serving to secure the band to a different child or patient.

Bands of the type employed for the above mentioned purpose are preferably in the form of a section of tape of flexible tubular material or the like into which an identification tag is inserted. The band having been positioned about the wrist, the ends of the tape are disposed in overlapping relation and it is necessary to provide simple and effective connecting means to secure the tape ends to provide a wrist band.

In accordance with the present invention the band ends are secured by means of a clasp which, when closed to secure the band ends, cannot be opened to release the band without rendering the clasp inoperative for further use.

An object of the invention is to provide a clasp for connecting the ends of a strip of material by a simple operation to secure the ends of the strip and lock the jaws of the clasp.

Another object of the invention is to provide a clasp having clamping members including locking means inaccessible when the clamping members are in closed relation.

Another object of the invention is to provide a clasp having clamping members of a frangible material and including locking means which may be shattered in part to separate the clamping members rendering the clasp inoperative for further use to secure the ends of a section of a strip of material.

Other objects and advantages of the invention will be more clearly understood by reference to the following description together with the accompanying drawing in which:

FIG. 1 is a perspective view of a clasp, constructed in accordance with the present invention; shown closed to secure the ends of a strip of tape to provide a wrist band;

FIG. 2 is an enlarged view of the clasp taken on line 2-2 of FIG. 1;

FIG. 3 is a perspective view of the parts of the clasp;

FIG. 4 is a perspective view showing one end of a tape secured by the clasp;

FIG. 5 is a view taken on line 5-5 in FIG. 4; and

FIG. 6 is a cross sectional view of a modified form of the clasp.

As shown, the present invention provides a clasp 10 for holding opposite ends of a tape 11 in fixed relation to secure the tape about the wrist. The tape may be of any selected flexible material to carry identifying characters which may be applied to the outer surface of the tape or the tape may be of tubular form and a tag may be inserted before the ends are secured together.

The clasp 10 includes a pair of what may be termed clamping members 12 and 13 connected by a hinge portion 14. Although the clamping members may, if desired, be connected by any suitable form of hinge it has been found practical to form the clamping members and the hinge from the same material.

It has also been found that a plastic such as polystyrene of high or low impact may be employed and the clasp and parts may be formed by injection molding

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process. When so formed the clasp or unit has sufficient tensile strength for the purpose intended while being sufficiently frangible to make practical the removal of a portion to separate the clamping members after having been locked to secure the ends of a tape as will be explained.

As shown in the drawing the clamping member 12, which may be termed the top or upper member consists of a relatively thick portion 15 which is reduced in thickness at one end to provide a hinge 14. Adjacent to the free end of, and extending from the underside of member 12 is a locking member 16 having a jaw 17. The locking member 16 is elongated and disposed in a channel 18 formed by surface 19 and the arcuate free end 21 of the member 12.

The lower member 13 also includes a relatively thick portion 22 which is reduced in thickness to provide the hinge 14. The member 13 is also formed with a channel indicated by the reference character 22' between surface 23 and an arcuate surface 24 at the free end of member 13. Within the channel 22 is a locking member 25 having a jaw 26 for engagement with jaw 17 of locking member 16 when the members are in closed relation to secure the ends of a section of tape. As will be noted; when the members 12 and 13 are in closed relation the edges 12' and 13' at the free ends of clamping members 12 and 13 respectively are in contact thus preventing access to the jaws when locked and providing an enclosure or housing for the locking means.

The locking member 25 disposed in channel 22' is also provided with an elongated lip 27, the purpose of which will be hereinafter explained.

As stated, the present clasp serves to secure the free ends of a strip of tape. When a tape is to be secured about the wrist it is desirable to be able to first secure one end of the tape to the clasp before the clamping members are moved into locked relation. The other end of the tape section may then be passed between the clamping members to take up slack and provide a comfortable fit about the wrist after which the excess portion of the tape may be severed close to the edges of the closed clamping members.

In order to provide for the initial holding of a tape end an intermediate member 30 is provided as shown more clearly in the perspective view in FIG. 3.

The intermediate member 30 consists of a plate 31 having raised contact beads 32 and the member 30 may be of the same material as the clamping members 12 and 13. At one end of plate 31 is a hub 33 having a flat surface 34 and a rounded surface 35.

At the other end of plate 31 is a hub 36 similar to hub 33 but having slot 37 thereby providing a cross bar or retainer strip 38 with a flat edge 39 (see FIG. 5). The outer surface of the cross bar 38 has a curved surface for contact with the inner surface 24 of lower clamping member 13.

When the ends of a section of tape 11 are to be secured in fixed relation the intermediate member 30 is positioned between the clamping members 12 and 13 with the hub 33 positioned in contact with the inner arcuate surface 41 of hinge 14. An end 42 of the tape 11 is then positioned in contact with the inner surface of clamping member 13 and with the tape end in alignment with an edge of the member 13.

The intermediate member 30 is then pressed down upon the tape end to compress the raised beads 32 into the tape. As the intermediate member is pressed into contact with the tape end it rocks about the hub 33 to cause jaw 25 of clamping member 13 to be positioned in slot 37 of the intermediate member 30 and cause elongated lip 27 to engage flat edge 39 of hub 36 and lock the intermediate member in contact with the tape end.

When one end of the tape is held by means of the intermediate member 30 the other end 43 of the tape (see FIG. 2) is positioned in contact with the upper surface of the intermediate member 30. The upper clamping member 12 is then moved into contact with the tape end 43. When member 12 is moved to contact with the tape end 43 the jaw 17 of locking member 16 engages jaw 26 of locking member 25 thereby finally securing the ends of the tape in fixed relation. When the tape ends are secured the edges 12' and 13' of the upper and lower clamping members 12 and 13 make contact to enclose the locking means in a housing to prevent access to the locking means except by destruction of some part of the clasp.

Although the band, when in use, may be cut thereby destroying further use, it may be desirable to preserve the tape. As stated, the clasp is formed by molding and of a material which has ample strength to hold the tape ends but which is sufficiently frangible to be broken if reduced in thickness. As shown, the upper clamping member 12 is formed with a relatively thin wall 44 connecting the free end 45 of member 12 with the body portion 15 thereof. Thus when the clamping members are in locked relation pressure may be applied to end 45 to break it away from the body portion 15 and since, as shown, the jaw 17 is integral with end 15 the locking means is destroyed and the clamping members may be separated to release the tape ends. The clasp, however, cannot be again put to use.

Although as above pointed out the present clasp makes it possible to first hold one end of a tape before securing both ends it will be evident that as shown in FIG. 6 clamp members 46 and 47 may be employed having jaws 48 and 49 respectively. As shown, the jaws are interlocked and surfaces 51 and 52 of members 46 and 47 respectively compress ends 53 and 54 of a tape in fixed relation. Each of the clamping members 46 and 47 is formed with an arcuate free end to enclose the locking jaws. Thus when the tape ends are secured edges 55 and 56 engage whereby the jaws are enclosed against manual separation. A separation of the jaws may be attained by breaking away the free end of member 46 at the provided groove 57 which reduces the thickness of the wall of member 46.

From the foregoing it will be evident that the present invention provides a clasp including movable members which when closed secure the ends of a wrist band by locking means enclosed in a housing having the smooth outer surface desirable in an article to be carried on the wrist.

Although a preferred embodiment of the invention is shown and described herein, it is to be understood that modifications may be made therein without departing from the spirit and scope of the invention as set forth in the appended claims.

What is claimed is:

1. A clasp for securing the ends of a section of tape against separation without rendering the clasp inoperative for future use, comprising a pair of hingedly connected clamping members, a locking member extending from each of the opposed surfaces of said clamping members for fixed interlocking engagement when said clamping members are in closed relation, and means integral with said clamping members to enclose said locking members, one of said clamping members having a weakened portion to facilitate the fracture thereof for the separation of said clamping members to release the ends of said tape.

2. A clasp for securing the ends of a section of tape, comprising a pair of hingedly connected clamping members, a locking member extending from each of the opposed surfaces of said clamping members for positive engagement when said clamping members are in closed relation, one of said clamping members having an elongated lip, an intermediate member for disposition between said tape ends when said clamping members are

in closed relation, said intermediate member having a hub at one end for disposition in contact with the hinge of said clamping members, said intermediate member having a hub at the other end thereof, said hub having an edge positioned for engagement with said elongated lip to hold one end of said tape in contact with one of said clamping members prior to the movement of the other of said clamping members to compress the other end of said tape into contact with said intermediate member when said clamping members are moved to closed relation.

3. A clasp for securing the ends of a section of tape, comprising a pair of hingedly connected clamping members, a locking member extending from each of the opposed surfaces of said clamping members for positive engagement when said clamping members are in closed relation, one of said clamping members having an elongated lip, an intermediate member for disposition between said tape ends when said clamping members are in closed relation, said intermediate member having a hub at one end for disposition in contact with the hinge of said clamping members, the other end of said intermediate member having a hub provided with a slot, said slot having an edge positioned for engagement with said elongated lip to hold one end of said tape in contact with one of said clamping members prior to the movement of the other of said clamping members to compress the other end of said tape into contact with said intermediate member when said clamping members are moved to closed relation.

4. A clasp for securing the ends of a section of tape, comprising a pair of hingedly connected clamping members, a locking member extending from each of the opposed surfaces of said clamping members for positive engagement when said clamping members are in closed relation, one of said clamping members having an elongated lip, an intermediate member for disposition between said tape ends when said clamping members are in closed relation, said intermediate member having a hub at one end for disposition in contact with the hinge of said clamping members, the other end of said intermediate member having a hub provided with a slot, said slot having an edge positioned for engagement with said elongated lip to hold one end of said tape in contact with one of said clamping members prior to the movement of the other of said clamping members to compress the other end of said tape into contact with said intermediate member when said clamping members are moved to closed relation, said clamping members having cooperating end portions disposed in contact to prevent separation of said locking members without rendering said clasp inoperative for future use.

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