Dec. 9, 1941. G. H. C. CORNER 2,265,353

SLIDING CLASP FASTENER

Filed June 8, 1939

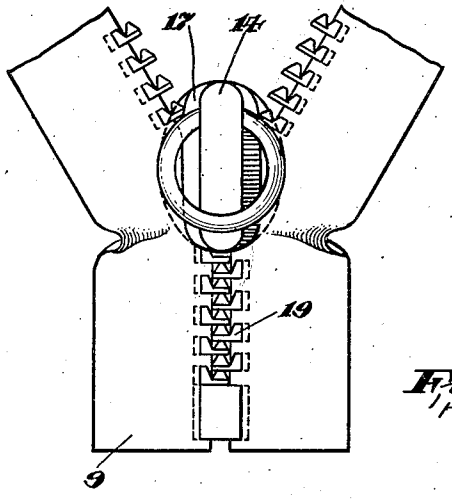


Fig. 1.

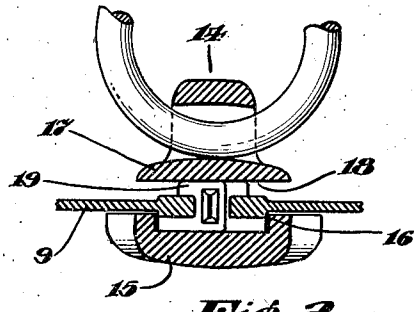


Fig. 2.

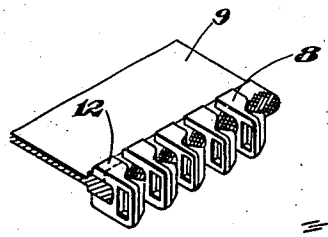


Fig. 3.

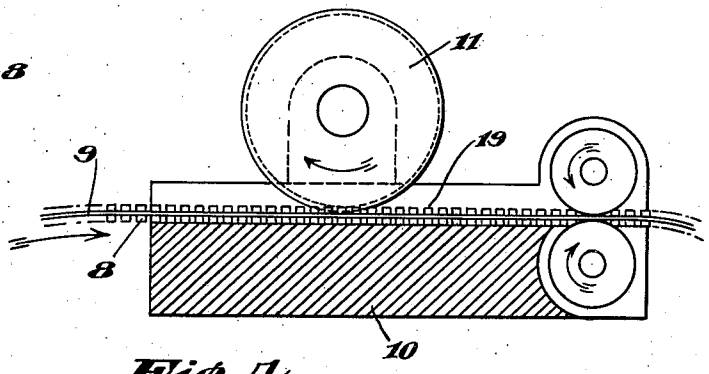


Fig. 4.

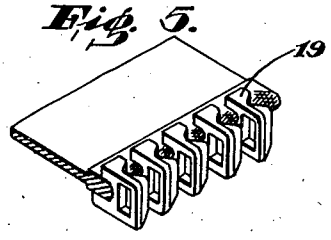


Fig. 5.

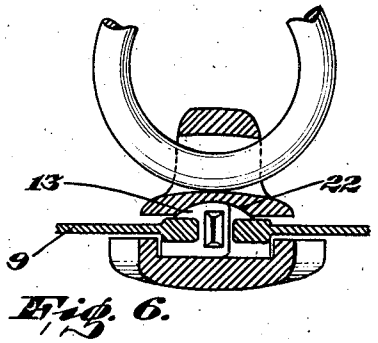


Fig. 6.

INVENTOR.
George H. C. Corner
BY R. S. Kelley
ATTORNEY.

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SLIDING CLASP FASTENER

George H. C. Corner, Sutton Coldfield, England, assignor to Talon, Inc., a corporation of Pennsylvania

Application June 8, 1939, Serial No. 278,064
In Great Britain June 20, 1938

1 Claim. (Cl. 18—59)

This invention relates to improvements in the manufacture of sliding clasp fasteners of the kind in which fastener members mounted on two flexible stringer tapes are adapted to be engaged and disengaged by means of a slider, and in which the fastener members are made of non-metallic material.

One successful method of producing sliding clasp fasteners of the kind referred to comprises forming the members from suitable non-metallic material for example by means of a machining operation and subsequently attaching the members to the mounting tape by means of a suitable solvent. Various other methods of manufacture have been proposed as for example, forming the members by means of a die casting process and simultaneously affixing the members on to the edge of the mounting tape during the molding or casting operation. In all such methods of manufacture, however, the production of fastener members of small size presents many problems particularly in regard to the attainment of adequate strength and of adequate adhesion to the mounting tape. In the manufacture by the die-casting process in view of the small size of mold cavities necessary these difficulties are increased by the high proportion of scrap produced.

The present invention has for its chief object to facilitate the manufacture of sliding clasp fasteners having non-metallic fastener members of small dimensions and further to secure adequate strength and adhesion to the mounting tape of the fastener members.

According to my invention, I mount on to a fabric tape in correct spaced relation a series of finished or partly finished fastener members having dimensions larger than desired in the finished fastener, and by a cutting operation remove material from the members so that on one side of the tape the members have dimensions smaller than on the other side. In this way, the finished fastener has on one side the appearance of being provided with small fastener members while the other side of the members, not normally apparent to the eye when the fastener has been secured to the garment or the like on which it is to be used, has larger dimensions providing adequate strength and strong adhesion to the mounting tape.

It is desirable after mounting the members on to the fabric tape, temporarily to affix them thereto in order to prevent disturbance in the spaced relation of the fastener members, whereupon the cutting operation of the invention is then carried out, followed by final attachment of the fastener members, preferably using a solvent. Final attachment of the members by means of a suitable solvent has the advantage of removing from the members all traces of the cutting operation, leaving a smooth, attractive appearance.

In the accompanying drawing, I have shown for purposes of illustration, one embodiment which my invention may assume in practice. In the drawing:

Fig. 1 is a plan view of slide fastener assembly embodying my invention;

Fig. 2 is a section taken through the slider shown in Fig. 1;

Fig. 3 shows a slide fastener stringer being operated upon in accordance with my invention;

Fig. 4 shows one form of cutting apparatus;

Fig. 5 is a view similar to Fig. 3 but after the stringer has been operated upon in accordance with my invention; and

Fig. 6 is a cross-sectional view similar to Fig. 2 showing a modification.

In carrying the invention into effect according to one embodiment, fastener members 8 of a suitable non-metallic material, for example, cellulose acetate composition, are mounted in predetermined spaced relation on a fabric tape 9. After the mounting operation, the fabric tape may be treated with a suitable solvent or adhesive, for example, acetone in the case of cellulose acetate composition, which by capillary action penetrates to the inner surfaces of the legs of the fastener members and effects temporary attachment thereof to the tape. The amount and/or strength of the solvent or adhesive is controlled so that while the fastener members are attached with a sufficiently strong bond to prevent inadvertent displacement thereof on the tape during the further manufacture of the fastener, it is a comparatively simple matter to remove the material cut away in the subsequent cutting operations.

The stringer is then passed through a guide 10 having a cutter 11 of suitable form which operates to remove a substantial amount, for example, the ends of the legs 12 or about one half of the width of the leg portion of each fastener member on one side of the tape. The fastener stringer is then subjected to the action of an adhesive or solvent, for the purpose of finally and positively attaching the fastener members to the mounting tape. Where a solvent is used, the fastener members are simultaneously attached and made smooth and attractive in appearance.

If desired, the cutting device may be arranged to remove material from both legs of each fastener member, that is, on both sides of the tape but it will be understood that more material will

be removed from one particular side whereby the fastener members have smaller dimensions when viewed from the one side of the tape than from the other side. Again, it may be desirable to remove material from the upper surface of the fastener members, that is, to reduce the thickness of the fastener members and possibly to alter the shape whereby the appearance of the members is made more attractive. Thus, for example, as illustrated in Fig. 6, the upper surface of the fastener members may be made convex.

It will be understood that the slider 14 used with a fastener chain of this invention differs from conventional type. The back of the slider 15 may be standard, that is, provided with side walls 16 which guide or control the fastener members but the front leaf 17 of the slider may, instead of having side walls, consist of a flat plate 18, which rides on the upper smaller leg surface 19 of the fastener members. The dimensions of the slider as viewed from the front of the fastener may therefore be reduced considerably as compared with a standard type of fastener slider. When the upper surface 13 of the fastener members is made convex or of other special curvature, the front leaf of the slider is shaped accordingly. As shown in Fig. 6, for example, the surface 22 of the slider cooperating with the convex surfaces of the fastener members, is given a concave curvature.

While I have shown and described in this application one embodiment which my invention may assume in practice, this embodiment is for the purposes of illustration, and other forms may be devised within the scope of my invention as set forth in the appended claim.

What I claim as my invention is:

In the manufacture of sliding clasp fasteners having individual non-metallic fastener members bonded to a fabric tape, the process which consists of mounting on to a fabric tape in correct spaced relation a series of such individual fastener members and removing material from the ends of the members which overlap the tape on one side of the tape so that the members on that side have a narrower appearance than on the other side.

GEORGE H. C. CORNER.