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F. SCHWABE ETAL

3,127,656

CLIPS FOR TEXTILE ARTICLES

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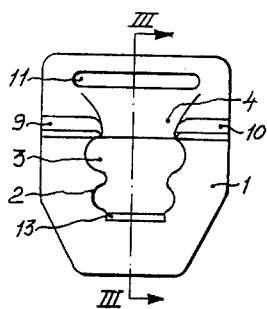


Fig. 1



Fig. 2

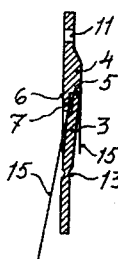


Fig. 3

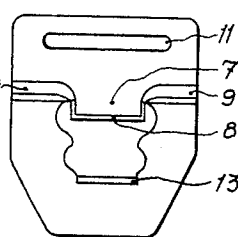


Fig. 4

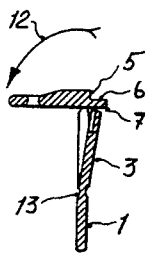


Fig. 5

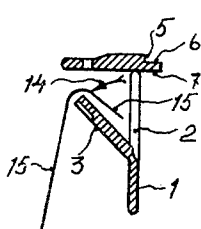


Fig. 6

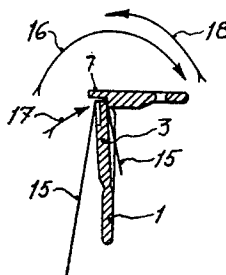


Fig. 7

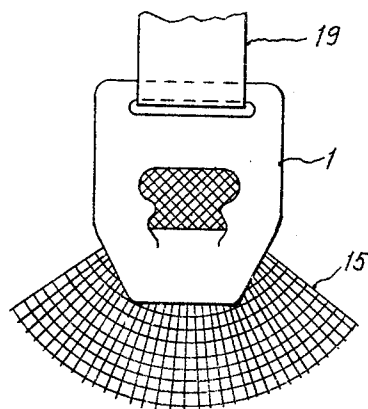


Fig. 8

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CLIPS FOR TEXTILE ARTICLES

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7 Claims. (Cl. 24—246)

The present invention relates to improvements in clips for textile articles, for example articles of clothing, and is primarily intended as a clip for ladies stockings.

The clip according to the invention belongs to the type of clips comprising a plate of resilient material, said plate having an opening and a tongue movable through said opening, said tongue being connected with one edge thereof to one edge of the opening; the clothing held by the clip being clamped between one or more of the free edges of said tongue and adjacent edges of the opening.

One object of the invention is a clip of that kind which has better clamping properties than heretofore known clips of the same kind.

Another object of the invention is a clip, the clamping properties of which is increased with increasing pull by the clothing held by the clip.

A further object of the invention is a clip which is less liable to damage the clothing held by the clip than already known clips of the same kind.

Further objects of the invention will be apparent from the following specification and claims, reference being had to the accompanying drawing, in which:

FIG. 1 is a front elevation of a clip according to the invention;

FIG. 2 is a side elevation of the same clip;

FIG. 3 is a cross section of the clip according to FIG. 1 along the line III—III as viewed in the direction of the arrows;

FIG. 4 is a rear elevation of the clip illustrated in FIG. 1;

FIGS. 5 to 7 are cross sections of the clip according to FIG. 1 in different positions to which the clip may be brought when a clothing is being fastened in the clip, and

FIG. 8 is a front elevation of the clip as viewed when a clothing is held by the same.

In the drawing the clip according to the invention comprises a plate 1 consisting of a plastic resin or any other suitable, bendable and somewhat resilient material. A plastic resin of the so called polypropylene type has proven to be very suitable. In the plate 1 there is an aperture or gate 2 which surrounds a tongue 3. The tongue 3 is connected with its lower edge to the plate 1.

The aperture 2 and the tongue 3 are wave-shaped at the side edges thereof in order to improve the clamping properties of the clip.

At the upper edge of the aperture 2 the plate 1 has a thicker part 4 projecting from one side of the plate (see FIGURES 2 and 3). The thicker part 4 is provided with a stepped recess comprising a horizontal surface 5 and a vertical surface 6; the surface 5 being in a plane at right angles to the plane of the plate 1 and the surface 6 being substantially parallel to the plate 1. The surface 6 belongs to a portion 7 of the plate 1 which has the form of a short lip extending downwardly into the opening 2 (see also FIG. 4).

As illustrated in FIG. 3, the tongue 3 is adapted to abut with the upper edge thereof against the surface 5 of the stepped recess while the side of the tongue, close to its upper edge, abuts against the surface 6. Preferably the tongue is provided with a recess 8 (see FIG. 4) for receiving the lip-shaped portion 7 of the plate 1.

At both sides of the thicker part 4 of the plate 1 the latter is provided with folding lines or grooves 9, 10

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which enable the plate to be bent substantially to a right angle.

As will be apparent from FIG. 3, the surface 5 of the stepped recess will be pressed harder against the upper edge of the tongue 3 if the upper part of the plate 1 should be bent to the right according to the figure. This is an advantageous property of the clip according to the invention, because an increased pull of the clothing which is clamped between the tongue 3 and the plate 1 would give cause to such a bending force to the plate 1.

In its upper part, the plate 1 is provided with a slot 11 or with any other suitable arrangement to enable the plate to be fixed to a stocking suspender tape or the like.

When inserting a stocking or any other clothing in the clip, the upper part of the plate 1 is to be bent as indicated by the arrow 12 in FIG. 5, to the position illustrated in that figure. In this position the tongue 3 is freely movable to and fro through the opening 2 by bending the tongue along the folding lines 13 provided at the lower edge of the tongue. The tongue is bent through the opening according to the arrow 14 in FIG. 6 to the position shown in that figure. Thereafter the tongue is inserted under a folded edge of the clothing 15, which is to be held by the clip. Now, the upper part of the plate 1 is bent over an angle of 180° along the arrow 16 of FIG. 7, to the position shown in that figure. The tongue is then bent to its upright position along the arrow 17 of FIG. 7, as illustrated. At last the upper part of the plate 1 is bent back again, according to the arrow 18 of FIG. 7, to the original position illustrated in FIG. 3. The last named movement is associated with a certain snap action because the tongue 3 is forced through the opening 2 by the lip-shaped portion 7 of the plate 1.

The clothing 15 is now effectively clamped by the tongue 3 and, as will be apparent from the foregoing, the clamping action is increased by increased pressure between the upper edge of the tongue 3 and the surface 5 of the stepped recess, when a pull is exerted to the clothing 15.

In order to still more improve the clamping action of the clip according to the invention, the tongue 3 and/or the plate 1 may be provided with rough surfaces for increasing the friction between the clothing and such surfaces. In addition, the tongue may be arranged to overlap the plate 1 also at the side edges thereof. It is advantageous to make the plate 1 of a material which has a high friction coefficient to the textile material in the clothing to be held. Also other clamping-improving means described in our copending application Serial No. 230,042 may be utilized in connection with the clip according to the present invention. In FIG. 8 there is illustrated how the clothing 15 is kept in place by the clip and how the clip is fastened to a stocking suspender tape 19.

The plate 1 may be produced by moulding, whereby the tongue and, in some cases, also the upper part of the plate can be moulded in a position, in which they are bent to substantially right angles to the rest of the plate. If necessary the mould can be made in three parts for enabling the slot 11 to be made during the moulding. It is also possible to substitute a fastening means according to FIG. 6 of our co-pending application Serial No. 230,042 for the slot 11.

We claim:

1. In a clip for textile articles; a plate with resilient properties; there being a U-shaped opening in said plate; a tongue in said opening; said tongue having a bottom edge, a top edge opposite to the bottom edge and two side edges; the bottom edge being connected to the plate and the upper edge engaging the adjacent edge of said opening; there being a stepped recess in said adjacent edge; said tongue being adapted to abut with a side thereof against a first surface of said recess, said first surface being substantially parallel to said plate and said tongue;

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said tongue being further adapted to abut with the upper edge thereof against a second surface of said recess, said second surface being substantially at right angles to said plate and said tongue; said plate being foldable along folding lines or grooves therein; said folding lines or grooves being located substantially in the extensions of said adjacent edge of said opening at the sides of the latter; said second surface of said recess being so laterally displaced in its own plane, perpendicularly to the plane of said plate, that said upper edge of said tongue is pressed against said second surface when said plate is bent in one direction along said folding lines, and removed from said second surface when said plate is bent in the opposite direction.

2. A clip as claimed in claim 1; wherein said first surface of said recess is located on a portion of said plate which has the shape of a short lip; said lip extending downwardly into said opening parallel to said tongue.

3. An arrangement as claimed in claim 1; wherein said first surface of said recess is located on a lip-shaped portion of said plate; said lip-shaped portion extending downwardly into said opening parallel to said tongue; said folding lines being so located in relation to said lip-shaped portion, that by folding said plate in one direction to an angle of substantially 90°, said lip is disengaged from said top edge of said tongue, so that said tongue is movable to and fro through said opening past the upper edge thereof.

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4. A clip as claimed in claim 1; wherein said recess is formed in a portion of said plate which is thicker than the rest of the plate.

5. A clip as claimed in claim 1 wherein said tongue has a recess in one side thereof for receiving said first surface of said recess in said plate.

6. A clip as claimed in claim 1; wherein a folding line or groove is provided in said tongue at the bottom edge thereof.

7. A clip as claimed in claim 1; wherein said plate is made of a material with such properties that it endures repeated folding along folding lines, preferably a plastic resin of the polypropylene type.

References Cited in the file of this patent

UNITED STATES PATENTS

513,772	Farmer	Jan. 30, 1894
1,554,448	McKnight et al.	Sept. 22, 1925
2,098,821	Cook	Nov. 9, 1937

FOREIGN PATENTS

1,052,928	Germany	Mar. 19, 1959
160,738	Switzerland	June 1, 1933