Nov. 7, 1944. G. SUNDBACK 2,362,221

METHOD OF MAKING STRINGERS FOR SLIDE FASTENERS

Filed March 4, 1941

FIG. 1.

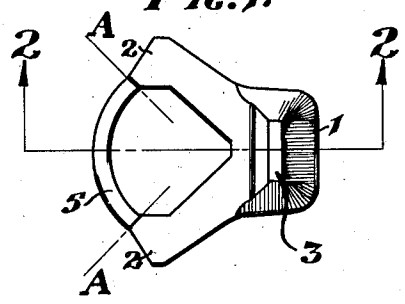


FIG. 2.

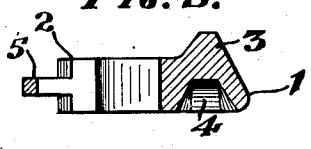
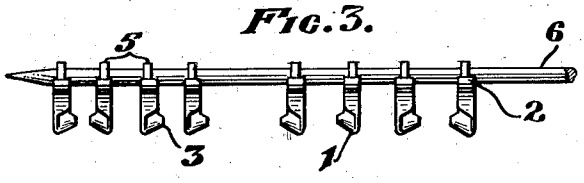


FIG. 3.



INVENTOR
G. SUNDBACK
BY Fox & Rutherford
ATTORNEYS

Patented Nov. 7, 1944

2,362,221

UNITED STATES PATENT OFFICE

2,362,221

METHOD OF MAKING STRINGERS FOR SLIDE FASTENERS

Gideon Sundback, Meadville, Pa.

Application March 4, 1941, Serial No. 381,703
In Canada March 6, 1940

2 Claims. (Cl. 29—148)

The invention relates to improvements in the method of making interlocking elements for slide fasteners of the well known type in which each of a pair of fabric tapes is provided with a series of interlocking members secured to one edge, the two tapes being adapted to be secured together by the movement of a slider along the interlocking elements.

An object of the invention is to devise the method of making an interlocking element provided with an appendage which serves to assist in collecting and/or positioning in alignment a number of the elements in the proper relationship for attachment to the supporting tape, such appendage being subsequently removed before the fastener is ready for use. It is to be understood, of course, that the invention is particularly applicable to interlocking elements which are formed individually in bulk and which must be collected and arranged in the proper relationship for attachment to the tape by hoppering or a like method.

With the above and other objects, which will hereinafter become apparent as the specification proceeds, in view the invention consists of the construction, arrangement and method of operation as illustrated with reference to the accompanying drawing, in which:

Fig. 1 is a plan view of an interlocking element constructed according to my invention;

Fig. 2 is a longitudinal section therethrough taken on the line 2—2 of Fig. 1; and

Fig. 3 is a schematic representation of a method of collecting and aligning a plurality of interlocking elements fabricated according to my invention.

Like characters of reference designate corresponding parts in the different views.

In fabricating fastener stringers, i. e., the flexible supporting members with the series of interlocking elements clamped thereon, it is necessary to first arrange the groups of interlocking elements in alignment and in equally spaced relationship for application to the flexible supporting member. This has been done in several ways all involving hoppering and sorting apparatus, but the operation of such apparatus has usually suffered from the drawback that, due to the relatively slight asymmetry of the interlocking elements, positive orientation of each element has been difficult to achieve.

According to my invention this objection is overcome by providing the interlocking element at the time it is made, preferably, although not necessarily, by die casting, with an appendage which serves either as a member by which the interlocking element may be grasped or hooked or which provides a sufficient degree of asymmetry to cause the interlocking element to orient itself while falling either freely or against a surface.

In the form of the invention illustrated, the appendage takes the form of a web 5 joining the free extremities of the legs 2 of the interlocking element and which, with the legs 2, forms a ring. Elements of this form when reposing in a mass may be readily collected in proper alignment by thrusting an elongate pointed instrument, such as that indicated by the numeral 6 in Fig. 3, through the mass. If the mass is of sufficient extent, the instrument 6 will be bound to penetrate a plurality of the rings of interlocking elements and once they have been collected in this form it is a relatively simple matter to eliminate those in which the projections 3 of the elements face in the wrong direction. Once the elements have been so collected and arranged, the webs 5 may be severed from each along the lines A—A of Fig. 1, by means such as a rotary saw, to leave the legs 2 free to receive the flexible supporting members.

Interlocking elements fabricated according to my invention lend themselves to rapid and economical production in large quantities and may be stored and shipped in compact quantities. They may then be applied to the flexible supporting member of the fastener by a hoppering or collecting operation which is positive in its action and in a machine which requires relatively little power. When the interlocking elements are made by a die casting process, the appendage used to assist the arranging of the interlocking elements may well be formed as part of the casting gate, and may also be returned after removal to the die casting machine for re-melting so that no waste of material is involved.

While I have described and illustrated a preferred embodiment of the invention, such disclosure has been made for purposes of illustration only and is intended to impose no limitation on the scope of the invention beyond those set forth in the appended claims.

What I claim as my invention is:

1. In the manufacture of stringers for slide fasteners of the class described, by collecting individual interlocking elements from a mass of loose and unorganized elements and positioning said individual elements in uniform orientation and spacing for application to a support the

steps of providing a web extending between the extremities of the legs of each of the interlocking elements, thrusting an elongate pointed member through a disordered mass of such interlocking elements said elongate member entering between the legs and web of individual interlocking elements to pick up a plurality of the elements in the proper alignment for application to a support, and subsequently removing the webs from the interlocking elements.

2. In the manufacture of stringers for slide fasteners of the class described from die cast interlocking elements, by collecting individual interlocking elements from a mass of loose and unorganized elements and positioning said individual elements in uniform orientation and spacing for application to a support the steps of providing a casting gate on each interlocking element in the form of a web connecting the extremities of the legs of said element, thrusting an elongate pointed member through a disordered mass of such interlocking elements, said elongate member entering between the legs and web of individual interlocking elements to pick up a plurality of the elements in the proper alignment for application to a support, and subsequently removing the gates from the interlocking elements.

GIDEON SUNDBACK.