Jan. 27, 1942. M. WINTERHALTER 2,270,985

SLIDING CLASP FASTENER

Original Filed Aug. 28, 1936

Fig. 1.

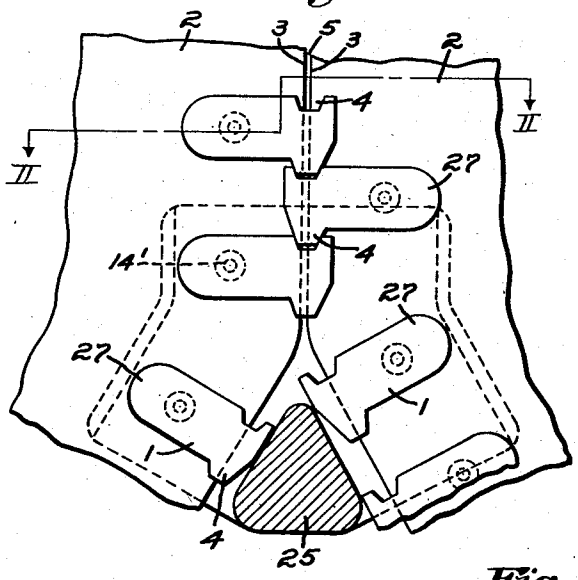


Fig. 3.

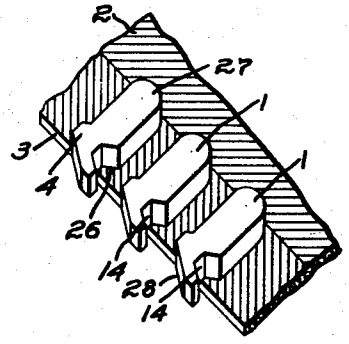


Fig. 2.

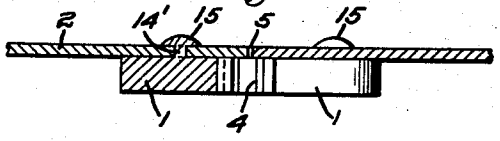


Fig. 4.

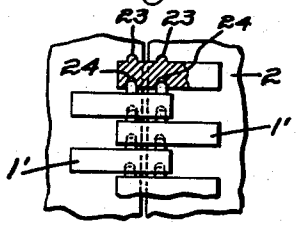
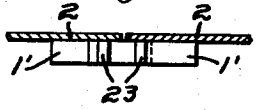


Fig. 5.



Inventor:
Martin Winterhalter,
by Emery Booth Townsend Miller & Weidner
Attys.

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SLIDING CLASP FASTENER

Martin Winterhalter, Morcote-Castello, near Lugano, Switzerland

Original application August 28, 1936, Serial No. 98,308, now Patent No. 2,239,803, dated April 29, 1941. Divided and this application March 22, 1941, Serial No. 384,708. In Switzerland September 19, 1935

8 Claims. (Cl. 24—205)

This is a division of my co-pending application No. 98,308 filed August 28, 1936, Patent No. 2,239,803, granted April 29, 1941.

This invention relates to an improvement in sliding clasp fasteners, and particularly relates to the type in which the interlocking fastener members are moulded on and intimately united to the opposite sides of the stringers.

One of the objects of the invention is to provide a device of this character in which the interlocking projections and recesses of the interlocking members are free of mould flash, so that the projections will be fully seated in the recesses and not spaced therefrom by mould flash. The further object of the invention is to fasten securely the shank members of the interlocking members to the stringers and thereby prevent movement of the interlocking members relatively to the stringers.

A still further object of the invention is to provide a very simple construction of a device of this character which can be easily produced in a two-part mould, the two parts of the moulds having no moulding members projecting from one mould half into the other.

A still further object of the invention is to utilise the stringers themselves or portions thereof as means for preventing disengagement of the interlocking members in a direction at right angles to the plane of the fastener.

The precise nature of the invention will be best understood by reference to the accompanying drawing, in which:

Fig. 1 is a bottom plan view of one form of my invention;

Fig. 2 is a transverse sectional view on line II—II of Fig. 1;

Fig. 3 is a perspective view of a portion of a stringer and several interlocking members thereon;

Fig. 4 is a bottom view of a second form of my invention, and

Fig. 5 a transverse sectional view corresponding to Fig. 4.

Referring first to Figs. 1 to 3, the reference character 2 designates the stringers, which are provided with a thickened portion 3, at the edge thereof, and 1 designates the interlocking members moulded on the stringers. 25 designates a slider adapted to interlock and disengage the interlocking members on adjacent stringers.

These interlocking members are moulded preferably by an apparatus clearly illustrated and described in my Patent No. 2,184,265, December 19, 1939, the application of which is a division of application Serial No. 98,308, filed August 28, 1936.

The interlocking members 1 are formed with trapezoidal projections 4 and corresponding recesses 14 and are shown of uniform thickness, but it will be understood that although this is a preferred construction, it is not essential that the members should be of uniform thickness, for instance, the projections 4 might be shorter than the corresponding recesses 14, that is to say, they need not extend as far as the bottoms of the recesses 14. The projections 4 and the recesses 14 constitute the coupling portions of the interlocking members and prevent the moving apart of the stringers 2 in the plane of the stringers.

The interlocking members are formed with shanks 27.

The interlocking projections 4, the recesses 14 and the shanks 27 of the interlocking members, are formed in one part of the mould so that their ends 26 and 28 are in the plane of the stringer. The stringers 2 are formed in the second part of the mould. The shanks 27 and parts of the projections 4 and the portions containing the recesses 26 are moulded directly on one side of the stringer. This forming of the projections and recessed portions of the interlocking members in one part of the mould and the fact that they are molded directly upon one side of the stringer has the result that any mould flash which is formed, will be along the ends 26 and 28. This forming of the mould flash along these ends, will avoid the forming of any mould flash across the recesses or the locking projections so that the locking projections can be fully seated in their receiving recesses.

As the interlocking members are moulded on the stringers they are secured throughout the entire area of the surface engagement of the interlocking members and stringers.

In order to obtain a still better attachment of the interlocking members to the stringers, the interlocking members are riveted to the stringers by means of rivets 14', 15 which are formed during the moulding operation in the manner described in Patent No. 2,184,265 above referred to. This riveting of the interlocking members to the stringers is optional and is not an essential part of my invention.

In order to prevent disengagement of the interlocking members in a direction at right angles to the plane of the whole fastening, it is necessary to provide additional means, as in the construction shown the recesses are open at both

ends. According to the invention the stringers themselves are used as means for preventing this displacement and for this purpose it will be seen that the stringers extend partly under the ends of the recesses 14 so that they partly close these recesses and form stops for the projections in the engaged position of the two parts of the fastening as is clearly shown in Fig. 1. It will be seen from Fig. 1 that a locking member 1 on the right hand stringer 2 has a portion which rests upon the edge of the opposite stringer and is prevented thereby from moving in one direction at right angles to the plane of the fastener, whilst the edge of the right hand stringer lies under the projecting portion of the adjacent interlocking member on the left hand stringer and prevents disengagement in the opposite direction. In the construction shown, see particularly Fig. 1, the stringers almost meet at their opposite edges, there being only a slight gap 5 between them. It may be pointed out however, that it is not essential that the stringers should upon the whole length extend under the ends of the recesses as it would be quite sufficient for the stringers to project under one or two recesses to prevent the disengagement in a direction lateral to the plane of the fastener.

In the construction according to Figs. 4 and 5, the interlocking members 1' have each two coupling projections 23 and corresponding coupling recesses 24 and are moulded to one side of a stringer 2. The stringers are again extended so as to nearly meet at their inner edges and act as stops preventing disengagement in a direction vertical to the plane of the fastener. The interlocking members are formed in one part of the mould and the stringers are located in the other part of the mold so that the mould flash is again formed at the inner ends of the recesses and projections and does not interfere with the proper engagement of the coupling portions with the interlocking members.

I claim:

1. A sliding clasp fastener of the type referred to comprising in combination: a pair of stringers; a plurality of interlocking members moulded directly on to one side of each of said stringers, said interlocking members having coupling projections and coupling recesses, the mould flash formed on the coupling projections and coupling recesses of the interlocking members being substantially parallel to the stringers and at the ends of said recesses and projections adjacent to the stringers, so that said mould flash does not interfere with the reception of said coupling projections by said coupling recesses.

2. A sliding clasp fastener of the type referred to comprising in combination: a pair of stringers; a plurality of interlocking members moulded directly on to one side of each of said stringers, said interlocking members having coupling projections and coupling recesses, the mould flash formed on the coupling projections and coupling recesses of the interlocking members being substantially parallel to the stringers and at the ends of said recesses and projections adjacent to the stringers, so that said mould flash does not interfere with the reception of said coupling projections by said coupling recesses, said interlocking members being of uniform thickness and the coupling projections and recesses extending through the whole thickness of the interlocking members.

3. A sliding clasp fastener comprising in combination: a pair of stringers adapted to lie approximately in the same plane, a plurality of spaced interlocking members moulded on and intimately united to one side of each stringer and having coupling portions extending beyond the stringers; each coupling portion having a coupling projection and a coupling recess, the series of coupling portions of the interlocking members on one stringer being adapted to intermesh with that on the other, the mould flash formed on the coupling portions of the interlocking members being substantially parallel to the stringers and in the end plane of the coupling portions so that said mould flash does not interfere with the reception of said projections by said recesses.

4. A sliding clasp fastener of the type referred to comprising in combination: a pair of stringers adapted to lie approximately in the same plane, a plurality of spaced interlocking members moulded on and intimately united to one side of each stringer and having coupling portions extending beyond the stringers, the series of coupling portions of the interlocking members on one stringer being adapted to intermesh with that on the other, and means for interlocking the coupling portions of said interlocking members on one stringer with those on the other comprising projections moulded on the coupling portions of the interlocking members of one stringer and co-operating recesses for receiving said projections moulded in the adjacent faces of the coupling projections of said interlocking members on the other stringer, the mould flash formed on the coupling portions of the interlocking members being substantially parallel to the stringers and in the end plane of said coupling recesses, so that said mould flash does not interfere with the reception of said projections by said recesses, and moulded rivet means integral with the interlocking members for connecting said locking members to the other sides of each stringer.

5. A sliding clasp fastener comprising in combination: a pair of stringers; a plurality of spaced locking members moulded on and intimately united to one side of each stringer and having coupling portions extending beyond the stringers, the series of coupling portions of the locking members of one stringer being adapted to intermesh with that on the other, means for interlocking the coupling portions of said interlocking members on one stringer with those on the other stringer comprising moulded projections on the faces of the coupling portions of the members on one stringer and co-operating moulded recesses for receiving said projections moulded in the adjacent faces of the coupling projections of said members on the other stringer, the mould flash formed on the coupling portions of the interlocking members being substantially parallel to the stringers and in the end plane of said recesses, so that said mould flash does not interfere with the reception of said projections by said recesses; the edge portions of said stringers projecting under some or all of the coupling portions extending beyond the stringers so as to form stops preventing disengagement of the locking members in a direction at right angles to the plane of the fastening.

6. A sliding clasp fastener of the type referred to comprising in combination: a pair of stringers; a plurality of spaced interlocking members moulded on and intimately united to one side of each stringer and having portions extending beyond the stringers, said interlocking members each having a coupling projection on a face of the extending portion and a coupling recess in

the opposite face, the recesses in the members of one stringer being arranged to receive the projections on the members on the other stringer to lock the stringers together, the recesses extending down to the plane of its stringer, the mould flash formed on the interlocking members being in the plane of the stringer so that the interlocking projections and recesses are free of mould flash.

7. A sliding clasp fastener of the type referred to comprising in combination: a pair of stringers; a plurality of spaced interlocking members moulded on and intimately united to one side of each stringer and having portions extending beyond the stringers, said interlocking members each having a coupling projection on a face of the extending portion and a coupling recess in the opposite face, the recesses in the members of one stringer being arranged to receive the projections on the members on the other stringer to lock the stringers together, the recesses extending down to the plane of its stringer, the mould flash formed on the interlocking members being in the plane of the stringer so that the interlocking projections and recesses are free of mould flash, said interlocking members having moulded rivets formed thereon which pass through the stringer on to which said interlocking members are moulded and having their heads upon the side of the stringer opposite to the side on which the interlocking members are moulded.

8. A sliding clasp fastener comprising in combination: a pair of stringers adapted to lie in approximately the same plane, a plurality of spaced locking members moulded on and intimately united to one side of each stringer and having coupling portions formed on one face with a coupling recess and on the other face with a coupling projection, said recesses extending through the whole thickness of the coupling portions terminating in the plane of the stringer, said projections also terminating in the plane of said stringer, the mould flash formed on the coupling projections and recesses of the locking members being substantially parallel to the stringers and in the end plane of said projections and recesses, so that said mould flash does not interfere with the reception of said projections by said recesses.

MARTIN WINTERHALTER.