

PATENT SPECIFICATION

DRAWINGS ATTACHED

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877,221

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COMPLETE SPECIFICATION

Improvements in or relating to Sliding Clasp Fasteners

5 I, JOSEF RUHRMANN, trading as DR. ING. JOSEF RUHRMANN of 24, Bahnhofstrasse, Stuttgart-Vaihingen, Germany, a citizen of the Federal Republic of Germany, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 The invention relates to sliding clasp fasteners and consists in a method of making a sliding clasp fastener interlocking members of which are made of plastics and are interconnected to form a string of interlocking members, comprising the step of welding the string of interlocking members to a plastic carrier attached, or to be attached to a tape of the fastener.

15 The invention also consists in a method of making a sliding clasp fastener, comprising the steps of making a string of plastic interlocking members each member being of substantial U-shape and one end of each member (except for the extreme members at each end of the fastener) being connected only to the succeeding and the other end only to the preceding member by bridge portions, and welding the bridge portions to a plastic carrier attached or to be attached to a tape of the fastener.

20 Preferably, the string of plastic interlocking members is shaped from an initially flat elongated zig-zag-like formation, the said formation being bent about its longitudinal centre line into substantial U-shape when viewed endwise.

25 In a sliding clasp fastener made by a method as hereinbefore defined, the carrier may comprise one or more filaments of plastic material. Alternatively, the carrier may comprise a flat strip of plastic material. The flat strip may have holes through which stitches extend which attach the strip to

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the tape.

In a sliding clasp fastener made by a method as hereinbefore defined, the carrier may be woven or glued onto the tape.

To make the invention clearly understood reference will now be made to the accompanying somewhat diagrammatic drawings, which are given by way of example and in which:—

Fig. 1 is a side view of a string of fastener members;

Fig. 2 illustrates a section along the line A—A of Fig. 1;

Fig. 3 is a plan view of a part of a fastener tape carrying fastener members;

Figs. 4 and 5 illustrate plan views of a modification of the arrangement of Figs. 1, 2 and 3;

Fig. 6 illustrates a plan view of a further modification; and

Fig. 7 illustrates a section along the line B—B of Fig. 6.

In the embodiment illustrated in Figs. 1 and 2, interlocking members 1 of substantial U-shape are shown, one end of each member (except for the extreme members at each end of the fastener) being connected only to the succeeding and the other end only to the preceding member by bridge portions 2. The interlocking members 1 and bridge portions 2 are made of plastic material. The bridge portions 2 are welded to a carrier 3 of plastic material in the shape of a filament of round cross section. Fig. 2 shows in which manner the bridges 2 lie against the carrier 3. Each interlocking member 1 has coupling projections 5 obtained by deforming the portions 4 forming the bases of the U-shaped members 1. As shown in Fig. 3 the carrier 3 is attached to a fastener tape 6 by means of woven loops 7.

Modifications are possible. For example, the carrier need not be a filament of round

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cross section. In the modification of Figs. 4 and 5, the carrier 3 is first woven to the fastener tape 6 by loops 9 and is subsequently welded to the string of interlocking members.

5 In the embodiment of Figs. 6 and 7 the carrier 10 is formed by a flat strip provided with holes 11 through which sewing stitches 12 extend by means of which the carrier 10 is attached to the tape 13.

10 By providing recesses (not shown) in the carrier 10 the flexibility of the strip may be increased. The string of interlocking members 1 is welded to the carrier 10 before or after the carrier 10 has been sewn to the tape 13.

15 **WHAT I CLAIM IS:—**

1. A method of making a sliding clasp fastener interlocking members of which are made of plastics and are interconnected to form a string of interlocking members, comprising the step of welding the string of interlocking members to a plastic carrier attached, or to be attached to a tape of the fastener.

25 2. A method of making a sliding clasp fastener, comprising the steps of making a string of plastic interlocking members, each member being of substantial U-shape and one end of each member (except for the extreme members at each end of the fastener) being connected only to the succeeding and the other end only to the preceding member by bridge portions, and welding the bridge portions to a plastic carrier attached or to be attached to a tape of the fastener.

30 3. A method as claimed in claim 2, wherein the string of plastic interlocking members is shaped from an initially flat elongated zig-zag-like formation, the said formation being bent about its longitudinal centre line into

substantial U-shape when viewed endwise.

4. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier comprises one or more filaments of plastic material.

45 5. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier comprises a flat strip of plastic material.

6. A sliding clasp fastener as claimed in claim 5, wherein the flat strip has holes through which stitches extend which attach the strip to the tape.

7. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier is woven onto the tape.

8. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier is glued onto the tape.

9. Methods of making sliding clasp fasteners substantially as hereinbefore described with reference to the accompanying drawings.

10. A sliding clasp fastener constructed and arranged substantially as hereinbefore described with reference to Figs. 1, 2 and 3 of the accompanying drawings.

11. A sliding clasp fastener constructed and arranged substantially as hereinbefore described with reference to Figs. 4 and 5 of the accompanying drawings.

12. A sliding clasp fastener constructed and arranged substantially as hereinbefore described with reference to Figs. 6 and 7 of the accompanying drawings.

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15 **WHAT I CLAIM IS:—**

1. A method of making a sliding clasp fastener interlocking members of which are made of plastics and are interconnected to form a string of interlocking members, comprising the step of welding the string of interlocking members to a plastic carrier attached, or to be attached to a tape of the fastener.

25 2. A method of making a sliding clasp fastener, comprising the steps of making a string of plastic interlocking members, each member being of substantial U-shape and one end of each member (except for the extreme members at each end of the fastener) being connected only to the succeeding and the other end only to the preceding member by bridge portions, and welding the bridge portions to a plastic carrier attached or to be attached to a tape of the fastener.

35 3. A method as claimed in claim 2, wherein the string of plastic interlocking members is shaped from an initially flat elongated zig-zag-like formation, the said formation being bent about its longitudinal centre line into

substantial U-shape when viewed endwise.

4. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier comprises one or more filaments of plastic material.

5. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier comprises a flat strip of plastic material.

6. A sliding clasp fastener as claimed in claim 5, wherein the flat strip has holes through which stitches extend which attach the strip to the tape.

7. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier is woven onto the tape.

8. A sliding clasp fastener made by a method as claimed in claim 1, 2 or 3, wherein the carrier is glued onto the tape.

9. Methods of making sliding clasp fasteners substantially as hereinbefore described with reference to the accompanying drawings.

10. A sliding clasp fastener constructed and arranged substantially as hereinbefore described with reference to Figs. 1, 2 and 3 of the accompanying drawings.

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