

PATENT SPECIFICATION

1,027,376

DRAWINGS ATTACHED.

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Date of filing Complete Specification: March 24, 1965.

Application Date: June 24, 1964. No. 26034/64.

Complete Specification Published: April 27, 1966.

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Index at Acceptance:—A3 H23.

Int. Cl.:—A 44 b 13/00.

COMPLETE SPECIFICATION.

Improvements relating to Hook Fastening Devices for Garment Material.

We, THOMAS WALKER LIMITED, 39 St. Paul's Square, Birmingham 3, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:

This invention relates to hook fastening devices primarily, although not exclusively, intended for use with a complementary staple or eye member on overlapping portions of garment material or other fabric, such as on trousers' waistbands for example, and it is concerned with such hook fastening devices of the kind which comprise a hook member carrying attachment prongs which are passed through the fabric material and clenched over against a separate back-plate positioned on the underside of the material.

According to the present invention, a two-part hook fastening device of the kind referred to for attachment to garment material or other fabric consists in a hook member in combination with a back-plate, said hook member comprising a plate fashioned to provide a flat hook tongue in the form of a cantilever integrally joined at its inner end by a shallow step to an offset base part which has a longitudinal extent less than the length of said hook tongue and which is adapted to seat upon the fabric material, said plate carrying transversely-spaced integral attachment prongs in the region of said base part, which prongs are adapted to be passed through the fabric material and to be folded over about axes parallel to the longitudinal direction of said hook tongue during clenching, said back-plate comprising a generally flat plate having spaced apertures towards one end in

alignment with the attachment prongs of the hook member and a transversely-extending raised portion contiguous with said apertures which provides a hollow recess for accommodating the folded-over or clenched prongs in shielded relationship and also provides a raised transverse seating surface to which the base part of the hook member and interposed fabric material are clamped by the folded-over or clenched attachment prongs.

In the accompanying drawings.

Figure 1 is a perspective view of a hook member and back-plate according to one embodiment, before assembly;

Figure 2 is a top plan view of the assembled fastening device shown in Figure 1;

Figure 3 is a similar underside plan view;

Figure 4 is a longitudinal section on line IV—IV of Figure 2; and

Figures 5, 6, 7 and 8 are views similar to Figures 1, 2, 3 and 4 respectively, showing a second embodiment of the invention.

Referring to Figures 1 to 4 of the drawings, the hook fastening device illustrated therein is intended for use on a garment waistband, in conjunction with a complementary staple or eye member, and it consists in a pronged hook member 1 together with an associated, separate, back-plate 2. These components are formed from sheet metal, the hook member 1 being fashioned from a plate to provide a flat, elongated hook tongue 3 which is in the form of a cantilever integrally joined at its inner end by a shallow step or cranked portion 4 to a transverse edge of a generally rectangular, offset base part 5 having opposite side edges 6, 6, which are substantially shorter than the length of the hook tongue 3.

The hook member 1 carries two pairs of

[Price 4s. 6d.]

transversely-spaced pointed attachment prongs 7, 7, which are integral with the side edges 6, 6 of the base part 5 and which, initially, extend rearwardly at right angles to the plane of the base part, these prongs 7, 7, being adapted to be passed through the garment fabric material 8 and to be folded over about axes parallel to the longitudinal direction of the hook tongue 3 when they are clenched against the back-plate 2 during assembly.

The back-plate 2 comprises a generally flat plate having overall dimensions similar to that of the hook member 1, and towards one end it is formed with spaced apertures 10, 10, for receiving the attachment prongs 7, 7, of the hook member 1, and with a raised portion formed by a pair of side-by-side transverse channels 12, 12, extending between said apertures.

In assembling this hook fastening device, the back-plate 2 is applied to the underside of the garment fabric material 8 whilst the prongs 7, 7, of the hook member 1 are passed therethrough, and through the apertures 10, 10. The attachment prongs 7, 7, are then folded over and clenched against the back-plate so as to lie within the transverse channels 12, 12, where they are accommodated in shielded relationship.

These transverse channels 12, 12, also provide a raised seating surface to which the base part 5 of the hook member and the interposed garment fabric material 8 are clamped by the clenched attachment prongs, thereby increasing the effective elevation of the outer end of the hook tongue 3 and facilitating initial engagement with the complementary staple or eye member.

This arrangement also facilitates a slight relative tilting or rocking movement between the hook member 1 and back-plate 2 under the action of a garment press which gives this type of fastener a high resistance to crushing and to detrimental permanent distortion in use.

Many modifications within the scope of this invention may, of course, be readily made to the detailed construction described in connection with this exemplary embodiment. For example, as in the second exemplary embodiment illustrated in Figures 5 to 8 of the drawings, the hook fastening device may comprise a sheet-metal hook member 1a having an elongated narrow hook tongue 15 integrally joined at its inner end by a shallow stepped or cranked portion 16 to a transverse edge of a flat base part 17 carrying a single pair of pointed attachment prongs 18, 18, one at each opposite side edge, lying on a common transverse axis. In this case, the back-plate 2a conveniently has a raised portion formed by a single transverse channel 20 extending between a pair of prong-receiving apertures

21, 21, which may be in the form of open notches in the sides of the plate, as shown.

If desired, the transverse channel 20 may be somewhat enlarged over its centre portion at 22, and the base part 17 of the hook member 1a may have a short extension 23 which assists in preventing any excessive tendency to lifting of the hook tongue 15 through tilting about the transverse prong axis during use. The overall longitudinal extent of the base part 17, however, should still be less than the length of the cantilever part of the hook tongue 15 so that there will never be any tendency for the hook tongue to be bent inwards towards the garment material and suffer a detrimental permanent distortion if subjected to excessive pressure under the action of a garment press.

WHAT WE CLAIM IS:—

1. A two-part hook fastening device of the kind referred to for attachment to garment material or other fabric consisting in a hook member in combination with a back-plate, said hook member comprising a plate fashioned to provide a flat hook tongue in the form of a cantilever integrally joined at its inner end by a shallow step to an offset base part which has a longitudinal extent less than the length of said hook tongue and which is adapted to seat upon the fabric material, said plate carrying transversely-spaced integral attachment prongs in the region of said base part, which prongs are adapted to be passed through the fabric material and to be folded over about axes parallel to the longitudinal direction of said hook tongue during clenching, said back-plate comprising a generally flat plate having spaced apertures towards one end in alignment with the attachment prongs of the hook member and a transversely-extending raised portion contiguous with said apertures which provides a hollow recess for accommodating the folded-over or clenched prongs in shielded relationship and also provides a raised transverse seating surface to which the base part of the hook member and interposed fabric material are clamped by the folded-over or clenched attachment prongs.

2. A two-part hook fastening device as claimed in claim 1, in which the shallow step connecting the base part to the hook tongue is integral with a transverse edge of said base part.

3. A two-part hook fastening device, as claimed in claim 1 or 2, in which the hook member has a pair of adjacent attachment prongs arranged at each side of the base part, and the back-plate has a pair of side-by-side transverse channels to accommodate said prongs.

4. A two-part hook fastening device, as

transversely-spaced pointed attachment prongs 7, 7, which are integral with the side edges 6, 6 of the base part 5 and which, initially, extend rearwardly at right angles to the plane of the base part, these prongs 7, 7, being adapted to be passed through the garment fabric material 8 and to be folded over about axes parallel to the longitudinal direction of the hook tongue 3 when they are clenched against the back-plate 2 during assembly.

The back-plate 2 comprises a generally flat plate having overall dimensions similar to that of the hook member 1, and towards one end it is formed with spaced apertures 10, 10, for receiving the attachment prongs 7, 7, of the hook member 1, and with a raised portion formed by a pair of side-by-side transverse channels 12, 12, extending between said apertures.

In assembling this hook fastening device, the back-plate 2 is applied to the underside of the garment fabric material 8 whilst the prongs 7, 7, of the hook member 1 are passed therethrough, and through the apertures 10, 10. The attachment prongs 7, 7, are then folded over and clenched against the back-plate so as to lie within the transverse channels 12, 12, where they are accommodated in shielded relationship.

These transverse channels 12, 12, also provide a raised seating surface to which the base part 5 of the hook member and the interposed garment fabric material 8 are clamped by the clenched attachment prongs, thereby increasing the effective elevation of the outer end of the hook tongue 3 and facilitating initial engagement with the complementary staple or eye member.

This arrangement also facilitates a slight relative tilting or rocking movement between the hook member 1 and back-plate 2 under the action of a garment press which gives this type of fastener a high resistance to crushing and to detrimental permanent distortion in use.

Many modifications within the scope of this invention may, of course, be readily made to the detailed construction described in connection with this exemplary embodiment. For example, as in the second exemplary embodiment illustrated in Figures 5 to 8 of the drawings, the hook fastening device may comprise a sheet-metal hook member 1a having an elongated narrow hook tongue 15 integrally joined at its inner end by a shallow stepped or cranked portion 16 to a transverse edge of a flat base part 17 carrying a single pair of pointed attachment prongs 18, 18, one at each opposite side edge, lying on a common transverse axis. In this case, the back-plate 2a conveniently has a raised portion formed by a single transverse channel 20 extending between a pair of prong-receiving apertures

21, 21, which may be in the form of open notches in the sides of the plate, as shown.

If desired, the transverse channel 20 may be somewhat enlarged over its centre portion at 22, and the base part 17 of the hook member 1a may have a short extension 23 which assists in preventing any excessive tendency to lifting of the hook tongue 15 through tilting about the transverse prong axis during use. The overall longitudinal extent of the base part 17, however, should still be less than the length of the cantilever part of the hook tongue 15 so that there will never be any tendency for the hook tongue to be bent inwards towards the garment material and suffer a detrimental permanent distortion if subjected to excessive pressure under the action of a garment press.

WHAT WE CLAIM IS:—

1. A two-part hook fastening device of the kind referred to for attachment to garment material or other fabric consisting in a hook member in combination with a back-plate, said hook member comprising a plate fashioned to provide a flat hook tongue in the form of a cantilever integrally joined at its inner end by a shallow step to an offset base part which has a longitudinal extent less than the length of said hook tongue and which is adapted to seat upon the fabric material, said plate carrying transversely-spaced integral attachment prongs in the region of said base part, which prongs are adapted to be passed through the fabric material and to be folded over about axes parallel to the longitudinal direction of said hook tongue during clenching, said back-plate comprising a generally flat plate having spaced apertures towards one end in alignment with the attachment prongs of the hook member and a transversely-extending raised portion contiguous with said apertures which provides a hollow recess for accommodating the folded-over or clenched prongs in shielded relationship and also provides a raised transverse seating surface to which the base part of the hook member and interposed fabric material are clamped by the folded-over or clenched attachment prongs.

2. A two-part hook fastening device as claimed in claim 1, in which the shallow step connecting the base part to the hook tongue is integral with a transverse edge of said base part.

3. A two-part hook fastening device, as claimed in claim 1 or 2, in which the hook member has a pair of adjacent attachment prongs arranged at each side of the base part, and the back-plate has a pair of side-by-side transverse channels to accommodate said prongs.

4. A two-part hook fastening device, as



5 claimed in claim 1 or 2, in which the hook member has a single pair of attachment prongs arranged one at each side edge of the base part along a common transverse axis.

5. A two-part hook fastening device substantially as herein described with reference to Figures 1 to 4 of the accompanying drawings.

6. A two-part hook fastening device 10 substantially as herein described with reference to Figures 5 to 8 of the accompanying drawings.

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Abingdon: Printed for Her Majesty's Stationery Office, by Burgess & Son (Abingdon), Ltd.—1966.
Published at The Patent Office, 25 Southampton Buildings, London, W.C.2,
from which copies may be obtained.

