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IPOS
copyTERMINALS USED FOR TERMINATING SEALED WIRE

The present invention relates to a terminal for processing a shielding wire end, and more particularly but not exclusively to a terminal for connecting a drain wire 5 (for grounding) of the shielding wire to a grounding wire member. The term "processing" is intended to cover terms such as "terminating" or "connecting".

In a known terminal for processing a shielding wire end, a plurality of terminals serially and integrally formed 10 through respective joints are cut off at the respective joints, the respective terminals are placed on an adhesive tape, and the tape having the terminals mounted thereon is wound on a reel. (It is wound on the reel to allow handling by a pressing machine.)

15 However, in such a prior art terminal for processing the shielding wire end, the terminals mounted on the adhesive tape may be inclined or moved while they are transported with the tape, and certain terminals are hard to adhere to the tape, and burrs of the cut-off joints may 20 damage the tape.

In order to solve the above problems, in the terminal for processing the shielding wire end of the present invention, a plurality of terminals each comprising a terminal body, a pair of press-contact members formed by 25 inwardly bending opposite sides of the body and a tongue projecting from a center of the body are fixed to a film-shaped carrier with the press-contact members being aligned in a line at a constant pitch.

In a method according to the invention one terminal 30 with the film-shaped carrier is cut off, a shielding wire (a cover portion) is mounted on the tongue of the terminal, and a drain wire (e.g. a mesh shielding wire) and a grounding wire (a core wire exposed by stripping a tip end cover) are inserted between the tongue and one of the press-contact 35 members, and the terminal body is crimped or caulked from the outside by an appropriate crimper or caulker. As a result, the terminal body, the drain wire and the grounding wire are press-contacted in electrical connection.

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By way of example, one embodiment of a terminal and an assembly of terminals according to the invention, will now be described with reference to the accompanying drawings, in which:-

5 Figure 1 shows a side view of a terminal of the present invention,

Figure 2 shows a plan view of the terminal for processing a shielding wire end,

Figure 3 shows the terminals for processing the
10 shielding wire ends of Figure 2 wound on a reel,

Figure 4 shows terminals for processing the shielding wire ends of Figure 2 wound on a reel, and

Figure 5 illustrates the use of the terminal of the present invention.

15 Figure 1 shows a side view of the terminal for processing the shielding wire in accordance with the present invention. In Figure 1, each terminal comprises a terminal body (base plate) 10, a pair of press-contact members 11 and 12 formed by inwardly bending opposite sides of the body and
20 a tongue 13 projecting from a center of the body, and the outer sides of the terminal body and the press-contact members as well as a portion of the inner sides of the press-contact members are covered with thermal press-contact plastic films 20 (which is identical to a film-shaped
25 carrier).

In the illustrated embodiment, the tongue is formed by forming a U-shaped cut at the bottom of the body and bending upward therefrom (see Figure 2). The tongue is bent in the same direction as the bending direction of one of the
30 pair of press-contact members.

Figure 2 shows a partial plan view of the terminal for processing the shielding wire end in accordance with the present invention. In the illustrated embodiment, a plurality of terminals are mounted on a film-like carrier
35 such that the tongues of the respective terminals are aligned in a line at a constant pitch. For example, a plurality of terminals jointed through joints are cut off (in a manner not to leave chips of the joints) and they are

mounted on the film-shaped carrier band, and the film-shaped carrier is thermally press-contacted to the respective terminals to form the jointed terminals for handling the ends. In Figure 2, a piece 14 remaining on the side of the terminal body is a portion of the cut-off joint.

In practice, as shown in Figures 3 and 4, the belt-shaped terminals for processing the shielding wire ends of the present invention are wound on a reel 40, and taken up therefrom to supply them to a pressing machine.

Figure 5 illustrates processing of the end of the shielding wire by using the terminal of the present invention. Particularly, one terminal with the film-shaped carrier thermally press-contacted to the terminal body is first cut off from the belt-shaped terminal. Then, the shielding wire 50 is mounted on the tongue 13 projecting from the center of the terminal body. Then a drain wire (e.g. a mesh shielding wire) 51 and a grounding wire (a core wire exposed by stripping the tip end cover) 60 taken out by stripping the shielding wire are inserted between the tongue 13 and the press-contact member 12 (located on the opposite side to the shielding wire mounted on the tongue). Then, the terminal encompassing the shielding wire is crimped or caulked from the outside by an appropriate crimper or caulker. As a result, the terminal body, the drain wire and the grounding wire are pressed-contacted in electrical conduction.

In accordance with the terminal for processing the shielding wire end of the present invention, the terminals are fixed to the film-shaped carrier with the press-contact members of the respective terminals aligned in a line at the constant pitch. Thus, the directions of mounting of the terminals are always constant and the mount pitch is constant compared to the prior art terminals which are mounted on the adhesive tape, and the problem during the transport is hard to occur and the workability in crimping or caulking by the crimper or caulker is remarkably improved. Further, the present invention can improve the packaging density by reducing the mount interval of the

terminals. In addition, the damage of the tape by the chips of the joints cut off the terminals is prevented.

CLAIMS

1. A terminal for processing a shielding wire end comprises a plurality of terminals each terminal comprising a terminal body (10), a pair of press-contact members (11) and (12) formed by inwardly bending opposite sides of said body and a tongue (13) projecting from a center of said body, said plurality of terminals being fixed to a film-shaped carrier (20) with the press-contact members of the respective terminals being aligned in a line at a constant pitch.
2. A terminal for processing a shielding wire end according to Claim 1 wherein an outer side of said terminal body, outer sides of said press-contact members and a portion of inner sides of said press-contact members are covered with said film-shaped carrier (20).
3. A terminal for processing a shielding wire end according to Claim 1 or 2 wherein said tongue (13) is bent in the same direction as the bending direction of one said pair of press-contact members.
4. A terminal for use with a shielded wire, which terminal comprises a terminal base portion (10), a pair of wall members (11, 12) extending from opposing edges and out of the plane of the base on the same side thereof, and a tongue (13) projecting from the base between said wall members, the tongue (13) in use supporting a shielding wire and connection of shielding of the shielded wire to another conductor taking place, in use, on the other side of the tongue from the shielded wire, the wall members, in use, being pressed over the shielded conductor and the or each other conductor to achieve a desired electrical connection.
5. A terminal as claimed in Claim 4 wherein the wall members are curved with mutually facing concave surfaces, the tongue being curved in the same direction as one of the wall members.
6. A terminal assembly comprising a film (20) and terminals as claimed in Claim 4 or Claim 5 secured to the film at regular intervals and aligned.
7. A method of connecting shielding of a shielded wire



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REPLACED

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to a grounding wire using a terminal from a terminal assembly as claimed in Claim 6, which method comprises the steps of cutting one terminal from the film (20), mounting a shielded wire on the tongue (13), placing a drain wire in
5 contact with a grounding wire on the side of the tongue remote from the shielded wire, and pressing the wall members over the wires to achieve electrical connection.

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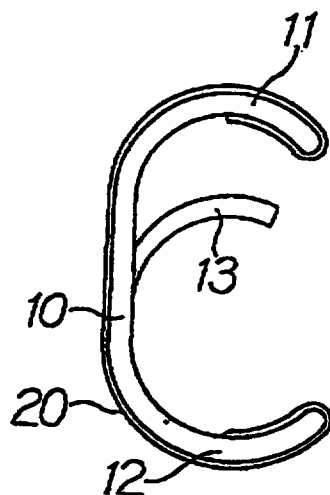
ABSTRACTTERMINALS USED FOR TERMINATING SEALED WIRE

A terminal for processing a shielding wire (50) end,
5 and more particularly a terminal for connecting a drain wire
(51) (for grounding) of the shielding wire to a grounding
wire (60) member us disclosed.

A plurality of terminals each comprising a terminal
body, a pair of press-contact members (11, 12) formed by
10 inwardly bending opposite sides of the body and a tongue
(13) projecting from a center of the body are fixed on a
film-shaped carrier (20) with the press-contact members of
the respective terminals being aligned in a line at a
constant pitch.

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[FIG. 1]



[FIG. 2]

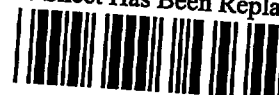
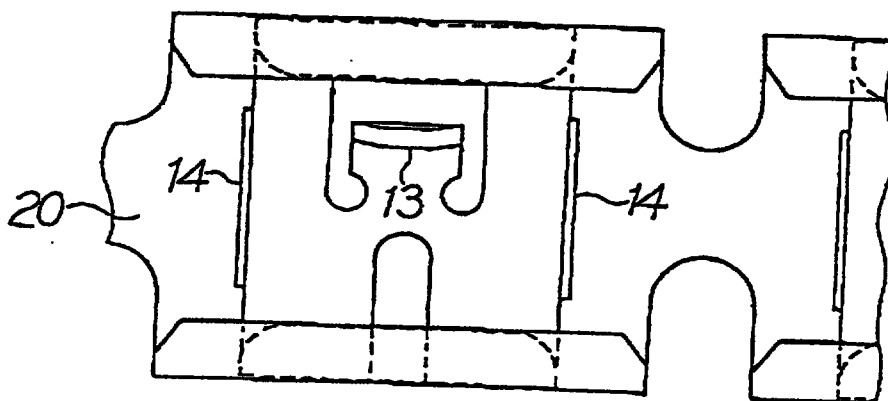


FIG 3

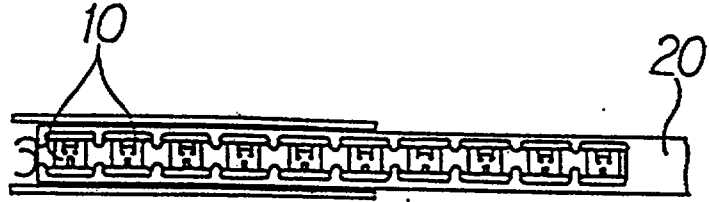


FIG 4

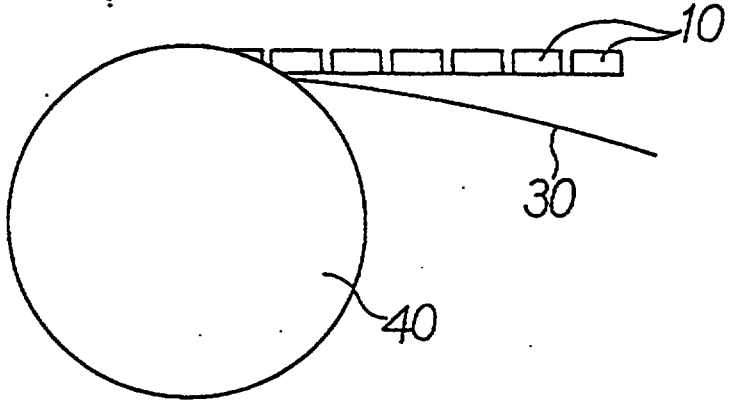
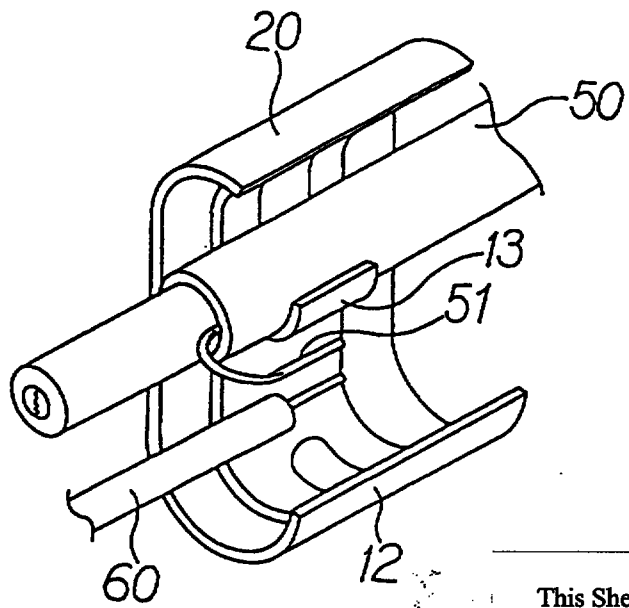


FIG 5



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REPLACEMENT SHEET

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TERMINALS USED FOR TERMINATING SEALED WIRE

The present invention relates to a terminal for processing a shielding wire end, and more particularly but not exclusively to a terminal for connecting a drain wire (for grounding) of the shielding wire to a grounding wire member. The term "processing" is intended to cover terms such as "terminating" or "connecting".

In a known terminal for processing a shielding wire end, a plurality of terminals serially and integrally formed through respective joints are cut off at the respective joints, the respective terminals are placed on an adhesive tape, and the tape having the terminals mounted thereon is wound on a reel. (It is wound on the reel to allow handling by a pressing machine).

However, in such a prior art terminal for processing the shielding wire end, the terminals mounted on the adhesive tape may be inclined or moved while they are transported with the tape, and certain terminals are hard to adhere to the tape, and burrs of the cut-off joints may damage the tape.

A terminal of this type is described in our patent specification US-A-4051323, the terminal having a terminal body, a pair of press-contact members extending inwardly from opposite sides of said body, and a tongue projecting from a centre of the body. US-A-4051323 contemplates use of excess film as a carrier strip for continuous strip use, but does not address problems of strip flexibility or damage due to flexure.

According to the invention, there is provided an assembly of terminals for processing a shielding wire end and a carrier film, a terminal body, a pair of press-contact members extending inwardly from opposite sides of said body and a tongue projecting from a centre of said body, the terminals being fixed to the carrier film with the press-contact members of the respective terminals being aligned in a line at a constant pitch, the carrier film having a pair of opposed U-shaped cut-outs lying between each adjacent pair of terminals.



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CLAIMS

1. An assembly of terminals for processing a shielding wire end and a carrier film (20), a terminal body (10), a pair of press-contact members (11, 12) extending inwardly from opposite sides of said body and a tongue (13) projecting from a centre of said body, the terminals being fixed to the carrier film (20) with the press-contact members of the respective terminals being aligned in a line at a constant pitch, the carrier film (2) having a pair of opposed U-shaped cut-outs lying between each adjacent pair of terminals.
2. An assembly as claimed in Claim 1 wherein the portions of the film between each pair of opposed U-shaped cut-outs are coplanar when the assembly lies on a planar surface.
3. An assembly as claimed in Claim 1 or Claim 2 wherein an outer side of each terminal body, outer sides of said press-contact members and a portion of inner sides of said press-contact members are covered with said carrier film (20).
4. An assembly as claimed in any one of claims 1 to 3 wherein said tongue (13) is bent in the same direction as the bending direction of one said pair of press-contact members.
5. An assembly as claimed in any one of claims 1 to 3 wherein the body of each terminal comprises a planar terminal base portion (10), the press-contact members (11, 12) extending from opposing edges and out of the plane of the base on the same side thereof, the tongue (13) in use supporting a shielding wire and connection of shielding of the shielded wire to another conductor taking place, in use, on the other side of the tongue from the shielded wire, the press-contact members (11, 12), in use, being pressed over the shielded conductor and the or each other conductor to achieve a desired electrical connection.



REPLACEMENT SHEET

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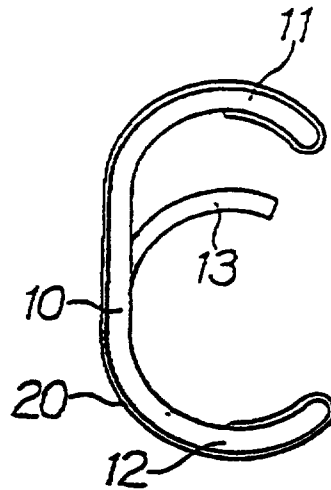
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6. A terminal as claimed in Claim 5 wherein the press-contact members are curved with mutually facing concave surfaces, the tongue being curved in the same direction as one of the press contact members (11, 12).

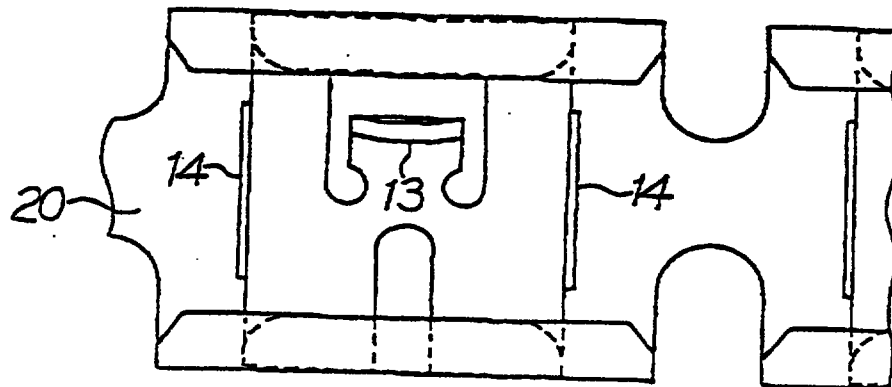
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[FIG. 1]



[FIG. 2]



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FIG 3

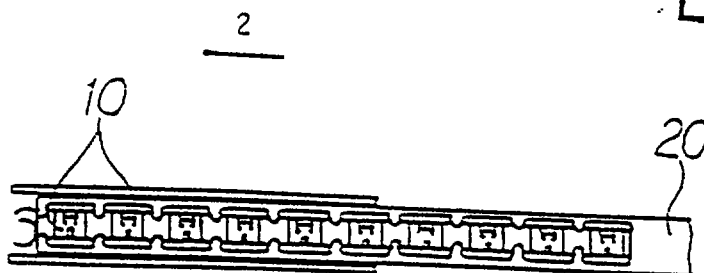


FIG 4

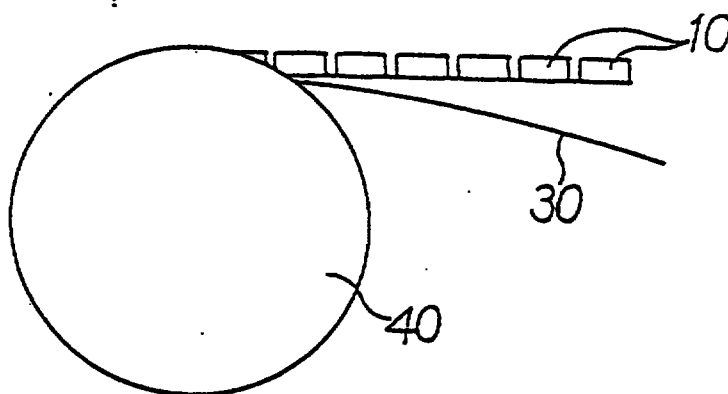


FIG 5

