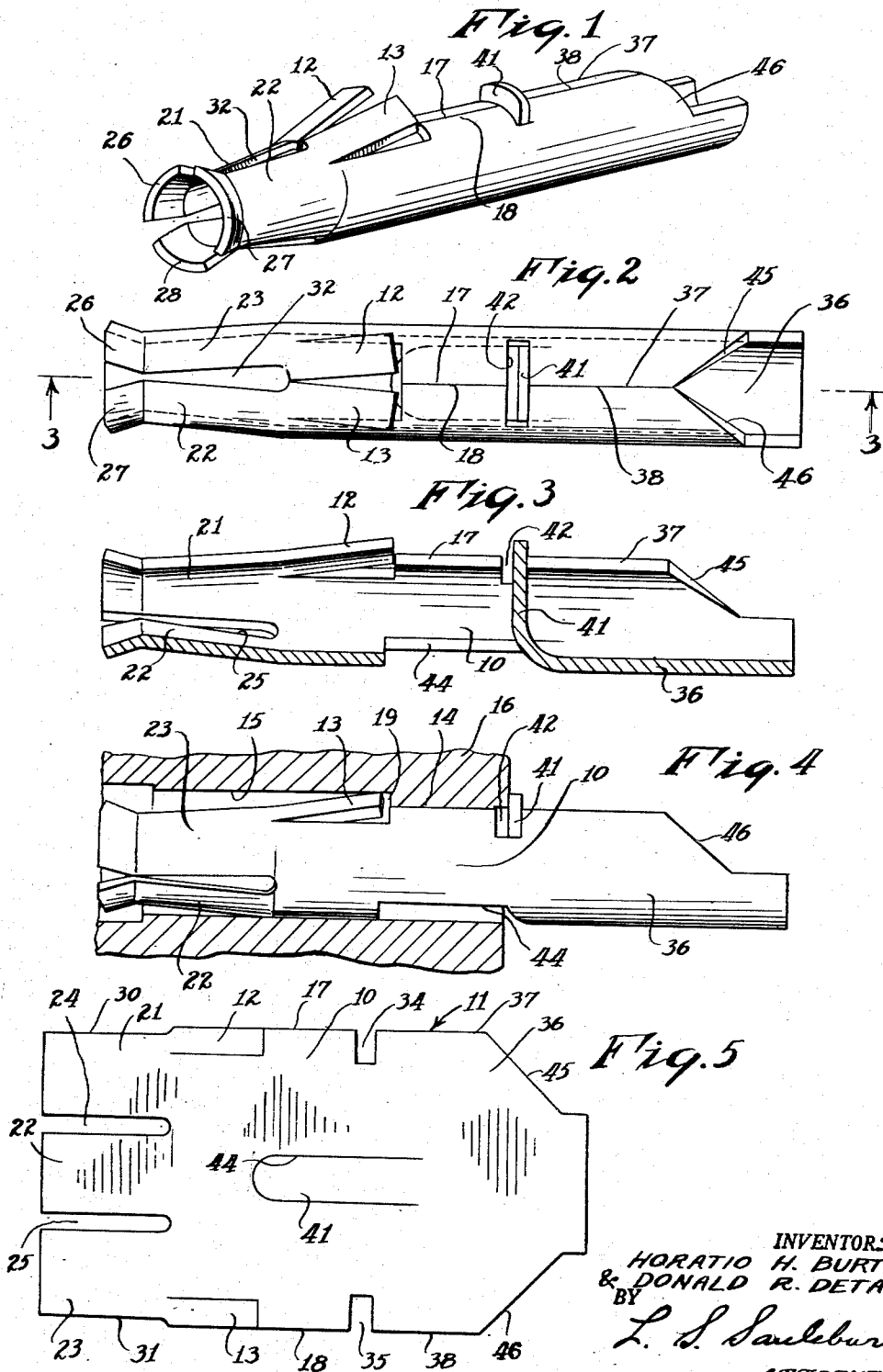


Sept. 14, 1954

H. H. BURTT ET AL
SHAPED METAL CONTACT

2,689,337

Filed April 4, 1952



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2,689,337

SHAPED METAL CONTACT

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Application April 4, 1952, Serial No. 280,522

3 Claims. (Cl. 339-217)

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This invention relates to sheet metal electrical contacts for electrical connectors and to the method of making the same.

It is an object of the present invention to provide a sheet metal contact adapted for use with electrical connectors which will be provided with a solder stop to prevent the flow of the solder through the contact and into engagement with the contacting portions upon a wire that is attached to the rearward end of the contact by means of solder in the conventional manner.

It is another object of the invention to provide a sheet metal electrical contact having a solder stop to prevent the flow of solder through the contact wherein the solder stop serves in addition to preventing the flow of solder, as a stop limiting the forward displacement of the contact through the insulating block opening when once assembled therein.

It is another object of the invention to provide an electrical contact for assembly into an opening of an insulating block of an electrical connector wherein the operation of assembling such contacts would be a simple one and effected by workers who need not have great skill and wherein the assembly is effected by a single operation of projecting the contact into the insulating block opening and automatically it is caught in the assembled position and held against displacement from the insulating block.

Other objects of the invention are to provide a sheet metal contact which is of simple construction, inexpensive to manufacture, while providing for the solder stop, of one piece, compact, durable, easy to assemble in the insulating block opening and efficient in use and operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a perspective view of the electrical contact of the female type embodying the features of the present invention;

Fig. 2 is a top plan view of the electrical contact;

Fig. 3 is a longitudinal sectional view taken on line 3-3 of Fig. 2 of the contact;

Fig. 4 is a side elevational view of the contact embedded in the opening of an insulating block;

Fig. 5 is a plan view of a struck sheet metal piece prior to its being bent into a hollow tubular shape.

Referring now to the figures and particularly to Fig. 5, 10 represents an intermediate portion

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of a struck sheet metal piece 11 from which the contact is made. This intermediate portion has at its respective side edges cut bendable prongs or stop portions 12 and 13 which when the contact is finally formed to assume the shape shown in Figs. 1 to 4 bend outwardly and upwardly for engagement with a depending portion 14 lying within an opening 15 of an insulating block 16, Fig. 4. This intermediate portion 10 has side edges 17 and 18 rearwardly of the prongs which unite with one another to close the intermediate portion and to provide a cylindrical body lying under the depending portion 14, of the insulating block 16. The prongs 12 and 13 will be depressed as the contact is pushed inwardly from the rear of the insulating block so as to clear the depending portion 14 of the opening 15 and when they pass this depending portion 14 they will ride thereover and abut with an end shoulder 19 of the depending portion, Fig. 4.

Extending forwardly of the intermediate portion 10 are contact engaging portions 21, 22 and 23 spaced from one another by slots 24 and 25.

These contact engaging portions 21, 22 and 23 are respectively flared at their ends when the contact is finally formed as respectively indicated at 26, 27 and 28. Not only are these contact portions flared, but they are brought close to one another near their outer ends so as to provide a tight engagement with the male contact as it is used.

The contact engaging portions 21 and 23 are respectively relieved at their outer sides as indicated at 30 and 31, Fig. 5, so as to form slot 32 when the struck piece 11 is finally shaped and the contact engaging portions brought into nested relationship with one another.

The intermediate portion 10 is provided with notches 34 and 35 serving to separate the intermediate portion 10 from a rearwardly extending attaching portion 36 for a wire that is ordinarily connected to these contacts by soldering, and when this portion is folded to assume the shape shown in Figs. 1 to 4, it is adapted to conveniently contain the wire and the solder effecting the connection of the wire thereto. The rearward wire attaching portion 36 has side edges 37 and 38 which are united when the struck piece is folded to assume the contact shape.

Struck from the intermediate and rearward portions is a solder stop lip 41 which is bent upwardly and through the joined notches 34 and 35 of the intermediate portion 10 which locate a slot indicated generally at 42 in the top of the contact. This lip protrudes above the joined

edges 37 and 38 of the rearward portion and above the joined edges 17 and 18 of the intermediate portion and in the manner as shown best in Figs. 1 and 2. This lip 41 serves as a stop for the solder which is applied to the rearward portion 36 when attaching the wire thereto and also by its protruding above the joined edges of the intermediate and rearward portions serves as an abutment or stop to limit the forward displacement of the contact through opening 15 of the insulating block 16 and to hold the contact against forward displacement. It will thus be seen that the lip 41 serves a dual purpose. This lip 41 substantially fills the opening through the contact and will not allow the same to pass toward the contact engaging portions as the wire is being attached to the rearward portion 36 by the solder.

The lip 41 leaves, as it is bent upwardly into the recess 41, a recess or slot indicated at 44. The depending portion 14 is of such length as to fit between the stop prongs 12 and 13 which limit the rearward displacement of the contacts and the upwardly projecting lip 41 that will limit the forward displacement of the contact.

Rearwardly of the edges 37 and 38 of the rearward portion 36 are inclined edges 45 and 46 which provide a top opening through which the wire and the solder can be extended.

It should now be apparent that there has been provided an inexpensive electrical contact formed of sheet metal which has an upwardly struck portion serving as a stop for solder and as well to hold the contact in the opening of the insulating block against displacement forwardly through the insulating block. It will also be seen that there has been provided a metal contact which can be assembled by a simple thrusting operation of the contact into the rear of the opening in the insulating block.

While various changes may be made in the detail construction and the method of forming the contact, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What is claimed is:

1. A hollow electrical contact adapted to fit within an opening of an insulating block and having outwardly struck means engageable with a depending portion of a contact opening to limit the movement of the contact in one direction and a second stop means struck from the contact from one side thereof and traversing the opening of

the contact and projecting through the opposite side of the contact to serve as a stop for engagement with the depending portion of an insulating block opening to limit the movement of the contact through the opening in the opposite direction.

2. A sheet metal electrical contact for engagement within an insulating block having an aperture with a dependent portion therein, said contact having a substantially tubular intermediate portion for engagement within the aperture of said block, said intermediate portion having yieldable prongs extending outwardly therefrom and depressable as the contact is inserted through the block, flared contact engaging portions extending forwardly of the intermediate portion, a portion extending rearwardly of the intermediate portion, said intermediate portion having a slot therein, and lipped means intermediate the ends of the contact extending across the tubular passage provided in the contact and protruding outwardly through said slot from the tubular portion to provide a stop for solder applied within the tubular passage and also to limit forward longitudinal displacement of the contact by the lipped means buttressing against the depending portion within the insulating block aperture.

3. A sheet metal electrical contact comprising an elongated tubular intermediate portion having a tubular passage therethrough, said intermediate portion having yieldable prongs extending outwardly therefrom, flared contact engaging portions extending forwardly of the intermediate portion, a portion extending rearwardly of the intermediate portion having a slot therein, and a lip integral with said contact extending transversely across said tubular passage from the intermediate portion, said lip having a protruding portion extending outwardly through the slot whereby the lip portion within the tubular passage serves to stop solder flow within the tubular passage and the protruding portion prevents forward axial movement of the contact when the contact is suitably mounted.

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