March 4, 1969 W. LE ROY BUSLER 3,431,548

COVERING FOR A CONNECTING MEMBER

Original Filed Feb. 27, 1964

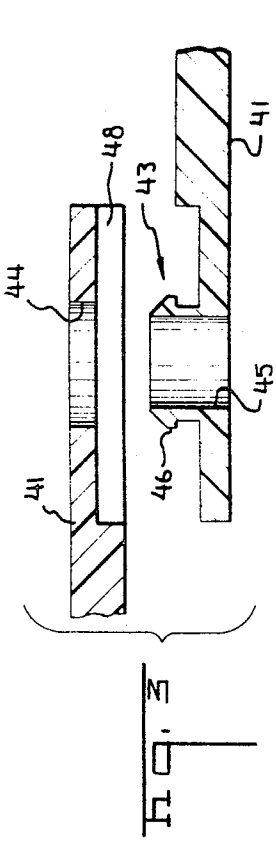


Fig. 3

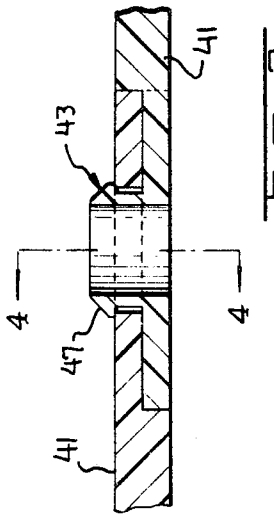


Fig. 2

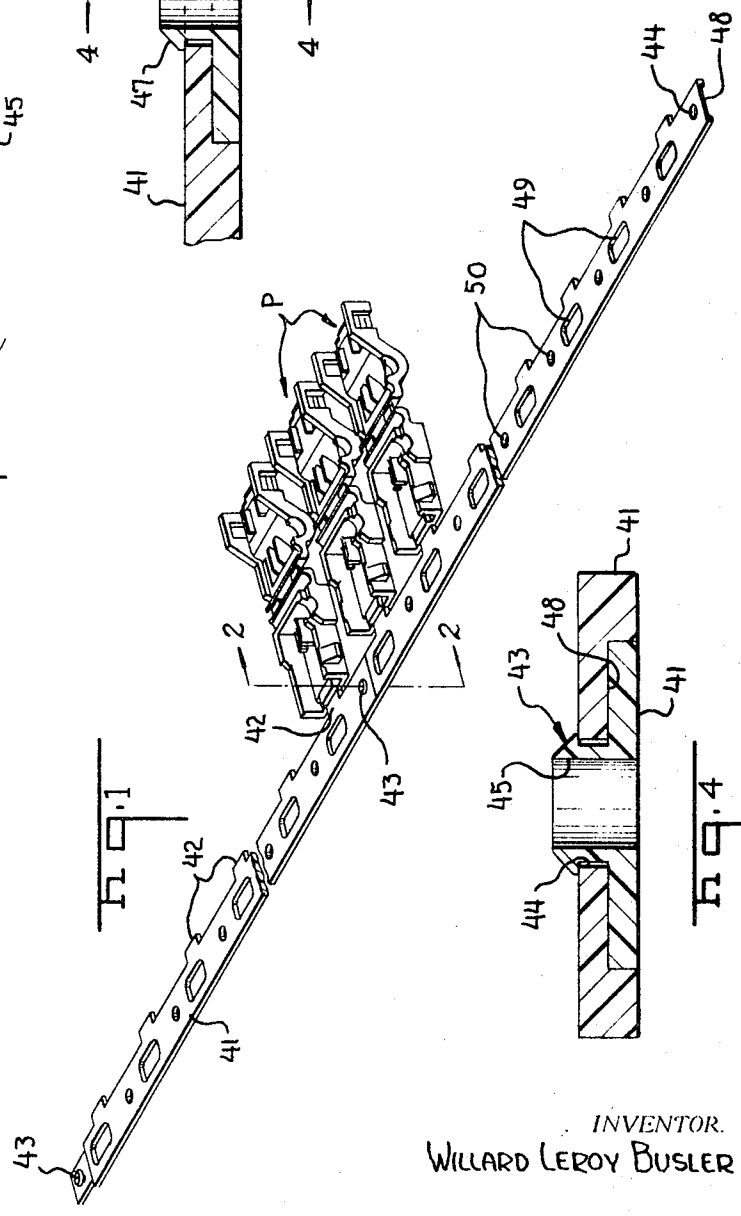


Fig. 1

Fig. 4

INVENTOR.
WILLARD LEROY BUSLER

United States Patent Office 3,431,548
Patented Mar. 4, 1969

3,431,548

COVERING FOR A CONNECTING MEMBER

Willard Le Roy Busler, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Original application Feb. 27, 1964, Ser. No. 347,907, now Patent No. 3,332,053. Divided and this application June 12, 1967, Ser. No. 645,310
U.S. Cl. 339—278 2 Claims
Int. Cl. H01r 3/00; B65d 21/02, 83/00

ABSTRACT OF THE DISCLOSURE

A carrier strip for carrying elements thereon to an operating station of a machine comprises an elongated strip of flexible material with the elements being spaced therealong at substantially equal intervals. Slots and holes are disposed in the strip at substantially equal intervals with a hole between adjacent slots. One of the holes and slots is engageable by a feeding means of the machine to feed the elements successively to the operating stations, and one of the slots and holes is engageable by a holding means adjacent the operating station to hold the element on which an operation is to be performed in place thereat. Means are provided on the strip at each end thereof for connecting the strip to like strips thereby forming a continuous line of strips.

Cross-reference to related application

This application is a division of U.S. Patent application Ser. No. 347,907, filed Feb. 27, 1964, now U.S. Patent No. 3,332,053.

This invention relates to coverings to encase connector members. Connecting strips on which the coverings are contained for forming a continuous line of coverings and for feeding the coverings to an encapsulating station provided by a machine for simultaneously feeding connector members to an operating station and the encapsulating station and for transferring the connector members from the operating station to the encapsulating station at which the connecting members are encapsulated within the coverings as described in the above-mentioned patent application.

It is known to provide connecting members with coverings as by a manual operation, molding the coverings onto the connecting members, placing the coverings onto the connecting members and then thermally fixing them thereon, or crimping the coverings onto the connecting members. The manual, molding and thermal application of the coverings onto the connecting members are time-consuming. The manual application is also awkward and generally precludes exact positioning of the coverings onto the connecting members. Once the coverings have been applied to the connecting members by molding, thermal and crimping techniques, the coverings are not removable for inspection of the connecting members; and once they are removed, they are not reuseable. Thermally applied coverings also generally contain flash projections which impede the use of the connecting members therein.

It is, therefore, another object of the present invention to provide coverings for connecting members that completely encases connecting members, are capable of being opened for purposes of inspection and are reuseable.

A further object of the present invention is to provide a strip on which the coverings are carried and which provides interconnection between adjacent strips as well as feeding, guiding and locking features.

Other objects and attainments of the present invention will become apparent to those skilled in the art upon a

reading of the following detailed description when taken in conjunction with the drawings in which there is shown and described an illustrative embodiment of the invention; it is to be understood, however, that this embodiment is not intended to be exhaustive nor limiting of the inventon but is given for purposes of illustration in order that others skilled in the art may fully understand the invention and the principles thereof and the manner of applying it in practical use so that they may modify it in various forms, each as may be best suited to the conditions of a particular use.

In the drawings:

FIGURE 1 is a perspective view of some of the coverings on carrier feed strips;

FIGURE 2 is a view taken along lines 2—2 of FIGURE 1;

FIGURE 3 is an exploded cross-sectional view of the fastening feature between the carrier strips; and

FIGURE 4 is a view taken along lines 4—4 of FIGURE 2.

The present invention will be discussed in relation to coverings taking the form of insulating pods to be applied to connecting members in the form of flag-type electrical connectors as set forth in U.S. Patent No. 3,123,431.

FIGURES 1–4 illustrate carrier strips **41** to carry insulating pods P thereon as well as to form a spool thereof for use on the machine disclosed in the above-mentioned patent application. Each carrier strip and the pods thereon are preferably molded as an integral unit, the pods being connected to the carrier strip by a piece **42**. One end of carrier strip **41** comprises a snap member **43** while the other end includes a receptacle **44**.

The end piece of the carrier strip on which snap member **43** is located is not as thick nor as wide as the carrier strip but the bottom surface thereof is even with the remainder of the strip as shown in FIGURES 2–4. Snap member **43** extends outwardly from the end piece and has a hole **45** extending therethrough. Toward the outer end of the snap member, there is an annular collar **46** spaced from the top flat surface of the end piece. Collar **45** has an inclined surface **47**.

The end piece of the carrier strip in which receptacle **44** is located comprises a channel **48** having a depth, width and length corresponding to that of the end piece carrying the snap member. Receptacle **44** constitutes a hole having a diameter slightly larger than the diameter of the snap member between flange **46** and the top surface of the end piece. Also, the thickness of the end piece in which receptacle **44** is located has a thickness which is about the same as the distance between flange **46** and the top surface of the end piece.

Both snap member **43** and receptacle **44** are centrally located in their respective end pieces so that the end of one carrier strip containing the snap member can be pushed through the receptacle in the end of another carrier strip to interlock the two carrier strips as indicated. This is repeated until a desirable length of carrier strips and their respective pods may be mounted on a suitable carrier means, such as the above-mentioned spool. Inclined surface **47** facilitates the entry of snap member **43** into receptacle **44**.

Each carrier strip also includes evenly spaced elongated slots **49** and holes **50** therebetween. Holes **44** and **45** are included in the disposition of holes **50**. The slots **49** are engaged by feed fingers of the pod-applying machine to feed the pods into position for receiving terminated connectors so as to be closed theeron and a pin extends within one of holes **50** on the carrier strip to maintain the strip in alignment and to prevent the strip from moving rearwardly during the return movement of the pod feed mechanism in addition to engaging snap member **43**

when receptacle **44** is in position under this pin thereby disconnecting the leading carrier strip, which has all its pods sheared therefrom, from the trailing carrier strip. This operation is disclosed in the above-mentioned parent application.

It will, therefore, be appreciated that the aforementioned and other desirable objects have been achieved; however, it should be emphasized that the particular embodiments of the invention, which are shown and described herein, are intended as merely illustrative and not as restrictive of the invention.

I claim:

1. A carrier strip carrying covering members to be applied to connecting members comprising an elongated strip of material having a plurality of said covering members connected thereto at spaced intervals, said strip including apertures, said apertures adapted to be engaged by a feeding mechanism of a machine to feed the covering members to a station for receiving connecting members, and means on each end of said carrier strip to interconnect the same to adjacent carrier strips to form a continuous line of carrier strips, said interconnecting means including at one end of said carrier strip a member projecting outwardly from the top surface thereof, the other end having an opening therethrough, said member passing through the opening of an adjacent carrier strip and having an annular flange of larger diameter than the opening to lock said carrier strips together, said other end opening being engaged by the member of another adjacent carrier strip thereto.

2. A carrier strip according to claim **1** wherein said carrier strip and said covering members are formed as an integral unit from plastic material.

References Cited

UNITED STATES PATENTS

2,475,243	7/1949	Irrgang	339—99
2,811,702	10/1957	Marozny	339—220
2,815,124	12/1957	Pellier	206—59
2,964,171	12/1960	Chadwick	206—56
3,163,286	12/1964	Covington.	
3,339,719	9/1967	Bush.	

MARVIN A. CHAMPION, *Primary Examiner.*

PATRICK A. CLIFFORD, *Assistant Examiner.*

U.S. Cl. X.R.

206—56; 220—23.4