

Sept. 2, 1969

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3,464,246

COMBINATION CRIMPING AND TESTING ASSEMBLY

Filed May 23, 1967

2 Sheets-Sheet 1

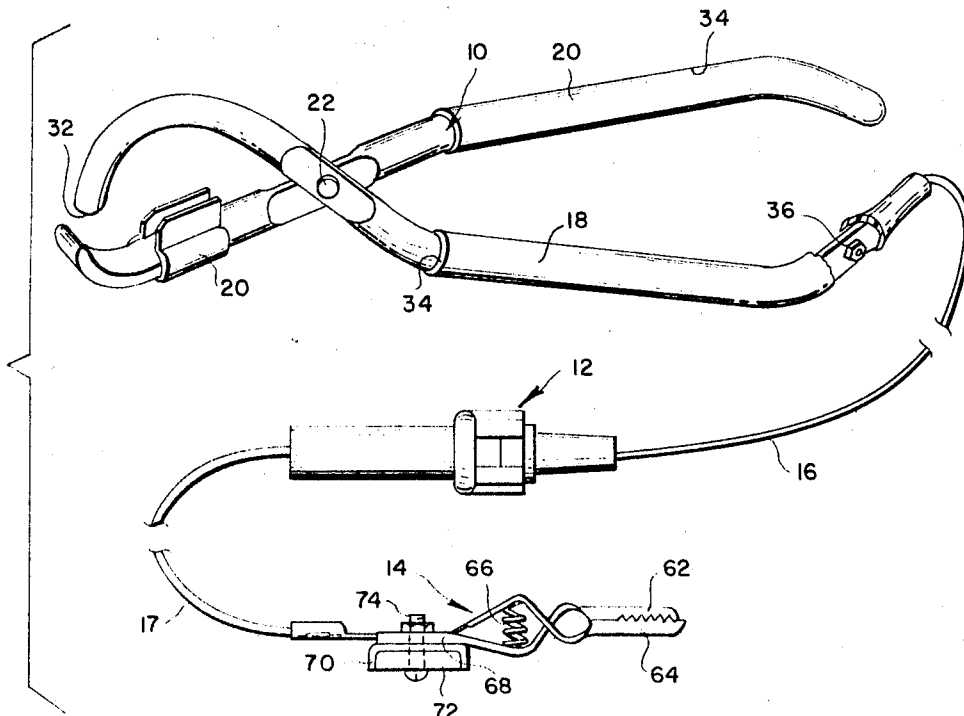


FIG. 1

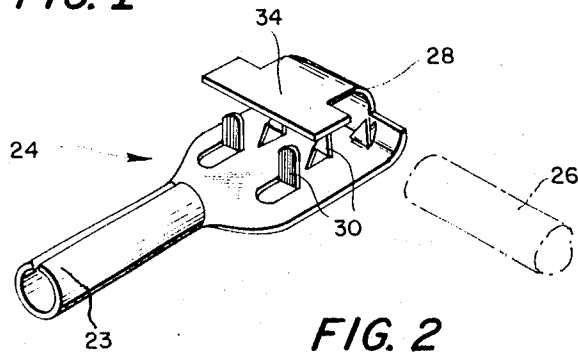


FIG. 2

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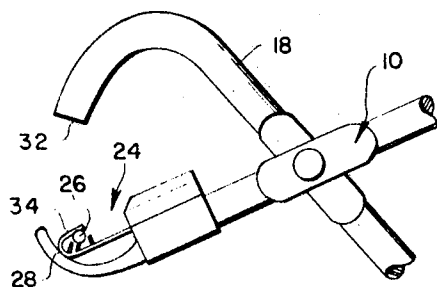


FIG. 3

FIG. 4

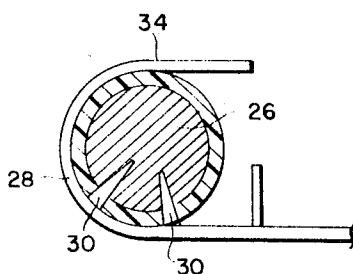
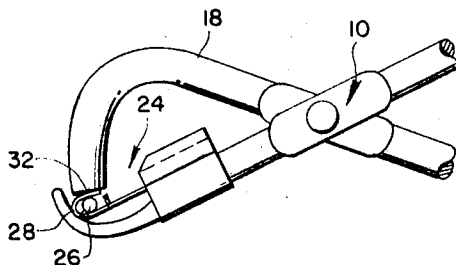


FIG. 5

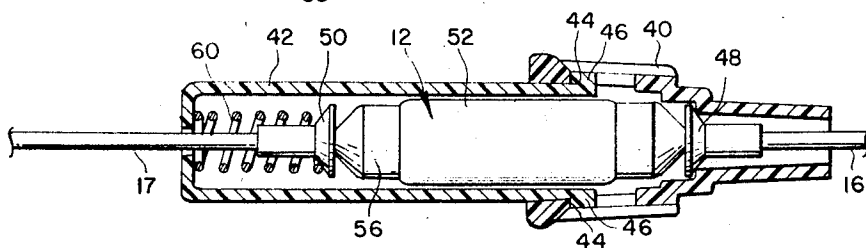


FIG. 6

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**COMBINATION CRIMPING AND TESTING
ASSEMBLY**

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Int. Cl. H01r 43/04; B25b 7/22
U.S. Cl. 72—31 4 Claims

ABSTRACT OF THE DISCLOSURE

The present invention relates generally to a combination crimping and testing assembly, particularly designed for use with automobile tail light wiring.

The dual functions of attaching contacting clips to insulated wires while testing for continuity is accomplished by the pliers-like vise grip assembly of the present invention, characterized by simplicity in construction and low cost of manufacture. Although numerous crimping devices are presently being marketed and simple circuit testing devices are in widespread use, the capability of performing both these functions in a single, manual assembly featuring improved crimping ability is believed to constitute an important advancement.

Accordingly, an object of the present invention is to enable a single gripping assembly, characterized by simplicity in construction, to perform the dual functions of crimping and testing.

Another object of the present invention is to provide in a combination crimping and circuit testing device an improved vise grip arrangement permitting contacting clips to be securely supported thus ensuring proper electrical contact with wire without damage to insulation.

Other objects will become apparent from the ensuing specification and attached drawings, wherein:

FIG. 1 is a perspective view of the combination crimping and testing assembly;

FIG. 2 is a perspective view of a contacting clip and insulated wire;

FIG. 3 is a side view of the crimping tool in open position with contacting clip positioned within bracket;

FIG. 4 is a side view of the crimping tool in closed position with contacting clip secured to insulated wire;

FIG. 5 is an enlarged sectional view of contacting clip with prongs inserted within insulated wire after crimping; and

FIG. 6 is a sectional view of bulb assembly.

As seen in FIG. 1, the present invention consists generally of crimping tool 10, cartridge-type bulb assembly 12 and magnetized clip assembly 14, appropriately connected by insulated wires 16 and 17.

More particularly, crimping tool 10 generally resembles a pair of pliers with handles 18 and 20 connected in pivoting relationship about rivet 22. Attached to handle 20 is flexible bracket 20 designed to hold the generally cylindrical female connecting members 23 (FIG. 2) of contacting slips 24. As a contacting clip 24 is inserted within bracket 20, as seen in FIG. 3, and the desired insulated wire 26 positioned within U-shaped head 28, wire 23 will be forced into electrical contact with prongs 30, as seen in FIGS. 4 and 5, when head 32 of handle 18 presses face 34 of head 28 inwardly under conventional "pliers" action. As will now be apparent, ease in crimping is assured as contacting piece 24 is securely held within bracket 20 during the entire crimping operation. As is well known, in attempting to crimp wires in close quarters the wires are frequently hard to grab hold of and the crimping clips difficult to fold or bend over wires.

With the present invention, however, it is only necessary to insert a contacting clip 24 within bracket 20 and pinch head 28, after which pressure on handles 18 and 20 is released leaving clip 24 about the wire 26 desired to be contacted. Wire 16, the function of which will be explained in detail hereinafter, is attached to handle 20 at any conventional juncture 36. Finally, handles 18 and 20 are provided with a coating 34 of insulation.

Bulb assembly 12, as illustrated in detail in FIG. 6, consists generally of female and male socket members 40 and 42 provided with slots 44 and pins 46, respectively, enabling conventional sliding attachment. Within bulb assembly 12, wires 16 and 17 terminate in generally flat metal terminals 48 and 50, between which is located bulb 52 having bases 54 and 56 in contact with terminals 48 and 50, respectively. Finally, spring member 60 ensures proper contact pressure by urging terminal 50 of wire 17 against base 56.

Clip 14 is of the "alligator" type having opposed sets of teeth 62 and 64 urged into engaging relationship by spring 66. Attached to arm 68 is support 70 within which is mounted magnet 72 at juncture 74 at which wire 17 is also connected to clip 14.

Of course, bulb and clip assemblies 12 and 14 permit testing for continuity in combination with the crimping function of tool 10. For example, if an automobile turn signal indicator is turned on or the brakes depressed while the tool of the present invention is engaging a selected wire 26, it is possible for the operator to instantly determine which of these wiring systems has been clipped.

Manifestly, variation in arrangement of component parts may be envisioned without departing from the spirit and scope of invention, as defined by the sub-joined claims.

We claim:

1. A combination crimping and testing assembly for use with contacting clips, comprising:

- (A) a crimping tool including a flexible bracket for securing the contacting clip;
- (B) a bulb assembly;
- (C) a resilient clip; and
- (D) circuit means connecting said tool with said bulb assembly and said club bulb assembly with said resilient clip.

2. A combination crimping and testing assembly as in claim 1, wherein said crimping tool includes two handles connected in pivoting relationship, said bracket being attached to one of said handles, said one of said handles terminating outwardly from said bracket in an end portion generally complementary in configuration with respect to the contacting clips while the other of said handles terminates in a generally flat end portion disposed generally perpendicular to said contacting clips as said handles are brought together for crimping.

3. A combination crimping and testing assembly as in claim 2, wherein said resilient clip includes a magnet assembly attached thereto.

4. A combination crimping and testing assembly as in claim 3, including electrical insulation on said handles of said tool.

References Cited

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RONALD D. GREFE, Primary Examiner

U.S. Cl. X.R.

29—203, 407; 72—410