PATENT SPECIFICATION

Inventors: FRANCIS JOHN PRIOR and WERNER ALTON

646,975

Date of Application and filing Complete Specification: July 14, 1948.

No. 18889/48.

Complete Specification Published: Nov. 29, 1950.

Index at acceptance:—**Class 38(i),** E3a4(a: d), E3b7, E3c(2a: 2c: 6d2), E3d(2: 3), E7e3.

COMPLETE SPECIFICATION

Improvements in Terminals for Electric Leads

We, TRIX LIMITED, of 91, Regent Street, London, W.1, a British Company, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to terminals for electric leads and has for its object to provide an improved terminal wherein a bare wire or the bared end of a covered wire can be easily inserted in and gripped in the terminal or removed therefrom, and which is simple in construction and comparatively cheap to manufacture.

According to this invention, a terminal for an electric lead consists of a head, a hole in the head, two or more flexible tongues projecting from the edge of the head, the tongues being bent inwards towards one another and then outwards at a little distance from each other with the ends curved or bent outwards, whereby the terminal can be secured in a square hole in a block or panel with the head abutting against one face of the block or panel and the curved or bent ends against the other face of the block or panel.

The terminal may be provided with a tubular member in which the tongues are located and held therein by turning out the ends of the tongues, or the terminal may be secured in a similar manner in an aperture in a panel or support.

The invention will be clearly understood from the following description aided by the accompanying drawings, in which:—

Figure 1 is a perspective view of a terminal showing one example of the invention. Figure 2 is a front view of a part of a panel showing two of the terminals applied. Figure 3 is a section on the line III—III of Figure 2. Figure 4 is a similar section to Figure 2 showing the end of a wire inserted in the terminal. Figure 5 is a section on the line V—V of Figure 4. Figure 6 is a front view of a panel showing a modified arrangement for holding the terminals in the panel. Figure 7 is a section on the line VII—VII of Figure 6. Figure 8 is a part sectional plan of a distribution block of terminals, and Figure 9 a section on the line IX—IX of Figure 8.

According to the example shown in Figure 1 of the drawings, the terminal consists of a domed shaped head of metal 1 formed with a central hole 2 and two flexible tongues 3, 3 projecting from the edge of the head 1 on opposite sides, the tongues 3, 3 being bent inwards towards one another and then outwards at a little distance from each other with the ends 3*a* curved or bent outwards.

In the example shown in Figures 2 to 5, the tongues 3 are positioned in the bore of a square section tube 4, the tube 4 being of such a length that one end abuts against the inside of the head 1 and with the outwardly curved ends 3*a* of the tongues 3 projecting through the other end and thereby holding the terminal in the tube 4.

The terminal may be secured in a panel or other support in various ways, and as one example, the square tube 4 is formed with a collar 5 at a little distance from one end. A hole is made in the panel 6 or support. The end of the tube 4, without the head 1 and tongues 3, is inserted in the hole with the collar 5 abutting against the inside face of the panel and the end of the tube 4 burred over as at 7 retaining the tube 4 in place in the panel 1 and the tongues 3 are passed through the tube 4 with the head

[*Price*

1 abutting against the panel 1 and the curved or bent ends 3*a* of the tongues 3 engaging outside the end of the tube 4 to retain same in place.

The covered wire 8 to be connected to the terminal has its end 9 bared and is pushed through the hole 2 in between the tongues 3 which grip same under spring pressure and make electrical contact with the wire, so that a bare wire or the bared end of a covered wire can be easily and quickly inserted in the terminal by simply pushing same in the terminal or withdrawn by pulling the wire out of the terminal.

The connections to the terminal may be made by soldering to one of the ends 3*a* of the tongues, to the tube 4, or in any other suitable manner.

More than two tongues can be formed on the head 1 and the outside face of the head 1 may be coated or otherwise covered with an insulating paint or other material.

In place of the tubular member 4 a square hole could be formed in a panel of insulating material of suitable thickness and the terminal located in the square hole with the head 1 abutting against one face of the panel and the ends 3*a* against the other face of the panel, or as shown in Figures 6 and 7, a block of insulating material could be formed in two parts 10, 10*a*, each formed of somewhat L-shape, square holes 11 being formed on the joining line 12 so that half of each hole is in each part 10, 10*a*. The terminals are positioned in the respective half holes 11 in one part, say 10, and the other part 10*a* positioned against the part 10 so that the terminals are held in the respective holes 11 by the heads 1 and ends 3*a*.

The assembled block with the terminals can be held in any suitable support, such as for instance a metal casing having an opening in the opposite edges of which slots 12 in the block can be engaged or any other suitable means may be employed.

Figures 8 and 9 show an example of a terminal block in which a number of wires can be connected to the same leads. In this example, a block 13 of insulating material is formed with a central longitudinal recess 14 leaving upstanding portions on each side and in the upstanding portions are formed a plurality of square recesses 15 arranged parallel with one another and at spaced distances apart. In each recess 15 is located the tongues 3 of a terminal, the ends 3*a* of the tongues 3 being bent over and soldered or otherwise electrically connected to the respective adjacent tongues 3 as at 16. A strip 17 of insulating material of less width than the recess 14 is positioned in the recess 14 and a cover plate 18 is positioned over the block 13 and secured thereto by screws 19.

The main leads are soldered or otherwise secured to one terminal on one side and to one terminal on the other side, or the main leads may be plugged into one of the terminals on each side.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A terminal for an electric lead, consisting of a head, a hole in the head, two or more flexible tongues projecting from the edge of the head, the tongues being bent inwards towards one another and then outwards at a little distance from each other with the ends curved or bent outwards, whereby the terminal can be secured in a square hole in a block or panel with the head abutting against one face of the block or panel and the curved or bent ends against the other face of the block or panel.

2. A terminal for an electric lead, as claimed in claim 1, wherein the tongues are retained in a tubular member.

3. A terminal for an electric lead, comprising a dome shaped metal head, a hole in the centre of the head, two shaped flexible metal tongues projecting from the edge of the head on opposite sides and a square tubular member of shorter length than the tongues in which the tongues are located, one end of the tubular member abutting against the inside of the head and with the ends of the tongues curved or bent outwards from the other end of the tubular member, substantially as set forth.

4. A terminal as claimed in claims 2 or 3, wherein the tubular member is provided with a collar at a little distance from the head end so that the tubular member can be secured to a panel or support by inserting the head end in a hole in the panel or support with the collar against the inside face of the panel or support and burring over the end of the tubular member on the outside of the panel or support, substantially as set forth.

5. A panel or block wherein a terminal as claimed in claim 1, is mounted in a block or panel of insulating material formed in sections and a square hole for the terminal is formed on the jointing line, so that half of the hole is in each section, substantially as set forth.

6. A terminal block for electric leads wherein two sets of terminals as claimed

in claim 1, are mounted in a block of insulating material, the respective adjacent tongues of each set being electrically connected together and the sets insulated from each other, substantially as set forth.

7. A terminal for an electric lead as claimed in any of claims 1 to 4, wherein the outside face of the terminal is covered with an insulating material.

8. A terminal for an electric lead constructed substantially as described with reference to Figure 1 of the accompanying drawings.

9. A terminal for an electric lead as claimed in claim 8 and mounted as described with reference to Figures 2, 3, 4, 5 or Figures 6 and 7, or Figures 8 and 9 of the accompanying drawings.

Dated this 14th day of July, 1948.

H. GARDNER & SON,
Chartered Patent Agents,
173–4—5, Fleet Street, London, E.C.4,
Agents for the Applicants.

Leamington Spa: Printed for His Majesty's Stationery Office, by the Courier Press.—1950
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies, price 2s. 0d. each (inland) 2s. 1d. (abroad) may be obtained.

[This Drawing is a reproduction of the Original on a reduced scale.]

FIG. 1.

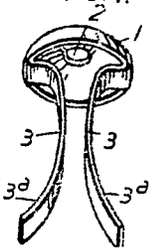


FIG. 2.

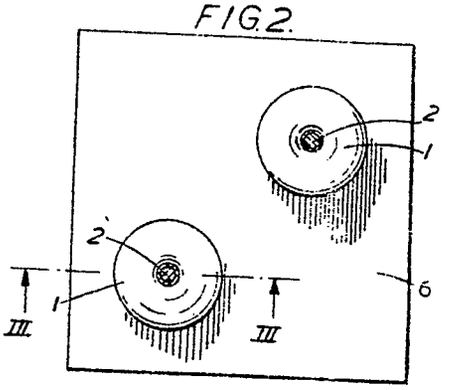


FIG. 3.

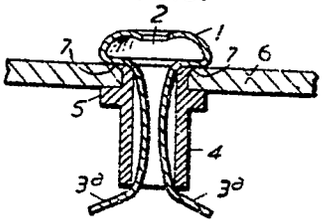


FIG. 4.

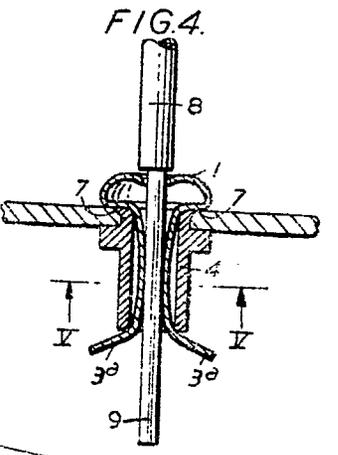


FIG. 5.

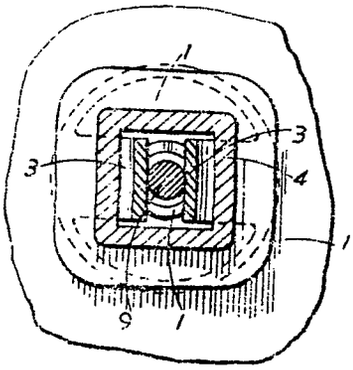


FIG.6.

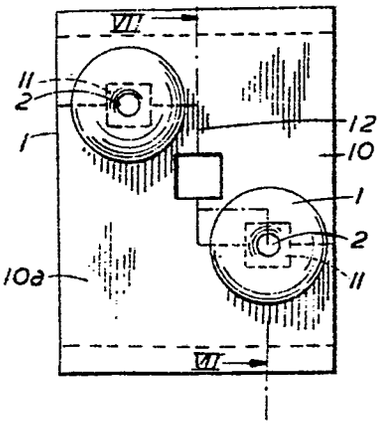


FIG.7.

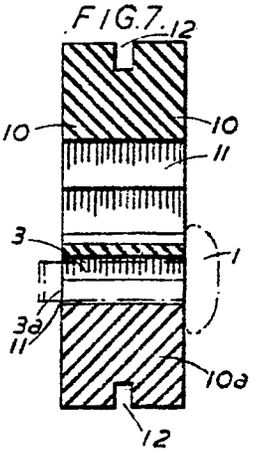


FIG.8.

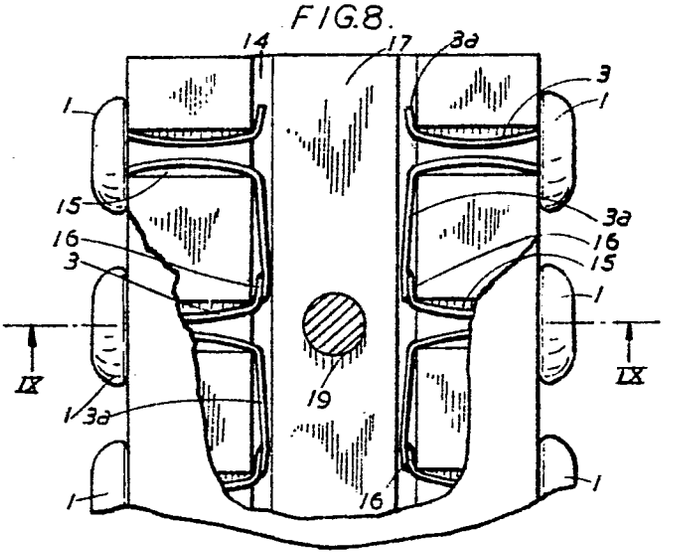
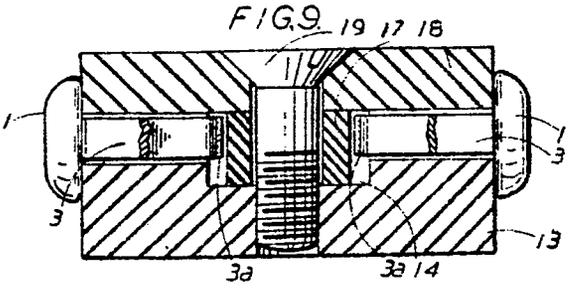


FIG.9.



646,975 COMPLETE SPECIFICATION

2 SHEETS

SHEET 1

SHEET 2

[This Drawing is a reproduction of the Original on a reduced scale.]

FIG. 1.

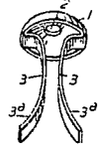


FIG. 2.

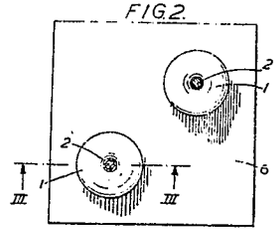


FIG. 3.

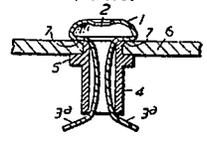


FIG. 4.

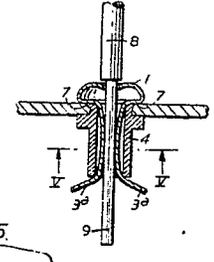


FIG. 5.

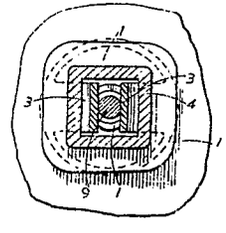


FIG. 6.

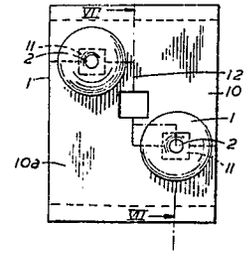


FIG. 7.

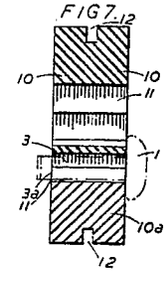


FIG. 8.

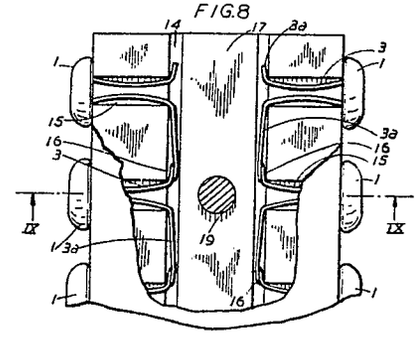
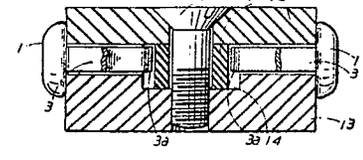


FIG. 9.



H.M.S.O. (Ty. P.)