April 19, 1966 V. ORZECHOWSKI 3,247,480

TERMINAL BLOCK COVER

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FIG. 1

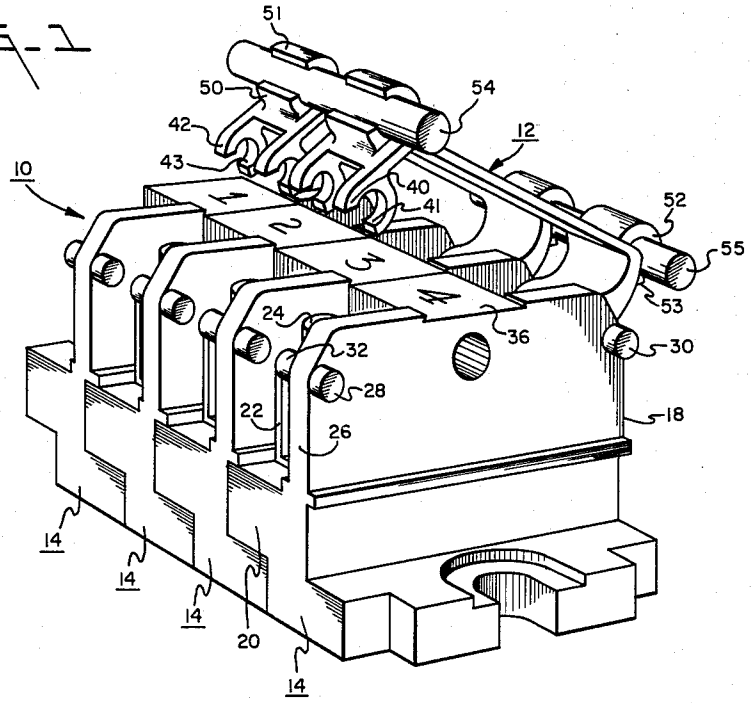
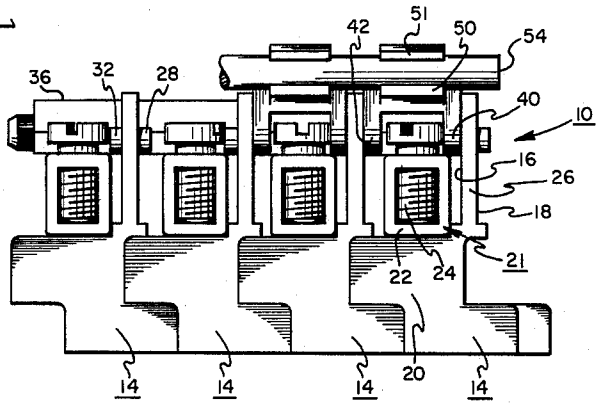


FIG. 2



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FIG. 3

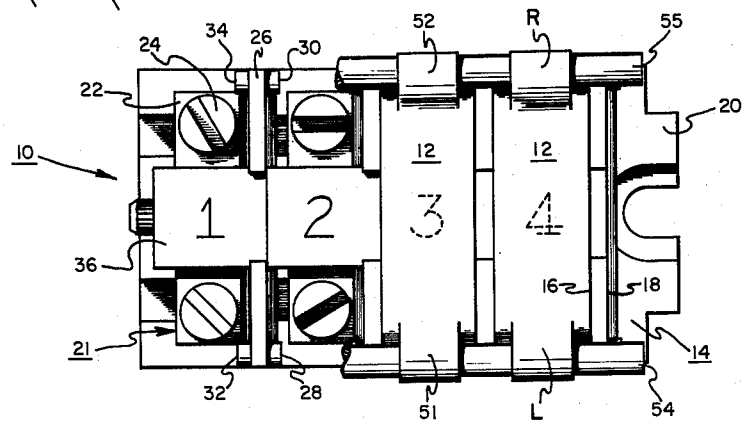
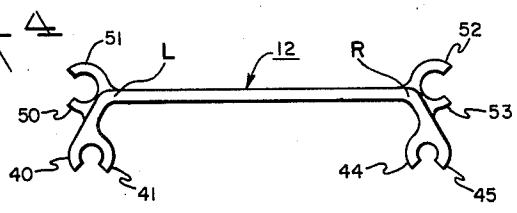


FIG. 4



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3,247,480

TERMINAL BLOCK COVER

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Filed July 1, 1963, Ser. No. 291,883
4 Claims. (Cl. 339—198)

This invention relates generally to electric terminal block structures, and more particularly to a protective cover for use in combination with an electric terminal block assembly of the type comprising a plurality of substantially similar mating sections.

It has been proposed to construct an electric terminal block structure by assembling a plurality of substantially similar sections that have sides with complementary configurations so that the sections may be nested together to form the completed terminal block assembly. Terminal block assemblies of this type are described and illustrated in detail in U.S. Patents Nos. 2,981,923 (now Re. 25,446) and 3,019,408, issued on April 25, 1961, and January 30, 1962, respectively, to George Ustin. While these terminal block assemblies are quite satisfactory for most uses, it is sometimes desirable to provide the electrical connections in these assemblies with adequate protective covering. Prior-art terminal block covers leave something to be desired from the standpoint of convenience of accessibility to the electrical connections, ease of ganging together two or more covers, the need for tools for inserting and removing covers, and the ease of identifying the structure covered.

It is therefore an object of the present invention to provide an improved cover for use in combination with a terminal block assembly wherein the cover may be pivoted for rotation from either side of the assembly to provide easy and convenient access to the terminal connections therein.

Another object of the present invention is to provide an improved terminal block cover that has provisions for being ganged easily to one or more similar covers, as desired.

Still another object of the present invention is to provide and improved cover that may be inserted on, and removed from, a terminal block assembly easily and quickly without the use of tools, thereby eliminating the danger of electric shock and short circuits.

A further object of the present invention is to provide an improved terminal block cover that may be manufactured from a transparent insulating material in order to permit the visualization of indicia located underneath the cover.

Still a further object of the present invention is to provide an improved terminal block cover of the type described that is relatively simple in structure, easy and inexpensive to manufacture, and yet highly efficient in use.

Briefly, the improved terminal block cover of the present invention is adapted for use in combination with a terminal block assembly of the type comprising a plurality of similar mating sections. The improved cover comprises a substantially rectangular strip of insulating material that has two pairs of resilient arcuate fingers at each of its opposite ends. Each pair of arcuate fingers defines an open ended loop and is adapted to snap over and to engage a stud for pivotal movement thereabout. A pair of studs extends laterally from each of a pair of opposite sides of each section for engaging pairs of the arcuate fingers of the cover in a manner to support the cover over terminal connecting means between adjacent sections of the terminal block assembly. The cover is thus pivoted for rotation about each of two opposite ends. The cover may also be provided with a separate pair of ganging, arcuate fingers between the aforementioned two pairs of arcuate fingers at each end of the cover. Each pair of ganging, arcuate fingers comprises an open-ended loop that is adapted to snap over and to engage a rod to which a plurality of other similar covers may be connected. Thus, a plurality of covers may be inserted on, or removed from, the terminal block assembly simultaneously. When constructed from transparent plastic material, the cover permits the observation of the terminal connections and indicia beneath the cover.

The novel features of the present invention, as well as additional objects and advantages thereof, both as to its organization and method of operation, will be understood in detail from the following description, when considered in connection with the accompaning drawings, in which similar reference characters designate similar parts throughout, and in which:

FIG. 1 is a perspective view of the combination of a terminal block assembly and two improved covers hinged thereto, showing the covers in a ganged position and each cover pivoted on only one of its ends about studs on the terminal block assembly;

FIG. 2 is a side elevational view of the combination of the terminal block assembly illustrated in FIG. 1, but with both ends of the ganged covers fixed to the terminal block assembly;

FIG. 3 is a plan view of the combination of the terminal block assembly and ganged covers shown in FIG. 2; and

FIG. 4 is a side elevational view of the improved, symmetrically formed terminal block cover of the present invention.

Referring now particularly to the drawings, there is shown a terminal block assembly **10** of the type adapted for use in combination with one or more improved covers **12** of the present invention. The terminal block assembly **10** comprises a plurality of substantially similar sections **14** of insulating material, preferably a molded plastic material. Each of the sections **14** has opposite sides **16** and **18** that have portions with complementary configurations so that the sections **14** can be nested together to form the terminal block assembly **10**, as explained in the aforementioned patents, supra.

Each section **14** comprises a base portion **20** for supporting a terminal connecting means **21**. Each terminal connecting means **21** comprises a rectangular frame member **22** fixed to the base **20**, by any suitable means, and formed with threaded openings for receiving slotted head screws **24** therein. Electrical connections (not shown) are made in the terminal block assembly **10** by means of electrical connectors or conductors (not shown) that are adapted to be secured between the rectangular frame member **22** and the screw **24**, in a manner well known in the art.

A wall portion **26**, including portions of the sides **16** and **18**, extends upwardly perpendicularly from each base portion **20** in each section **14**. The wall portion **26** provides means for supporting a pair of spaced-apart studs **28** and **30**, extending laterally from one side **18** thereof and another pair of spaced-apart studs **32** and **34** extending laterally from the opposite side **16** thereof. The studs **28** and **32** on opposite sides **18** and **16** of the wall **26**, respectively, are in linear alignment with each other, and the studs **30** and **34** on opposite sides **18** and **16** of the wall **26**, respectively, are also in linear alignment with each other. The studs **28**, **30**, **32** and **34** are disposed to function, in pairs, as pivot pins about which the cover **12** may be rotated in a manner to be hereinafter described.

An upper portion **36** in each section **14** extends laterally from the side **16** of each section **14**. The upper surface of the upper portion **36** is parallel to the upper surface of the base portion **20** and may be provided with indica,

such as numerals 1, 2, 3, and 4, for example, to indicate the particular section 14 in the terminal block assembly 10. Since additional details of the terminal block assembly 10 are described in the aforementioned patents, and since these details form no part of the instant invention, they will not be described in detail herein; reference being had to the aforementioned patents.

Cover means are provided to cover the terminal connecting means 21 on the base 20 of each section 14. To this end, the symmetrically formed cover 12 has two pairs of arcuate fingers, one pair being fingers 40 and 41 and the other pair being fingers 42 and 43, depending downwardly from one end L of the substantially rectangular cover 12. Two pairs of arcuate fingers, one pair being fingers 44 and 45, and another pair (not shown, but parallel to the pair of arcuate fingers 44 and 45 and bearing the same relation thereto as the pair of fingers 42 and 43 bear to the pair of fingers 40 and 41) depend from the other end R of the cover 12. Each pair of arcuate fingers, such as the arcuate fingers 40 and 41, for example, comprises an open ended loop adapted to engage and retain a stud, such as the stud 32, for example, for pivotal rotation thereabout.

The cover 12 can be inserted over the terminal connecting means 21, between adjacent walls 26, by pushing the cover 12 downwardly so that the pairs of arcuate fingers 40 and 41, 42 and 43, 44 and 45 snap over and engage the studs 32, 28 and 34, respectively. The additional pair of arcuate fingers (not shown), depending from the side R of the cover 12, is adapted to engage stud 30.

Means are provided to gang a plurality of covers 12 together to provide protective covering for the terminal connecting means 21 on each base 20 of each section 14. To this end, ganging means extend outwardly from the ends L and R of the cover 12. Thus, a pair of relatively wide, ganging, arcuate fingers 50 and 51 extend outwardly from the end L of the cover 12 between the two pairs of downwardly extending arcuate fingers 40 and 41 and 42 and 43. A pair of relatively wide, ganging, arcuate fingers 52 and 53 extend outwardly from the side R of the cover 12 between the two pairs of downwardly extending arcuate fingers 44 and 45 and another pair (not shown).

In operation, each cover 12 may be rotated about either of the two pairs of arcuate fingers depending from the corners of either of its sides L or R, thereby permitting the covers 12 to be separated from either of the opposite sides of the terminal block assembly 10. In FIG. 1, for example, two covers 12 are shown ganged together by means of a rod 54, disposed between the ganging, arcuate fingers 50 and 51 (in each cover 12), and a rod 55, disposed between the ganging, arcuate fingers 52 and 53 (in each cover 12). Thus, a plurality of covers 12, either adjacent to each other or separated by one or more sections from each other, may be ganged together, if desired. These features permit easy and rapid access to the terminal connecting means 21 for installation and maintenance purposes. When it is desired to remove one or more covers 12 from the terminal block assembly 10, each cover 12 is merely pulled upwardly to disengage its corner pairs of arcuate fingers from the studs on the walls 26. When the material of the cover 12 is transparent, the terminal connecting means 21, as well as the indicia on the upper portion 36 of each section 14, may be visually observed through the cover 12, thereby facilitating maintenance and installation procedures.

Thus, there has been described an improved terminal block cover having features that enable it to be ganged together with other covers for easy insertion and removal, without tools, from a terminal block assembly of a plurality of similar sections. Many changes in the details of the disclosed embodiment of this invention may be made without departing from the invention.

Accordingly, the foregoing description is intended to be illustrative and is not to be considered in a limiting sense.

What I claim is:

1. In a terminal block assembly of the type comprising a plurality of similar sections of insulating materials, each section having first and second sides opposite to each other, said first and said second sides having portions with complementary configurations so that said sections may be nested together to form said block assembly, each of said sections having, between said first and said second sides, a base portion and a wall portion extending perpendicularly from said base portion, and terminal connecting means fixed to said base portion; a cover comprising a substantially rectangular strip of insulating material having a separate pair af arcuate fingers depending from each of its corners on the same side of said rectangular strip, a pair of studs extending laterally from each of said first and said second sides of each of said sections at said wall portion, said cover being adapted to be disposed over said terminal connecting means and between adjacent wall portions of adjacent ones of said sections, each of said pairs of arcuate fingers being adapted to engage a separate one of said studs, and a separate pair of ganging, arcuate fingers extending outwardly from opposite ends of said strip and being disposed between two pairs of said arcuate fingers depending from adjacent corners, said ganging, arcuate fingers comprising means to receive a rod therebetween whereby a plurality of said covers may be ganged together.

2. In a terminal block assembly of the type comprising a plurality of similar sections of insulating material, each section having first and second sides opposite to each other, said first and said second sides having portions with complementary configurations so that said sections may be nested together to form said block assembly, each of said sections having, between said first and said second sides and including portions thereof, a base portion and a wall portion extending perpendicularly from said base portion, and terminal connecting means fixed to said base portion; a cover comprising a strip of insulating material having two pairs of arcuate fingers depending from the same side of said strip from each of two opposite ends thereof, a pair of studs extending laterally from each of said first and said second sides of each of said sections at said wall portion, said cover being adapted to be disposed over said terminal connecting means and between said first side of one of said sections and said second side of an adjacent one of said sections, each of said pairs of arcuate fingers being adapted to snap over and to engage a separate one of said studs, and a separate pair of ganging, arcuate fingers extending outwardly from each of said opposite ends of said strip, each of said separate ganging, arcuate fingers comprising means to receive a rod therebetween whereby a plurality of said covers may be ganged together, and said strip of insulating material being transparent whereby to permit a view of parts covered by said cover.

3. In combination, a terminal block assembly comprising a plurality of substantially similar sections, each of said sections having opposite sides with portions of complementary configurations so that said sections may be nested together, each of said sections having, between said opposite sides thereof, a base portion and a wall portion extending transversely therefrom, each of said wall portions having two pairs of studs extending laterally from said opposite sides thereof, a cover comprising a substantially rectangular strip of plastic material, a separate pair of arcuate fingers depending from each corner of said rectangular strip, said cover being adapted to be disposed between adjacent wall portions of adjacent ones of said sections, each of said arcuate fingers being adapted to snap onto and to engage a separate one of said studs, a separate pair of ganging, arcuate fingers extending outwardly from at least one of the ends of said strip, said pair of ganging, arcuate fingers comprising an open-ended loop for snapping onto a rod and engaging said rod therein, whereby a plurality of said covers may be ganged together.

4. In combination, a terminal block assembly comprising a plurality of substantially similar sections, each of

said sections having opposite sides with portions of complementary configurations so that said sections may be nested together, each of said sections having, between said opposite sides thereof, a base portion and a wall portion extending perpendicularly therefrom, each of said wall portions having two pairs of studs extending laterally from said opposite sides, a cover comprising a strip of transparent plastic material, two pairs of arcuate fingers depending from each of two opposite ends of said strip, said cover being adapted to be disposed between adjacent wall portions of adjacent ones of said sections, each of said arcuate fingers being adapted to snap onto and to engage a separate one of said studs, a separate pair of ganging, arcuate fingers extending outwardly from each of said ends of said strip, each of said pairs of ganging, arcuate fingers comprising an open-ended loop for snapping onto a rod and for engaging said rod therein, whereby a plurality of said covers may be ganged together, each of said sections having a portion with indicia thereon, and said cover covering said indicia and permitting visualization thereof through said transparent plastic material.

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