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I. M. SCHEY, JR
ELECTRICAL CONNECTOR

2,377,187

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Fig. 1.

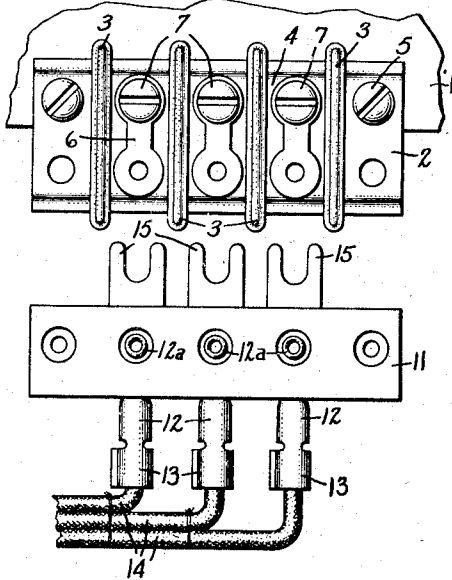


Fig. 2.

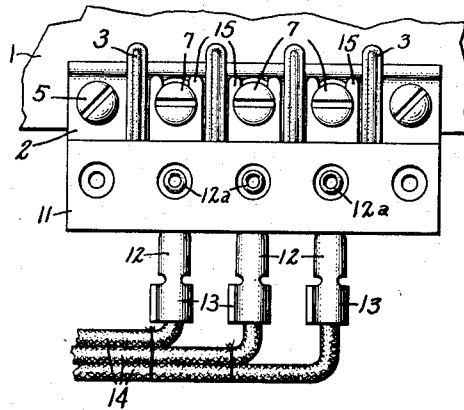


Fig. 5.

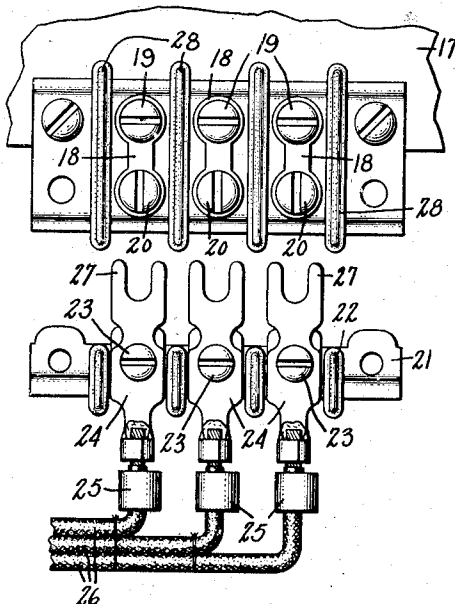


Fig. 3.

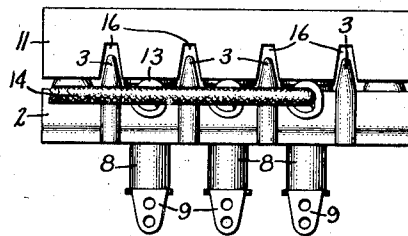
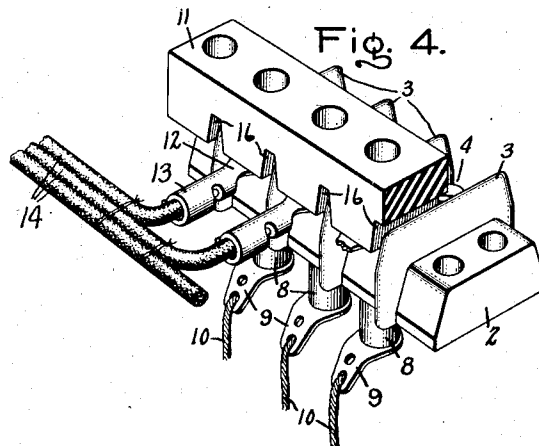


Fig. 4.



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UNITED STATES PATENT OFFICE

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ELECTRICAL CONNECTOR

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2 Claims. (Cl. 173—324)

The present invention relates to electrical connectors and has for its object to provide an improved construction and arrangement for detachably connecting a number of electrical conductors to a stationary terminal board.

For a consideration of what I believe to be novel and my invention, attention is directed to the following specification and to the claims appended thereto.

In the drawing, Fig. 1 is a face view of an electrical connector embodying the invention, the movable terminal board being shown disconnected from the stationary terminal board; Fig. 2 is a face view of the parts shown in Fig. 1 connected together; Fig. 3 is a side view of the parts as shown in Fig. 2; Fig. 4 is a perspective view partly broken away, and Fig. 5 is a view similar to Fig. 1 of a modification.

Referring to Fig. 1 of the drawing, 1 indicates a stationary base on which is mounted a stationary terminal board comprising an elongated insulating strip 2 having transversely extending walls 3 which define between them transversely extending grooves 4. Strip 2 may be of any suitable length and provided with any suitable number of transverse grooves 4. In the present instance, it is shown as being provided with three. It may be fastened to base 1 by means of screws 5. Attached to the bottom wall of each groove 4 is a stationary contact strip 6 which may be suitably riveted to the plate and which at opposite ends is provided with threaded openings. What may be considered the rear threaded openings are provided with releasable fastening members here shown in the form of screws 7 which are located between partition walls 3 and thread into what may be considered the inner set of openings. On the underside of terminal strip 2 are terminal members 8 which are connected to the other set of openings by suitable screws which pass through the terminal members 8 and thread into such openings. Terminal members 8 are provided with terminal tips 9 to which electrical conductors 10 may be connected as shown in Fig. 4. The construction so far described forms a stationary terminal board. It may be a fixed part of any suitable electrical apparatus.

For connection with the stationary terminal board is a removable terminal board comprising an elongated strip 11 of insulating material having attached to its under surface transversely extending contact strips 12. At one end, contact strips 12 are provided with suitable means 13 to which may be connected electrical conductors 14. At their other end, the contact strips are pro-

vided with U-shaped ends 15 for engagement under the heads of screws 7. Elongated strip 11 between the contact strips is provided with transversely extending grooves 16 adapted to telescope with the transversely extending walls 3 on terminal strip 2. Contact strips 12 may be attached to terminal strip 11 in any suitable manner such as by means of rivets 12a.

In use, the stationary terminal board is attached to a stationary base or wall 1 and electrical conductors 10, which represent permanent wiring of an electrical apparatus, are connected to the terminal strip 6 by soldering or other suitable means. Electrical conductors 14 are attached to terminal strips 12 and are suitably laced or bound together. To attach the conductors 14 to the conductors 10, the movable terminal strip 11 is positioned to bring the U-shaped ends 15 under the heads of terminal screws 7 after which the terminal screws are screwed down. When positioned in this way, the transverse grooves 16 of the terminal strip 11 telescope with the partition walls 3 as shown particularly in Figs. 3 and 4, the movable terminal strip 11 being directly on top of the stationary terminal strip 2. This forms in substance individual chambers or pockets in which the respective terminals are located. When it is desired to disconnect the wires, it is necessary merely to loosen the screws 7 after which the movable terminal board with conductors 14 connected thereto can be moved away from the stationary terminal board as a unit, as shown in Fig. 1.

The arrangement has the advantage that the wiring can be quickly and easily disconnected and reconnected with a minimum amount of trouble and with no possibility of the connections being inaccurately made. Also, the arrangement has the advantage that it is compact and, due to the telescoping arrangement, occupies a minimum amount of space in a transverse direction.

In Fig. 5 is shown an arrangement wherein the movable terminal plate does not telescope over the stationary terminal plate but stands in line with it. In this figure, 17 indicates a stationary wall or base to which is attached a terminal strip similar to that shown in Figs. 1 to 4 except that the terminal strips 18, corresponding to the terminal strips 6 of Figs. 1 to 4, are provided at the one end with terminal screws 19 to which the fixed wiring is connected and with terminal screws 20 for connection with the terminal strips on the removable terminal board.

The removable terminal board comprises an insulating strip 21 having transversely extending

grooves between which are walls 22. Attached to the bottom of each groove by means of screws 23 are terminal strips 24 which at one end are provided with means 25 for the connection of conductors 26 and at the other ends with U-shaped ends 27 for connection with fastening screws 20. When the removable terminal member is connected to the stationary terminal member, the U-shaped ends 27 are inserted under the heads of screws 20 and the screws tightened. When in this position, the transverse walls 22 stand in alignment with the transverse walls 28 on the stationary contact strip, thus providing continuous grooves in which the contact members are located.

In accordance with the provisions of the patent statutes, I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the apparatus shown is only illustrative and that the invention may be carried out by other means.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In combination, a stationary terminal board comprising an elongated strip of insulating material having transversely extending partition walls which define grooves, transversely extending contact strips fixed to the bottom walls of said grooves, and releasable fastening members carried by said strips; a removable terminal board comprising a second elongated strip of insulating

material, transversely extending contact strips fixed to the underside of said second insulating strip in spaced relation to each other and having ends for engagement with and adapted to be fastened by said fastening members on the first-named contact strips, said second insulating strip between said contact strips being provided with transversely extending grooves adapted to telescope with said transversely extending partition walls when said ends are brought into engagement with said fastening members.

2. In combination, a stationary terminal board comprising an elongated strip of insulating material having transversely extending partition walls which define grooves, transversely extending contact strips fixed to the bottoms of said grooves, means located beneath said elongated strip for connecting conductors to said contact strips, fastening screws carried by the contact strips, a removable terminal board comprising a second elongated strip of insulating material, transversely extending contact strips fixed to the underside of said second elongated strip in spaced relation to each other and having U-shaped ends for engagement with said fastening screws, said second insulating strip between said contact strips being provided with transversely extending grooves adapted to telescope with said transversely extending partition walls when said U-shaped ends are engaged with said fastening screws.

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