July 21, 1931. J. BURKE 1,815,233

TERMINAL BLOCK

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Fig. 1.

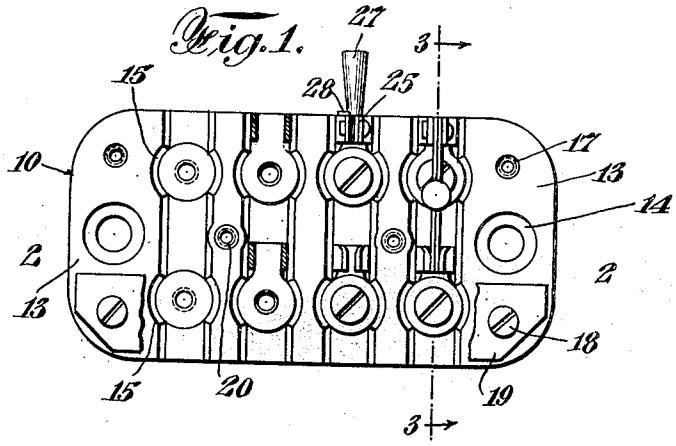


Fig. 2.

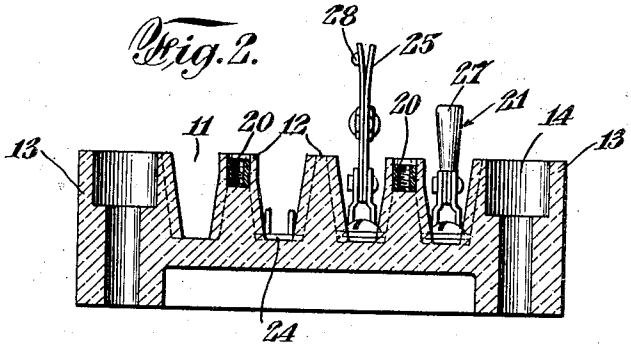


Fig. 3.

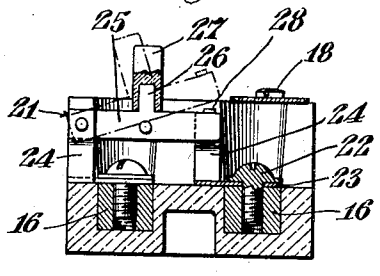
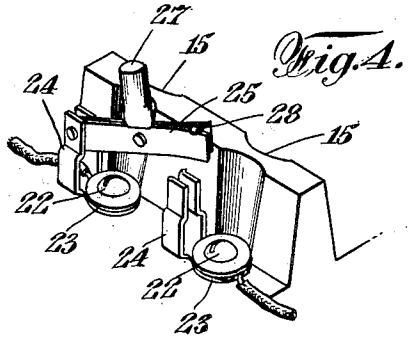


Fig. 4.



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Fig. 5.

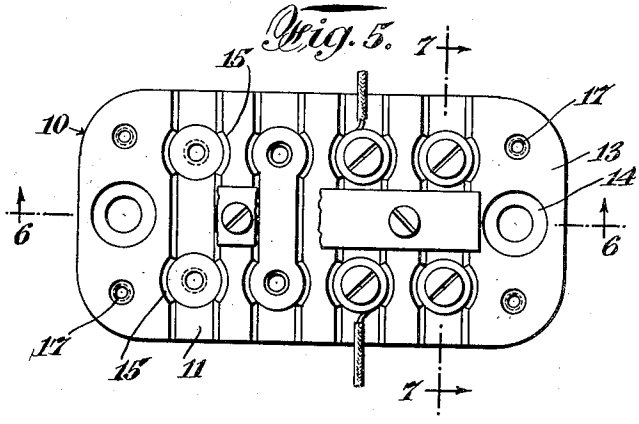


Fig. 6.

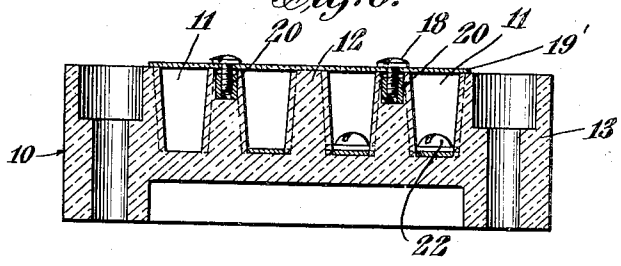


Fig. 7.

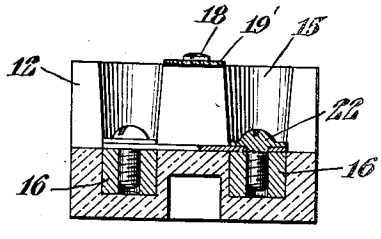
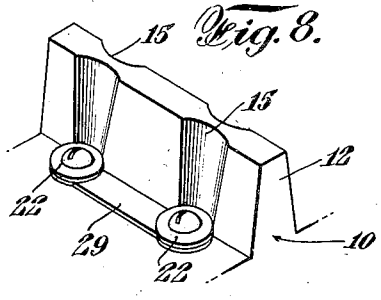


Fig. 8.



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Patented July 21, 1931 1,815,233

UNITED STATES PATENT OFFICE

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TERMINAL BLOCK

Application filed July 11, 1927. Serial No. 204,757.

This invention relates to terminal blocks and particularly to a terminal block adapted to accommodate a series of conducting lead wires for interconnecting circuits.

The object of this invention is to provide a terminal block of simple and inexpensive construction which will insulate the various lead wires from each other and interchangeably receive different types of connectors for the lead wires.

A further object of the invention is to provide a terminal block provided with circuit breaking switches.

A still further object of the invention is to provide a target or numbering means for positively identifying the individual lead wires.

Further objects and advantages will be apparent by reference to the following specification and the accompanying drawings, in which

Fig. 1 is a plan view of a terminal block partially broken away to show the details of construction;

Fig. 2 is a sectional view on line 2—2 of Fig. 1;

Fig. 3 is a sectional view on line 3—3 of Fig. 1;

Fig. 4 is a perspective view of a portion of the block showing the circuit breaking switch construction in open position;

Fig. 5 is a plan view of the terminal block arranged with permanent connections between the terminals partially broken away to show the details of construction;

Fig. 6 is a sectional view on line 6—6 of Fig. 5;

Fig. 7 is a sectional view on line 7—7 of Fig. 5; and

Fig. 8 is a perspective view of a portion of the terminal block showing the arrangement of the permanent connections.

In the embodiment of the invention shown in the drawings, the block as a whole comprises a molded body portion 10 of insulating material. This block is provided with a series of inwardly tapered grooves or slots 11 extending transversely of the block and formed between transverse partitions 12 and end walls 13 which have openings 14 for bolts, screws, or the like, for attaching the block to any suitable supporting means. The partitions 12 and the end walls 13 are cut away at 15 so as to form the grooves or slots 11 with enlarged sections adjacent the outer extremities of the slots. The end portions of the slots are circular in formation providing a sufficient space to make a complete eye on the end of the terminal lead wires for attaching to the terminals of the block. Metal inserts 16 are permanently embedded in the base of the block during molding forming terminals. These inserts or terminals extend from the base of the grooves or slots 11 and are knurled and grooved to insure a permanent anchoring means and are of such a diameter that they occupy the entire enlarged circular section of the slots 11, forming an extensive contact surface. There is also embedded in the block during molding at each corner and extending inwardly from the top surface of the block the inserts 17 for screws 18 which secure in place a cover, corner portions of which are indicated at 19 in Figs. 1 and 3. Inserts 20 are also embedded in certain of the partitions 12 for screws 18 to secure a target or marking strip indicated at 19′ the central portion of the upper surface as shown in Figs. 5, 6 and 7.

Circuit breaking switches 21 are secured to the inserts or terminals by means of washer head terminal screws 22 which are threaded into the terminals 16 forming connections for the lead wires and also a securing means for the switch parts. The switches are of the knife blade type having circular base portions 23 of the same diameter as the cut away sections 15 between the partitions 12. Extending upwardly from the circular base por-

tions are the U-shaped sections 24 which are substantially of the same width as the base of the slots 11 thus assuring proper alignment of the two parts of the switch, as circular portions 23 are of the same diameter as the space between the cut away sections 15 between adjacent partitions and the U-shaped portions 24 fit the base of the slots 11 preventing rotation of the switch parts. To one of the U-shaped portions is pivoted the knife blade 25 formed of two flat strips of spring metal riveted together and provided with extensions 26 to which is secured an operating insulating knob 27. One of the flat strips is provided with outwardly extending stop 28 for positioning the knife blade 25 at an operating position.

In some instances it is desirable to permanently connect the terminals without a circuit breaking switch and to accomplish this electrical conductor strips or jumper bars 29 are connected transversely to adjacent terminals. The jumper bars 29 are dumbbell shape, flat metal strips conforming to the configuration of the base of the slots 11, assuring absolute alignment and contact with the upper surface of the terminals 16.

The base block of this invention is adapted to have mounted thereon interchangeable types of connectors which are properly and definitely aligned when placed in the grooves. The block may have all jumper bars or all switches substituted therefor or it may be constructed to have the combination of jumper bars in some grooves and switches in other grooves. The grooves are adapted to receive a jumper bar at one time and a switch at another time depending on the use of the particular circuit. The target or marking device is adapted to be attached to the upper surface over the grooves of the block toward a longitudinal edge so that it does not interfere with the operation of the switches.

Figs. 5, 6 and 7 show the interchangeable target or marking device attached to the central portion of the block which is permissible when only jumper bars are used in the grooves.

I claim:

1. A terminal block comprising a solid body of insulating material, a series of transverse partitions forming grooves between said partitions, said partitions having cut away sections, a plurality of terminals disposed in said cut away sections at the base of said grooves and extending within the base of the block below the base of said grooves, and removable means for connecting the terminals transversely of the block, said removable means being wholly self-positioning.

2. A terminal block comprising a solid body of insulating material, a series of transverse partitions forming grooves between said partitions, said partitions having cut away sections, a plurality of terminals disposed in said cut away sections at the base of said grooves and extending within the base of the block below the base of said grooves, and removable for connecting the terminals transversely of the block, said removable means conforming to the shape of said grooves and being wholly self-positioning.

3. A terminal block comprising a solid body of insulating material, a series of transverse partitions forming transverse grooves all adapted to interchangeably receive anyone of a plurality of different types of connecting means between said partitions, a plurality of terminals in said grooves and interchangeable connecting means for connecting the terminals in the grooves.

4. A terminal block comprising a solid body of insulating material, a series of transverse partitions forming transverse grooves adapted to interchangeably receive different types of connecting means between said partitions, a plurality of terminals in said grooves, interchangeable connecting means for connecting the terminals in the grooves, and a marking device on said block positioned lengthwise along a longitudinal edge so that the interchangeable connecting means may be used for connecting the terminals in said grooves without interfering with the operation of the connecting means.

5. A terminal block comprising a solid body of insulating material provided with end sections for supporting means, a series of transverse partitions forming tapered grooves between said partitions, and said end sections, said partitions and end sections having cut away sections and a plurality of terminals disposed in said cut away sections at the base of said grooves and extending within the base of the block below the base of said grooves, and switches for connecting the terminals transversely of the block, the parts of the switches being constructed to conform to the shape of said grooves.

6. A terminal block comprising a solid body of insulating material provided with end sections for supporting means, a series of transverse partitions forming tapered grooves between said partitions and said end sections, said partitions and end sections having cut away sections and a plurality of terminals disposed in said cut away sections at the base of said grooves and extending within the base of the block below the base of said grooves, and switches formed in two co-operating sections for connecting said terminals, the said sections automatically being aligned for operation upon being placed within said grooves.

7. A terminal block of an integral mass of molded insulating material comprising a series of transverse partitions, anchor devices molded in place between said partitions, and integral and separable switch terminal connectors interchangeably fitting between said

partitions and adapted to be fastened in place by attachment to said anchor devices to form current carrying conductors.

8. A terminal block of insulating material comprising a series of transverse partitions forming narrow channels extending across said block, and a plurality of terminal connectors of different types interchangeably mounted in said channels, one of said connectors being a switch.

9. A terminal block of molded insulating material comprising a series of transverse partitions forming narrow channels extending across said block, and a plurality of terminal connectors of different types interchangeably mounted in said channels.

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