Feb. 12, 1957 U. L. McCROSKEY 2,781,501

CONNECTOR BLOCK FOR WIRES

Filed Dec. 8, 1955

Fig. 1

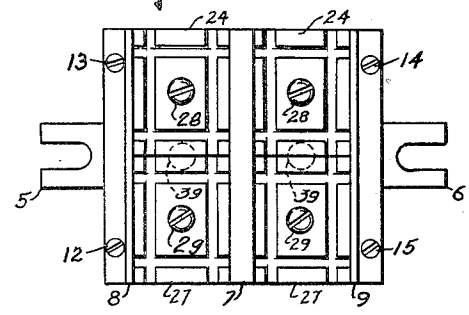
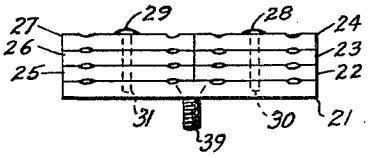



Fig. 6



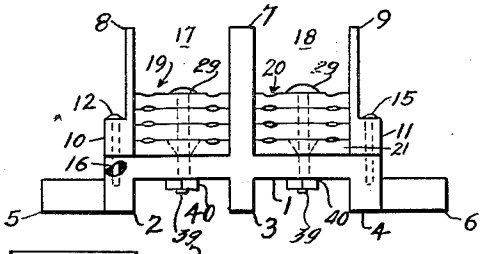




Fig. 2

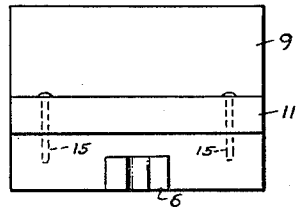



Fig. 3

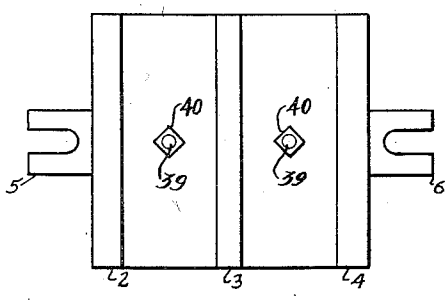
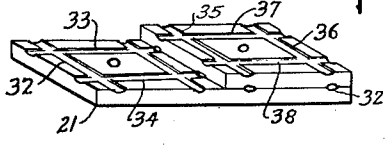



Fig. 4

Fig. 5




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# CONNECTOR BLOCK FOR WIRES

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Application December 8, 1955, Serial No. 551,969

3 Claims. (Cl. 339—198)

This invention belongs to that general class of devices known as electrical goods and relates particularly to connector blocks and the like which are capable of securely holding a large plurality of wire terminals or ends together and doing it in a manner that all the wire terminals or ends are in good electrical contact, thus the electrical losses are reduced to a minimum and hence provides a highly efficient connecting means for all kinds of wires, for instance, stranded wires, flat, solid round, and any other shape in which electrical conductors may be fashioned.

The invention has among its objects the production of a means of the kind described, or similar means, that is simple, durable and compact in structure, inexpensive to make and manufacture, dependable and efficient in use and service, and which are convenient to handle and store.

Other objects, advantages and features of this particular invention will appear from a careful perusal of the accompanying drawings, the subjoined detailed description, the preamble of these specifications, and the claims appended hereto.

In the drawings:

Figure 1 is a plan view of one form of the device showing the electrical connector blocks upon a suitable insulating support which is adapted for mounting upon panel boards and the like.

Figure 2 is an elevational view at one end of the device, the other opposite end elevational view being substantially the same.

Figure 3 is an elevational view of one side of the device which is at right angles to that shown in Figure 2, the opposite elevational view of that shown in Figure 3 is substantially the same.

Figure 4 is a bottom plan view;

Figure 5 is a perspective view showing the base connector plate and one of the square connector plates thereon; and

Figure 6 is a side elevational view of a portion of the device.

The device has an insulating base **1** in the form of a rectangular plate and three flange-like legs **2**, **3** and **4**. The legs **2** and **4** have their respective integral bifurcated screw receiving protrusions **5** and **6** which enable one to readily secure the insulating block to the panel board. Integral with this block, there is an upstanding partition **7** which is also made of a suitable insulating material. Along the side portions of the block there are the pair of removable walls **8** and **9** which are also of insulating material and which are provided with their respective shoulder portions **10** and **11** that have bores to receive the machine screws **12**, **13**, **14** and **15** which are adapted to enter their respective threaded bores **16** in the block so that the walls **8** and **9** can be secured to the block if wanted.

The upstanding walls **8** and **9** and the partition **7** form channels **17** and **18** which are adapted to receive their respective connector plate units **19** and **20**. Each connector plate unit, see Fig. 5, consists of a base plate **21** which is long enough to accommodate two stacks of substantially square plates indicated by numerals **22**, **23**, **24**, and **25**, **26**, **27**. All the square plates have central bores through which pass their respective machine screws **28** and **29**. The supporting plate **21** having the spaced threaded bores **30** and **31** which receive the screws **28** and **29** and thus hold the square connector plates in stacked relationship and also together for making electrical connection with various wires.

The bottom plate **21**, which also might be termed a tie-plate, is grooved, note particularly Fig. 5, and each end is provided with a cross groove **32** and the pair of spaced longitudinal grooves **33** and **34**, as shown. Each square plate has its top and bottom surfaces grooved, as shown, that is, spaced parallel grooves **35** and **36** are provided and also the crossing parallel spaced grooves **37** and **38**. The cross section of the grooves is circular or ovate, but not half circles for the reason that it is desired to have these grooves so configurated that they can accommodate various sized wires or terminals, for instance, B. & S. gauge wires from **14** to **8**, but it is also within the purview to make these grooves of various sizes in the same block or different blocks provided with grooves to accommodate other wire size ranges. Each unit or group of plates through their respective hose plate is held to the insulating block by a machine screw **39** which passes through a bore in the block **1** and tightened in position by use of the nut **40**.

The conducting plates, squares etc. are made of good conducting material such as, for instance, copper, silver and various alloys, and the insulating blocks and parts are made of good insulating materials which may be Bakelite, various high resistance plastics, rubber, etc.

It is, of course, understood that various changes and modifications may be made in the details of form, style, design, materials and construction of the whole or any part of the specifically described embodiment of this invention without departing from the spirit thereof; such changes and modifications are considered as being within the scope of the following claims:

I claim:

1. In an electrical terminal connector block an insulating block provided with a pair of grooves in its under side and an insulating base and an insulating partition upstanding from the upper side of said insulating base between said grooves, means for securing said insulating block to a panel board, said base being provided with bolt openings extending downwardly therethrough to said under side grooves, respectively, a pair of conductor tie-plates formed respectively with depending screw bolts and resting upon the upper side of said insulating block base, with their depending screw bolts depending through said bolt openings in said insulating base into said under side grooves, and with the inner side edges of said tie plates adjacent opposite sides of said partition, nuts threaded on the lower ends of said screw bolts against the under side of said grooves, a plurality of conductor clamp plates, two stacks of said clamp plates being mounted in superimposed relation upon each of said tie-plates, said conductor clamp plates being provided with registering wire terminal grooves in their adjacent sides to receive wire terminals, and clamp screws extending downwardly through said conductor clamp plates of each of said stacks thereof, with the lower ends of said screws threaded in said tie-plates on which said stacks of conductors are mounted, and with the heads of said screws engaging the upper side of the uppermost conductor clamp plates of said stacks of clamp plates for securing said stacks of plates on said tie-plates and for clamping said wire terminals between said conductor clamp plates

in said registering grooves in said adjacent sides of said conductor clamp plates.

2. In an electrical terminal conductor block, as claimed in claim 1, a pair of removable vertical insulating walls along the outer side edges of said tie-plates and said conductor clamp plates.

3. In an electrical terminal connector block as claimed in claim 2, there being registering wire terminal grooves in the adjacent upper sides of said tie-plates and lower



sides of the lowermost conductor clamp plates, in which registering grooves wire terminals are clamped between said tie-plates and said lowermost conductor clamp plates, by said clamp screws.

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