March 11, 1952 A. T. MOSIMANN, JR 2,588,558

CONNECTOR BLOCK

Filed Aug. 3, 1948

Fig. 1.

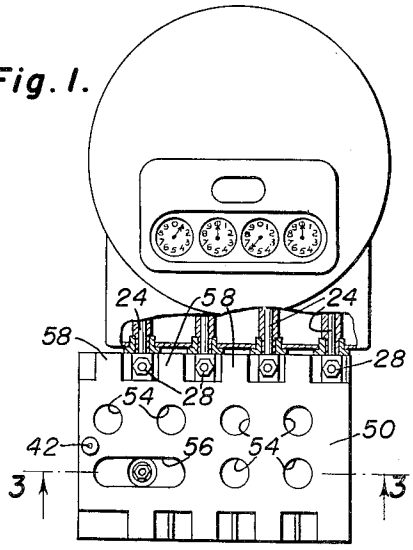
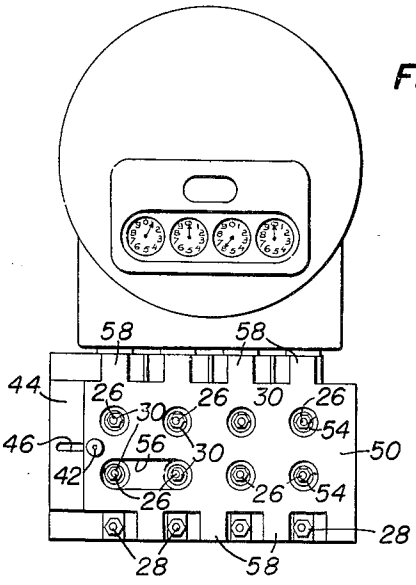


Fig. 2.



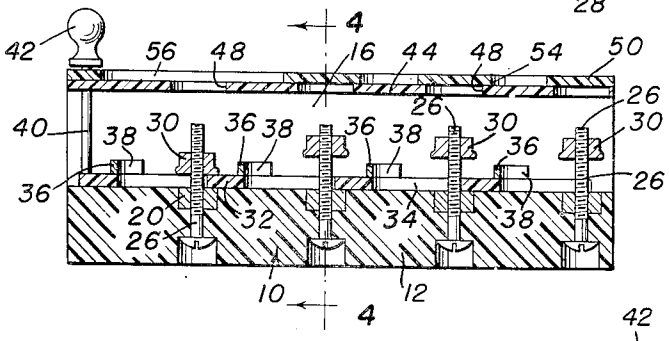


Fig. 3.

Fig. 7.

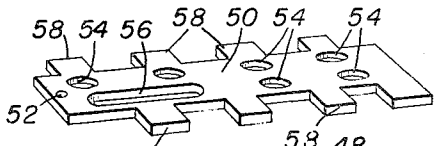
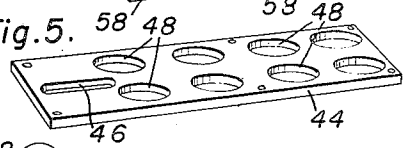


Fig. 5.



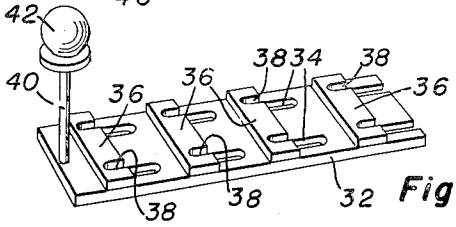
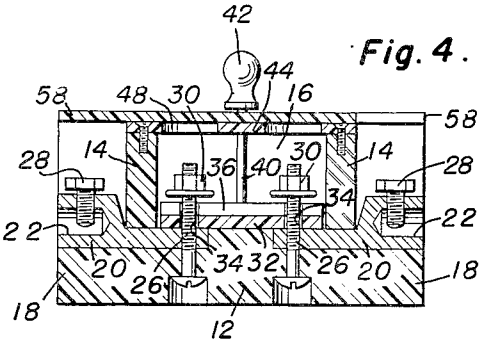


Fig. 6.

Fig. 4.



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Patented Mar. 11, 1952

2,588,558

UNITED STATES PATENT OFFICE

2,588,558

CONNECTOR BLOCK

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Application August 3, 1948, Serial No. 42,233

4 Claims. (Cl. 200—50)

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This invention relates to a connector block and has for its primary object to allow electrical energy to be supplied to a consumer through a measuring instrument and also to enable the measuring instrument to be tested or replaced.

Another object is to avoid danger to the person conducting the test or replacement of the measuring instrument.

The above and other objects may be attained by applying this invention which embodies among its features a base of non-conductive material having an elongated channel opening through one side thereof, opposed connectors recessed into the base on opposite sides at the channel, binding posts at the inner ends of the connectors and extending into the channel a plate of non-conducting material mounted on the base to slide longitudinally within the channel, transversely extending contact bars carried by the plate and movable with said plate into and out of contact with the binding posts of opposed connectors, nuts on the binding posts to engage the contact bars, a cover plate fixed to the base in closing relation to the channel, said cover plate having access openings therethrough through which the nuts on the binding posts are accessible, a slide plate on the cover plate movable longitudinally thereof, said side plate having access openings extending therethrough which when the said slide plate is in one position register with the access openings in the cover, to give access to the nuts on the binding posts.

Other features include clamp screws carried by the connectors for locking conductors thereto and the guard fingers on the top slide member for overlying one group of the clamp screws and preventing access thereto when the top slide member is in access opening closing position and for overlying the other group of clamp screws when the top slide member is in another position.

In the drawings:

Figure 1 is a plan view of a connector block embodying the features of this invention showing the block connected to a meter with the slide plate in access opening closing position;

Figure 2 is a view similar to Figure 1 showing the slide plates moved into access opening position;

Figure 3 is a longitudinal sectional view taken substantially along the line 3—3 of Figure 1;

Figure 4 is a transverse sectional view taken substantially on the line 4—4 of Figure 3;

Figure 5 is a fragmentary perspective view of the cover plate;

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Figure 6 is a perspective view of the slide plate and

Figure 7 is a perspective view of the top slide member.

Referring to the drawings in detail a base designated generally 10 comprises an elongated rectangular block of insulating material 12 carrying on one face a pair of spaced parallel walls 14 which lie in spaced parallel relation to the side edges of the block 12 to form a longitudinally extending channel 16. The base or block 12 extends laterally beyond the walls 14 to form flanges 18, and recessed in said flanges are connectors 20 arranged in opposed relation with their outer ends provided with sockets 22 for the reception of electrical conductors 24 (Figure 1). The connectors extend through the walls 14 of the base block 12 and into the channel 16 and extending through opposed connectors 20 are binding posts 26. Extending radially into the sockets 22 are clamp screws 28 which engage the conductors 24 in order securely to hold the conductors in the sockets 22. As illustrated in Figure 4 the binding posts project into the channel 16 in spaced parallel relation and are equipped with nuts 30, the purpose of which will be more fully hereinafter explained.

Mounted for longitudinal sliding movement within the channel 16 and on the base 12 is a slide plate 32 of non-conducting material, and this slide plate is provided adjacent opposite the side edges with longitudinal rows of longitudinally extending elongated slots 34 through which the binding posts 26 extend. Fixed to the top surface of the slide plate 32 in spaced parallel relation are transversely extending contact bars 36 having open ended slots 38 which align with the slots 34 so that when the plate 32 is moved into one position the walls of the slots 38 will partially embrace the binding posts 26. Fixed to the slide plate 32 adjacent one end and extending outwardly beyond the edges of the walls 14 is an operating pin 40 which is equipped at its end remote from the plate 32 with a manipulating knob 42.

A cover plate 44 is fixed to the edges of the walls 14 remote from the face 12 and is provided near one end with an elongated longitudinal slot 46 through which the pin 40 slides. Formed in the cover plate 44 at spaced intervals directly above the binding posts 26 are access openings 48 through which access may be had to the binding posts 26 and nuts 30 thereon.

Mounted for longitudinal sliding movement on top of the cover plate 44 is a top slide mem-

ber 50 which is provided adjacent one end with an opening 52 through which the operating pin 40 extends. This opening 52 is of such size that when the slide plate 32 is moved, the top slide member 50 will move in unison therewith. Formed at spaced intervals in the top slide member 50 are access openings 54 which when the member 50 is in one position align with the access openings 48 and allow access to the nuts 30, but when the member 50 is in another position move out of alignment with the access openings 48 and prevent access to the nuts 30 and binding posts 26. One of the access openings 54 is elongated at 56 so that irrespective of the position of the member 50 with relation to the cover plates 44 access may be had to one of the nuts 30 through an access opening 48 in order that the nut may be turned down against the slide plate 36 and to hold the slide plate against longitudinal movement.

Extending laterally from the top slide member 50 are tongues 58 one group of which is so positioned with relation to the plate 50 that when the openings 48 of the cover plate 44 are closed by the slide plate 50, the clamp screws 28 on one side of the block are covered while those on the opposite side of the block are exposed. It will thus be seen that when one group of clamp screws 28 are accessible the other group will be covered.

In operation it will be understood that when it is desired to gain access to the nuts on the binding posts 26, a tool is intrdouced through the elongated access opening 56 to engage the nut 30 directly therebeneath so that the latter may be loosened and the plates 32 and 50 may be moved longitudinally by exerting pressure on the knob 42. Upon sliding the plates 32 and 50 to the right as viewed in Figure 3, the contact bars 36 will be moved so that they engage the binding posts 26, and upon tightening the nuts 30 it will be evident that electrical communication will be established between opposed connectors 20. Hence power may flow from the service line through the meter and back from the meter through the opposite set of connectors 20. When it is desired to test the meter or otherwise operate upon the line, the nuts 30 are loosened and the thumb piece 42 is moved to disengage the contact bars 36 from the binding posts 26. With such movement of the plates 32 and 50, the fingers or lugs 58 will uncover the clamp screws 28 on one side or the other of the block or base 12, thus permitting the conductors seated in the sockets 22 to be removed. With the reversal of the movement of the plates 32 and 50, it will be obvious that the fingers 58 will cover the heads of one group of clamp screws 28 and expose the group of clamp screws 28 on the opposite side of the block.

It is to be noted that the device as illustrated in Figure 1 is in the position for a meter test, the clamp screws on the meter side of the block being exposed, so that they may be backed out and the conductors for the meter block, which are seated in the sockets 22, may be removed. Thus, the block may be entirely detached from the meter. This will enable a test load to be connected to the conductors 24, so that a reading of the meter may be taken to indicate whether the meter is correctly indicating the particular test load employed. After the completion of the test load, the conductors 24 may be positioned in the sockets 22 and the clamp

screws 28 moved in to engage the conductors and lock them in the sockets.

When the block is detached from the meter, the load jumper may be utilized and connected to the load line and service lines on the service side of the block so as to avoid any interruption of the current to the consumer. Of course, the load jumpers are attached prior to the sliding of the contact plate 32, carrying the contact bars 36. After the load jumpers are positioned, the contact bars will be moved by sliding the plates 32 and 50 through the member 42 and interrupting any possible connection between the load and service lines in the meter and not the conductors.

Obviously, after the test load has been applied, the conductors for the meter may then be inserted in the sockets and the load jumpers may be removed and the contact bars 36 moved into their proper position, as seen in Figures 2 and 4, whereupon the load lines will flow through the meter and back through the block to the service line.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. A meter test block comprising a base of non-conducting material having an elongated channel opening through one side thereof, opposed connectors recessed into the base on opposite sides of the channel, binding posts at the inner ends of the connectors and extending into the channel, a plate of non-conducting material mounted of the base to slide longitudinally within the channel, transversely extending contact bars carried by the plate for selective contact with the binding posts of opposed connectors, nuts on the binding posts to engage the contact bars, a cover plate fixed to the base in closing relation to the channel, said cover plate having access openings therethrough through which the nuts or the binding posts are accessible, a top slide member on the cover plate movable longitudinally thereof, said slide member having access openings extending therethrough which when the said slide member is in one position register with the access openings in the cover plate to give access to the nuts on the binding posts.

2. A connector block comprising a base of non-conducting material having an elongated channel opening through one side thereof, opposed connectors recessed into the base on opposite sides of the channel, binding posts at the inner ends of the connectors and extending into the channel, a plate of non-conducting material mounted on the base to slide longitudinally within the channel, transversely extending contact bars carried by the plate for selective contact with the binding posts of opposed connectors, nuts on the binding posts to engage the contact bars, a cover plate fixed to the base in closing relation to the channel, said cover plate having access openings therethrough through which the nuts or the binding posts are accessible, a top slide member on the cover plate movable longitudinally thereof, said slide member having access openings extending therethrough which when the said slide member is in one position register with the access openings in the cover

plate to give access to the nuts on the binding posts, said connectors having clamp screws for locking conductors thereto and guard fingers on the slide member for overlying one group of clamp screws and preventing access thereto when the slide plate is in access opening closing position.

3. A connector block comprising a base of non-conducting material having an elongated channel opening through one side thereof, opposed connectors recessed into the base on opposite sides of the channel, binding posts at the inner ends of the connectors and extending into the channel, a plate of non-conducting material mounted on the base to slide longitudinally within the channel, transversely extending contact bars carried by the plate for selective contact with the binding posts of opposed connectors, nuts on the binding posts to engage the contact bars, a cover plate fixed to the base in closing relation to the channel, said cover plate having access openings therethrough through which the nuts or the binding posts are accessible, a slide plate on the cover plate movable longitudinally thereof, said slide plate having access openings extending therethrough which when the said slide plate is in one position register with the access openings in the cover plate to give access to the nuts on the binding posts, and a post joining the slide member with the slide plate for moving both the member and the plate in unison.

4. A connector block comprising a base of non-conducting material having an elongated channel opening through one side thereof, opposed connectors recessed into the base on opposite

sides of the channel, binding posts at the inner ends of the connectors and extending into the channel, a plate of non-conducting material mounted on the base to slide longitudinally within the channel, transversely extending contact bars carried by the plate for selective contact with the binding posts of opposed connectors, nuts on the binding posts to engage the contact bars, a cover plate fixed to the base in closing relation to the channel, said cover plate having access openings therethrough through which the nuts or the binding posts are accessible, a top slide member on the cover plate movable longitudinally thereof, said slide member having access openings extending therethrough which when the said slide member is in one position register with the access openings in the cover plate to give access to the nuts on the binding posts, and one of the access openings in the slide plate being elongated continuously to render accessible one of the nuts through one of the access openings in the cover plate.

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