Dec. 13, 1932. H. J. BLAKESLEE 1,891,212

ELECTRICAL TERMINAL BLOCK

Filed May 16, 1932 2 Sheets-Sheet 1

Fig. 1

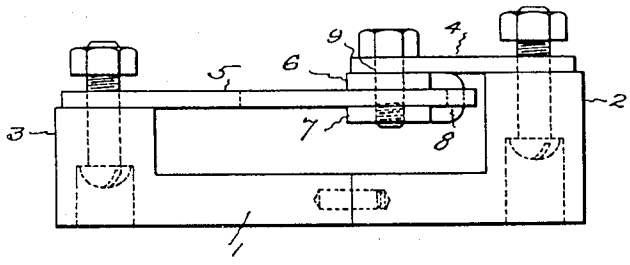


Fig. 2

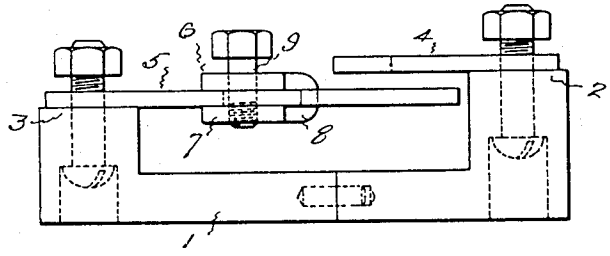


Fig. 3

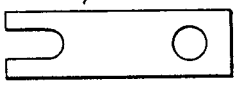
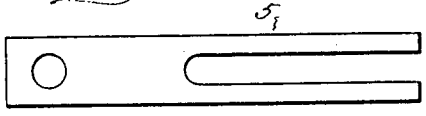


Fig. 4



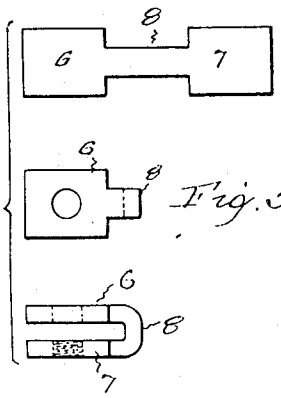
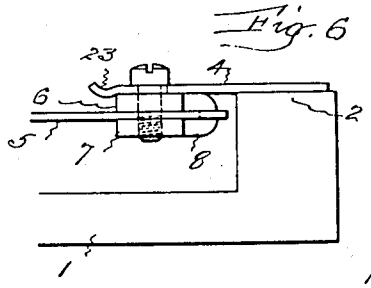


Fig. 5

Fig. 6



INVENTOR

Henry J. Blakeslee

by Harry P. Williams

Atty.

Dec. 13, 1932. H. J. BLAKESLEE 1,891,212

ELECTRICAL TERMINAL BLOCK

Filed May 16, 1932 2 Sheets-Sheet 2

Fig. 7

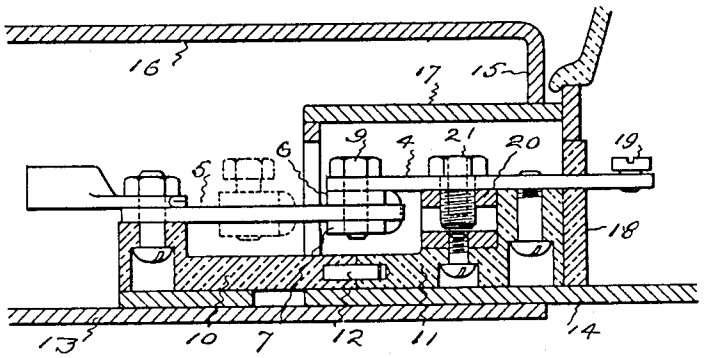


Fig. 8

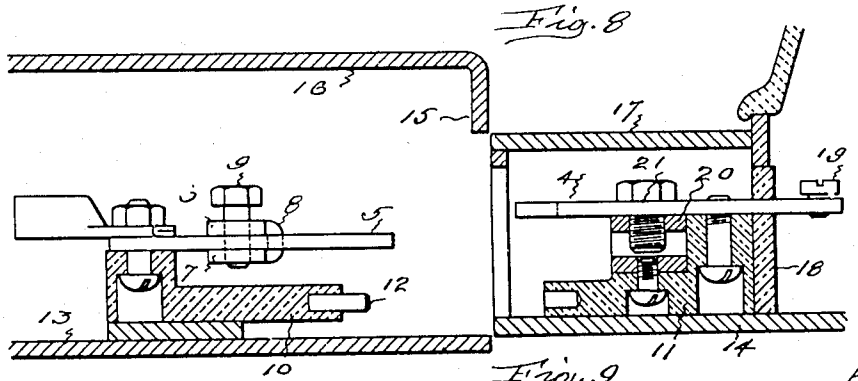
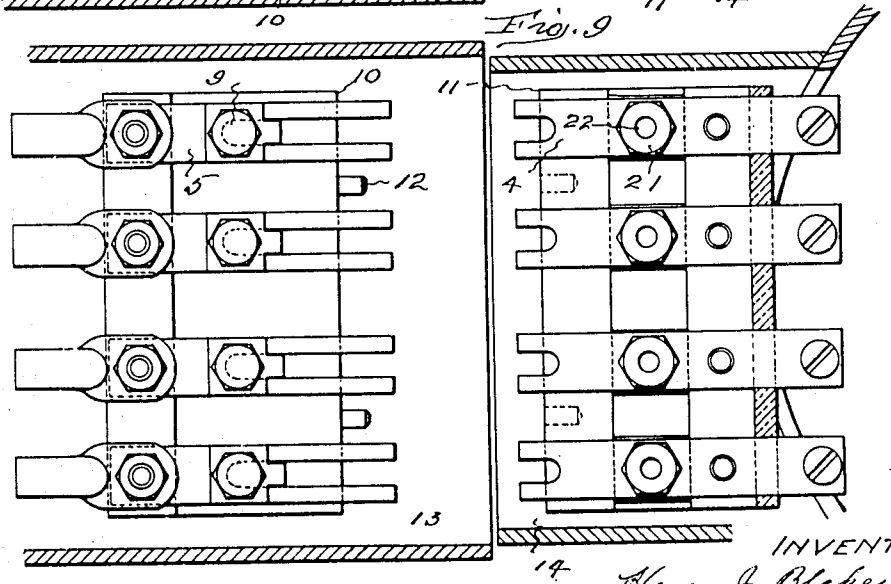


Fig. 9



INVENTOR

Henry J. Blakeslee, by

Harry P. Williams

Atty.

Patented Dec. 13, 1932 1,891,212

UNITED STATES PATENT OFFICE

HENRY J. BLAKESLEE, OF MARLBORO, CONNECTICUT, ASSIGNOR TO THE STATES COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT

ELECTRICAL TERMINAL BLOCK

Application filed May 16, 1932. Serial No. 611,483.

This invention relates to equipment for connecting and disconnecting electrical conductors, such as is used on switch boards and in testing boxes located between meters and other electrical apparatus, and is an improvement on the structure set forth by me in Patent No. 1,836,951 issued December 15, 1931. In the block of that patent there are two overlapping fingers with a conducting yoke slidable on the upper finger and adapted to embrace the under finger for closing the circuit. In the improved construction herein illustrated the relation of the fingers is altered and the connecting element is comprised of two slidable conducting plates which lie on opposite sides of and slide on the lower finger, the upper plate occupying the space between the two fingers when the circuit is closed.

The improved construction is simple and cheaper to manufacture and assemble than the prior construction, there is better alignment between the conducting parts, it is safer and easier to manipulate as the parts are visible and accessible and the upper finger, which is most exposed, is dead when the circuit is open. Should the space between the fingers be too constricted the operator by pressing a tool against the inner finger can spring that finger sufficiently to allow the connecting plate to enter between the fingers without danger of accident. Furthermore, the improved construction lends itself to a reduction in time, labor and cost of meter installation. The base of the block may be made separable and a section with one finger fastened in a service box and connected by the electrician of the wiring contractor, and the section with the other finger mounted in the meter terminal chamber and when the customer is ready for service it is only necessary for the utility company employee to thrust the meter terminal chamber into the service box until the sections of the block base register.

In the accompanying drawings Fig. 1 is a side view of a block that embodies the invention with the circuit closed. Fig. 2 is a similar view with the circuit open. Fig. 3 is a plan of the upper conducting finger. Fig. 4 is a plan of the lower conducting finger. Fig. 5 shows a plan of the blank from which the slidable connector may be formed, also a plan and side view of the slidable connector after it is formed. Fig. 6 illustrates means for preventing the disengagement of the parts should the block be located in a place where it is subjected to considerable vibration. Fig. 7 is a side view, with the circuit closed, showing the relation of the parts when one section of a separable base is located in a service box and the other section is mounted in a meter terminal chamber. Fig. 8 is a similar view with the meter member separated from the service box member. Fig. 9 shows a plan of the separable block with the parts disconnected.

The base 1 of the block illustrated is formed of insulation and is of a width and length depending upon the capacity of and number of circuit paths that are to be connected. The block shown has a ledge 2 extending across one edge and a ledge 3 extending across the other edge of the front face, the former ledge being somewhat higher than the latter. One or more conducting fingers 4 are fastened to the ledge 2 and one or more conducting fingers 5 are fastened to the ledge 3. These fingers are arranged to project in parallel planes with the end of a finger 4, which is slotted, overlapping the end of the finger 5 which is also slotted.

The connector is comprised of two spaced plates 6 and 7 of conducting material that are joined by a neck 8. These plates are spaced apart a distance equal to the thickness of the finger 5 and the width of the neck is approximately that of the slot in that finger. The plates are perforated and threaded and turning in these perforations is a screw 9. The distance between the overlapping ends of the fingers 4 and 5 is approximately the thickness of the plate 6.

When the screw 9 is loosened the connector may be slid along the finger 5, being guided by the neck 8 that fits the slot in the finger. For closing the circuit the connector is moved so that the plate 6 enters the space between the overlapping ends of the fingers, the shank of the screw entering the slot in

the end of the finger 4, and when the screw is tightened the fingers and plates are clamped together. To open the circuit the screw is loosened and the connector moved along the finger 5 away from the end of the finger 4. Should the block be located between wiring and a meter the meter leads are preferably connected to the fingers 4, and the wire terminals connected to the fingers 5.

The base of this block may be divided between the ledges so as to provide two sections 10 and 11 that have their edges fitted together and registered by suitable means, such as dowel pins 12, Fig. 7. With this construction the section 10 with the fingers 5 upon which the connectors slide may be secured to the bottom wall 13 of a service box, and the section 11 with the fingers 4 may be mounted on the back wall 14 of the terminal chamber of a meter as illustrated in Figs. 7, 8 and 9. If this arrangement is employed the end wall 15 of the service box is provided with an opening which will receive the end of the meter terminal chamber and allow the sections of the block to be brought together with the fingers overlapping so that the connector may, when the cover 16 of the service box and the cover 17 of the terminal chamber are open, be moved, for connecting or disconnecting the fingers.

It is preferable to have the finger 4 extend from the block section 11 through insulation 18, into the meter proper and be provided with a binding screw 19 as illustrated in Figs. 7 and 8. A sleeve 20 may be attached to the section of the block that is in the terminal chamber to allow the connection of a conductor in the usual way, should the other block section not be employed, and the screw 21 provided for this purpose may have a bore 22 for receiving the terminal of a testing instrument lead. It is evident that the parts of such an arrangement could, if desired, be reversed, that is, the section of the base with the sliding connector could be mounted in the meter terminal chamber and the other section in the service box.

In smaller sizes of blocks such as may be used in generating stations and other places where vibration is considerable and there is a possibility of a loosening of screws, the end of the upper finger may be bent, as shown at 23, Fig. 6, so as to hold the connector in place should the clamping screw become loose.

The divided block construction, with one section in a meter and the other in a service box, permits the wiring of a building to be completed and the meters to be installed at any future time by simply sliding the meter into place in the service box and joining the fingers by the clamping connector.

The provision of a meter with a block section of the character described may be accomplished at but a slightly increased meter cost above the construction commonly employed, but this increased cost is more than overcome by the reduction in the time and labor required for equipping the meter at the factory, and in the installation of a meter so equipped. At any time whether these blocks are located in a meter terminal chamber, or located with a section in a terminal chamber and a section in a service box, the covers can be removed and such connectors easily and safely shifted along the fingers on which they are mounted as will permit tests to be made.

The invention claimed is:

1. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends overlapping and spaced from each other, and a connector mounted on one of said fingers and slidable thereon between circuit opening and circuit closing positions, said connector having two plate portions, one on each side of the finger upon which it slides, and one adapted to pass into and out of the space between the overlapping ends of the fingers, and means for binding said connector and fingers into electrical connection when the connector is in circuit closing position.

2. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends overlapping and spaced from each other, and a connector mounted on the under one of said fingers and slidable thereon between circuit opening and circuit closing positions, said connector having two plate portions, one on each side of said under finger upon which it slides, and one adapted to pass into and out of the space between the overlapping ends of the fingers, and means for binding said connector and fingers into electrical connection when the connector is in circuit closing position.

3. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other, and a connector mounted on one of said fingers and slidable thereon between circuit opening and circuit closing positions, said connector having two plate portions, one on each side of the finger upon which it slides, and one adapted to connect the ends of the fingers in circuit closing position and a single clamping means for binding said connector plates and fingers into electrical connection when the connector is in circuit closing position.

4. An electrical terminal block comprising a base, two opposing conducting fingers supported on said base, a contact and clamping assembly slidably mounted on one finger and movable into and out of engagement with the other finger between a circuit opening and a circuit closing position, said assembly including two plates one on each side of the finger on which the assembly is movable and a single clamping means for binding said fin-

gers and assembly into electrical connection when in the circuit closing position.

5. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other, and a connector slidably attached to one finger and movable thereon into and out of engagement with the other finger, said connector having two plate portions embracing the finger upon which it slides, and a single clamping means for binding said connector and fingers into electrical connection when the connector is engaged with both fingers.

6. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other and a connector slidably mounted on one of said fingers, said connector having plates that embrace both sides of the finger upon which it slides, and a single means for clamping said connector and fingers into electrical connection.

7. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other, and two plates slidable on one of said fingers, one on each side of the finger upon which it slides, and a single means for binding said plates and fingers into electrical connection in circuit closing position.

8. An electrical terminal block comprising a sectional base, two conducting fingers, one mounted on each section of the base with their ends spaced from each other, and a connector mounted on one of said fingers and slidable thereon between circuit opening and circuit closing positions, said connector comprising two plate portions, one on each side of the finger upon which it slides, and one adapted to bridge the space between the ends of the fingers, and a single means for clamping said connector and fingers into electrical connection when the connector is in circuit closing position.

9. An electrical terminal block comprising a sectional base, two conducting fingers, one mounted on each section of the base with their ends overlapping and spaced from each other, and a connector mounted on one of said fingers and slidable thereon between circuit opening and circuit closing positions, said connector having two plate portions, one on each side of the finger upon which it slides, and one adapted to pass into and out of the space between the overlapping ends of the fingers, and means for binding said connector and fingers into electrical connection when the connector is in circuit closing position.

HENRY J. BLAKESLEE.

DISCLAIMER.

1,891,212.—*Henry J. Blakeslee*, Marlboro, Conn. ELECTRICAL TERMINAL BLOCK. Patent dated December 13, 1932. Disclaimer filed April 9, 1935, by the assignee, *The States Company*.

Hereby enters this disclaimer to that part of the claims in said specification which is in the following words, to wit:

"3. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other, and a connector mounted on one of said fingers and slidable thereon between circuit opening and circuit closing positions, said connector having two plate portions, one on each side of the finger upon which it slides, and one adapted to connect the ends of the fingers in circuit closing position and a single clamping means for binding said connector plates and fingers into electrical connection when the connector is in circuit closing position.

"4. An electrical terminal block comprising a base, two opposing conducting fingers supported on said base, a contact and clamping assembly slidably mounted on one finger and movable into and out of engagement with the other finger between a circuit opening and a circuit closing position, said assembly including two plates one on each side of the finger on which the assembly is movable and a single clamping means for binding said fingers and assembly into electrical connection when in the circuit closing position.

"5. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other, and a connector slidably attached to one finger and movable thereon into and out of engagement with the other finger, said connector having two plate portions embracing the finger upon which it slides, and a single clamping means for binding said connector and fingers into electrical connection when the connector is engaged with both fingers.

"6. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other and a connector slidably mounted on one of said fingers, said connector having plates that embrace both sides of the finger upon which it slides, and a single means for clamping said connector and fingers into electrical connection.

"7. An electrical terminal block comprising a base, two conducting fingers mounted on said base with their ends spaced from each other, and two plates slidable on one of said fingers, one on each side of the finger upon which it slides, and a single means for binding said plates and fingers into electrical connection in circuit closing position."

[*Official Gazette April 30, 1935.*]