

No. 876,400.

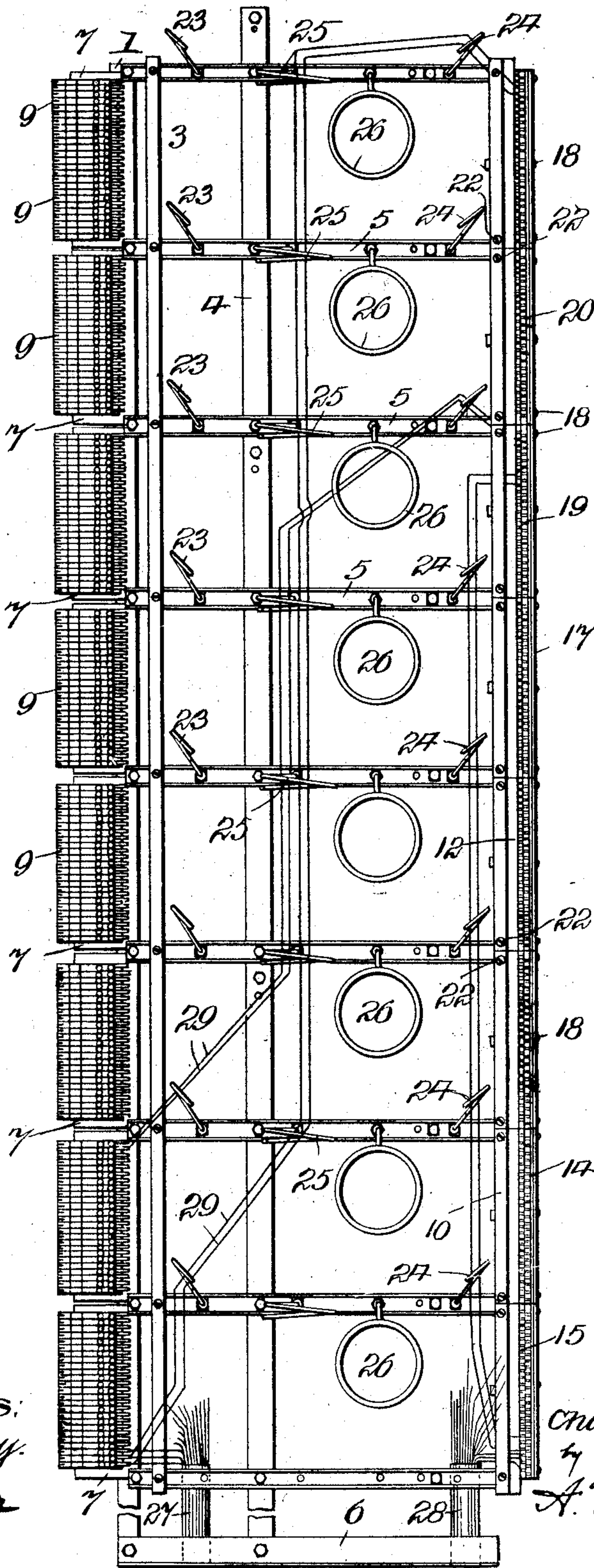
PATENTED JAN. 14, 1908.

C. A. ROLFE.  
ELECTRICAL DISTRIBUTING RACK.

APPLICATION FILED FEB. 17, 1903.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:  
J. C. Barry  
J. C. Lee

Inventor:  
Charles A. Rolfe.  
by  
A. Miller Bigfield  
Attorney

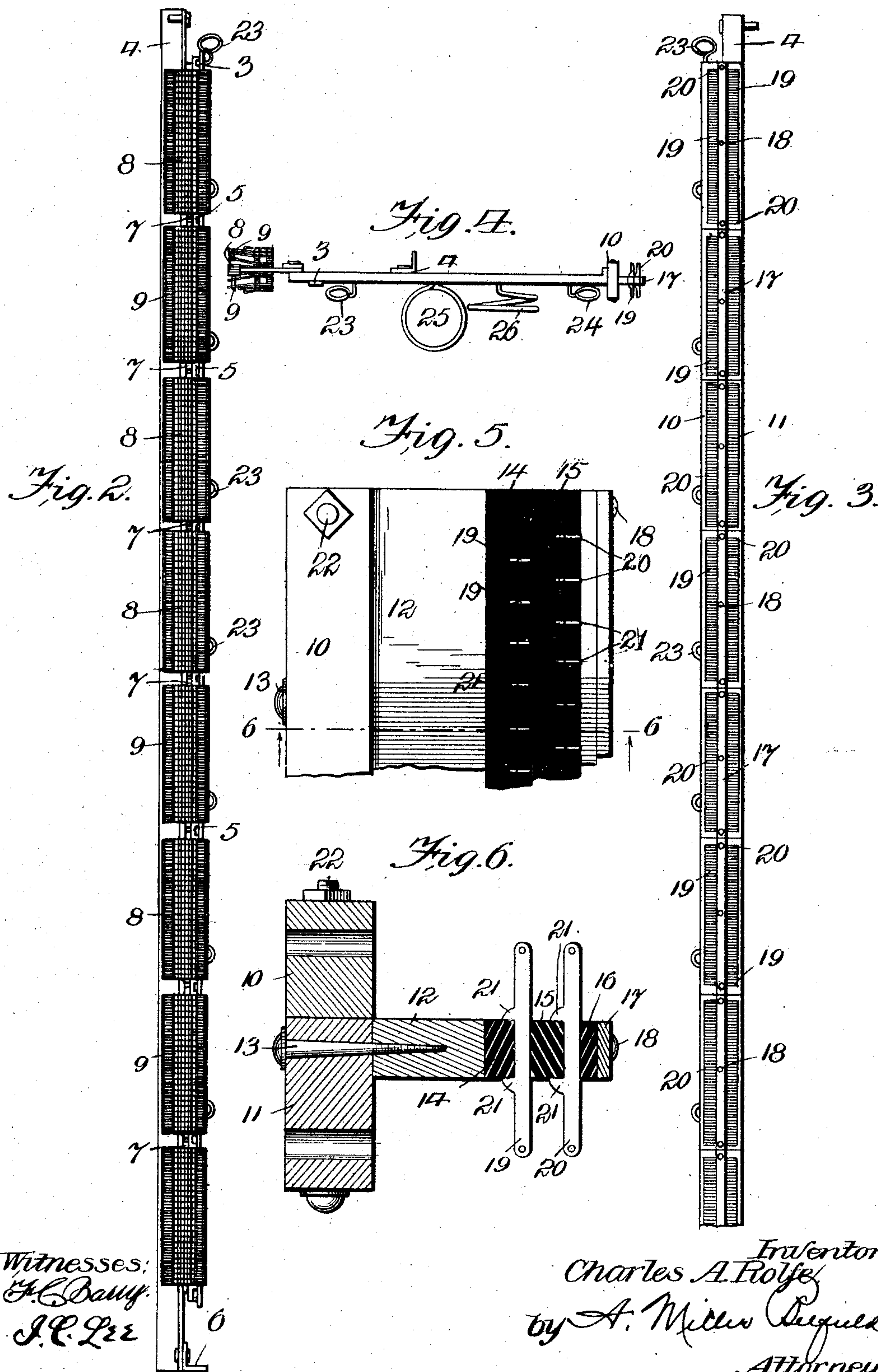
No. 876,400.

PATENTED JAN. 14, 1908.

C. A. ROLFE.  
ELECTRICAL DISTRIBUTING RACK.

APPLICATION FILED FEB. 17, 1903.

2 SHEETS—SHEET 2.



Witnesses:  
H. C. Baily.  
J. C. Lee

Inventor:  
Charles A. Rolfe  
by A. Miller Duguid  
Attorney.



# UNITED STATES PATENT OFFICE.

CHARLES A. ROLFE, OF ADRIAN, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ROLFE ELECTRIC CO., OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

## ELECTRICAL DISTRIBUTING-RACK.

No. 876,400.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed February 17, 1903. Serial No. 143,832.

*To all whom it may concern:*

Be it known that I, CHARLES A. ROLFE, a citizen of the United States, residing at Adrian, in the county of Lenawee and State of Michigan, have invented a certain new and useful Improvement in Electrical Distributing-Racks, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to distributing racks for use in telephone exchanges.

The object of the invention is to provide a simple, durable, practical and convenient form of distributing rack.

In the accompanying drawings, Figure 1 is an end elevation of a distributing rack embodying my invention; Fig. 2 is a view of one side of a section of the same; Fig. 3 is a view of the opposite side thereof; Fig. 4 is a plan of such a section; Fig. 5 is a view on an enlarged scale of the upper portion of one side of the rack; and Fig. 6 is a section taken on line 6—6 in Fig. 5.

Referring first to Fig. 1, I have shown therein an end view of the rack, together with a few cross connecting or jumper wires. It will be understood that the rack is made up of a plurality of sections all similar to one another, and that these sections are placed side by side so as to make one long rack or board, an end view of which would be the view shown in Fig. 1, the other sections being one behind another immediately in rear of the section there shown.

By showing and describing one section, the construction of the entire board or rack will be understood. This section consists of an end upright 1, intermediate uprights 3 and 4, and horizontal cross pieces 5, 5, 5, secured to said uprights, together with a base piece 6 secured to the lower ends of the uprights 1 and 4. Ground plates 7, 7, 7, are secured to one side of the frame thus composed,—the left side in Figs. 1 and 4. They are conveniently interposed between the upright 1 and cross pieces 5, 5, and secured firmly in place thereby. Each ground plate extends between adjacent horizontal cross pieces 5, 5. At or along the outer edges of these ground plates are lightning arresters 8, 8, and on either side of the same are thermal protectors or cut-outs 9, 9. These lightning arresters 8, 8, and thermal protectors 9, 9, can be any suitable or desired construc-

tion. These protectors and lightning arresters are arranged side by side in bank, as well shown in Figs. 1 and 2. As they form no part of my present invention, I will not refer to them more particularly. The ground plates 7, 7, are of such length as to accommodate twenty-five lightning arresters and protectors, and as the circuits coming into the rack are metallic circuits, twenty-five of them would be accommodated by the protectors on each ground plate 7, it being understood that oppositely disposed protectors are included in opposite sides of the same circuit. The rack shown is provided with eight ground plates 7, 7, thus equipped, whereby it accommodates two hundred circuits. This side of the rack thus provided with lightning arresters and protectors, is conveniently called the protector side of the rack. The opposite side of the rack is called the clip side. This is constructed of a plurality of sections, whereof each section consists of a couple of wooden blocks or strips 10 and 11 arranged end to end, as shown in Fig. 6, a wooden block or strip 12 arranged at right angles to the strips 10 and 11 and secured to the latter as by screws 13, and three ebonite or rubber strips 14, 15 and 16 arranged at the outer edge of the strip 12, and a metal strip 17 arranged outside of the strip 16 and secured to the strip 12 by screws 18, 18. The ebonite strips 14 and 15 are transversely slotted at intervals along their length, and metallic connecting clips 19, 19 and 20, 20 are inserted in such slots or slits. These clips 19, 19 and 20, 20 are made with lugs or ears 21, 21, adapted to embrace the strips 14 and 15 and thereby prevent displacement relatively to the same. The clips 19, 19, are held in place in their slots by the strip 15, and the clips 20, 20, by the strip 16. Each clip section thus constructed is secured to the cross pieces 5, 5, their being eight sections, each of which extends between adjacent cross pieces 5, 5, and has its ends secured to the same as by bolts 22, 22, which latter also serve to hold the wooden strips or blocks 10, 11 together. The number of clip sections thus corresponds with the number of protector sections, and each clip section is provided with twenty-five pairs of clips just as each protector section is provided with twenty-five pairs of protectors. Each cross piece 5 is provided with two inclined laterally projecting end rings 23, and 24, a laterally pro-



jecting intermediate ring 25, and a depending ring 26.

The line wires are brought to the protector side of the rack and properly connected therewith in the usual manner. In Fig. 1 is shown a cable 27 which is understood to contain or consist of the line wires, and this is shown brought to the base of the protector side of the rack. From this cable the wires are fanned and connected with the protectors 9, 9. Only a few of the wires are shown for convenience of illustration. The switchboard wires are connected with the clip side of the rack. In Fig. 1 a cable 28 is shown brought to the base of the clip side and understood to be composed of the switchboard wires. From this cable the wires are fanned in the usual way, but for convenience, only a few of the same are shown. The proper connections between the protectors and the clips, are made by jumper or cross connecting wires 29, 29. These, it is understood, have to be extended in an infinite variety of different ways in order to make the proper connections. A few of such connections are shown. For instance, one set of wires 29 is shown extending from the lower protectors and thence up through one of the rings 23, then through seven of the rings 25, 25, then through one ring 24, and to clips on the top of the clip section. Other connections can be similarly made, the wires from the protectors passing first through the rings 23, 23, and then through as many of the rings 25, 25 as necessary to bring them to the proper clip section, and then through the ring 24 corresponding to such clip section, and thence to the proper clips. The rings 26, 26, are used when it is desired to convey jumper or cross connecting wires from one rack section to another. For instance, if it is desired to extend such wires from the section shown in Fig. 1 to a section behind the same, the wires will be passed through one of the rings 26, 26 on the rack section shown, and also if necessary through other rings 26 on other rack sections, until the desired rack section is reached, whence it will be passed through other rings to make the proper connections.

It will be seen that the construction of rack shown permits the connections with the protectors and clips to be easily and readily made. It will be seen also that the cross connecting or jumper wires can be also readily and easily connected with both clips and protectors, and also that they can be easily and conveniently extended between proper clips and protectors and readily traced. It will also be seen that the construction is simple and practical and

65 durable, and has many points of specific advantage. For instance, it is unnecessary to provide any particular fastening for the clips 19, 19, and 20, 20, these being held in position by the strips 15 and 16 and being easily removed and replaced by removing such strips.

It will be understood that as many rack sections as desired can be used, and also that as many protector and clip sections as desired can be mounted in each rack section.

It is obvious that modifications and changes can be made in the rack thus set forth, without departing from the spirit of my invention, and hence I do not wish to be limited to such construction.

What I claim as my invention is:—

1. A distributing rack comprising a frame 80 having vertically disposed supporting strips and horizontally disposed cross strips extending between said vertical strips, the latter being formed in sections, which are arranged end to end and extend respectively between adjacent cross strips, the sections on the front side of the rack being for protectors and on the rear side for terminals, the terminal sections being provided with forwardly and rearwardly extending apertures for cross-connecting wires and being provided with connecting clips in the rear of said apertures.

2. In apparatus of the class specified, the combination with a frame, of strips 10 and 11 arranged end to end across the front of said frame and provided with forwardly and rearwardly extending apertures, a strip 12 secured to the strip 11 and extending rearwardly therefrom, and strips 14, 15 and 16 secured to the strip 12 in the rear thereof, the strips 14 and 15 being provided with cross slots into which are fitted metal terminal clips 19 and 20, substantially as described.

3. In a distributing rack, a clip section comprising a detachable support, a pair of insulating strips 14 and 15 secured to one edge of said support and provided with transverse slots, the strip 15 being outside of the strip 14, clips 19, 19 and 20, 20 provided with ears or lugs 21, 21 and fitted in the slots of said strips, a strip 16 outside of the strip 15, a strip 17 outside of the strip 16, and means for holding the strip 17 in position, substantially as described.

In witness whereof, I hereunto subscribe my name this 22d day of January A. D., 1903.

CHARLES A. ROLFE.

Witnesses:

A. MILLER BELFIELD,  
I. C. LEE.