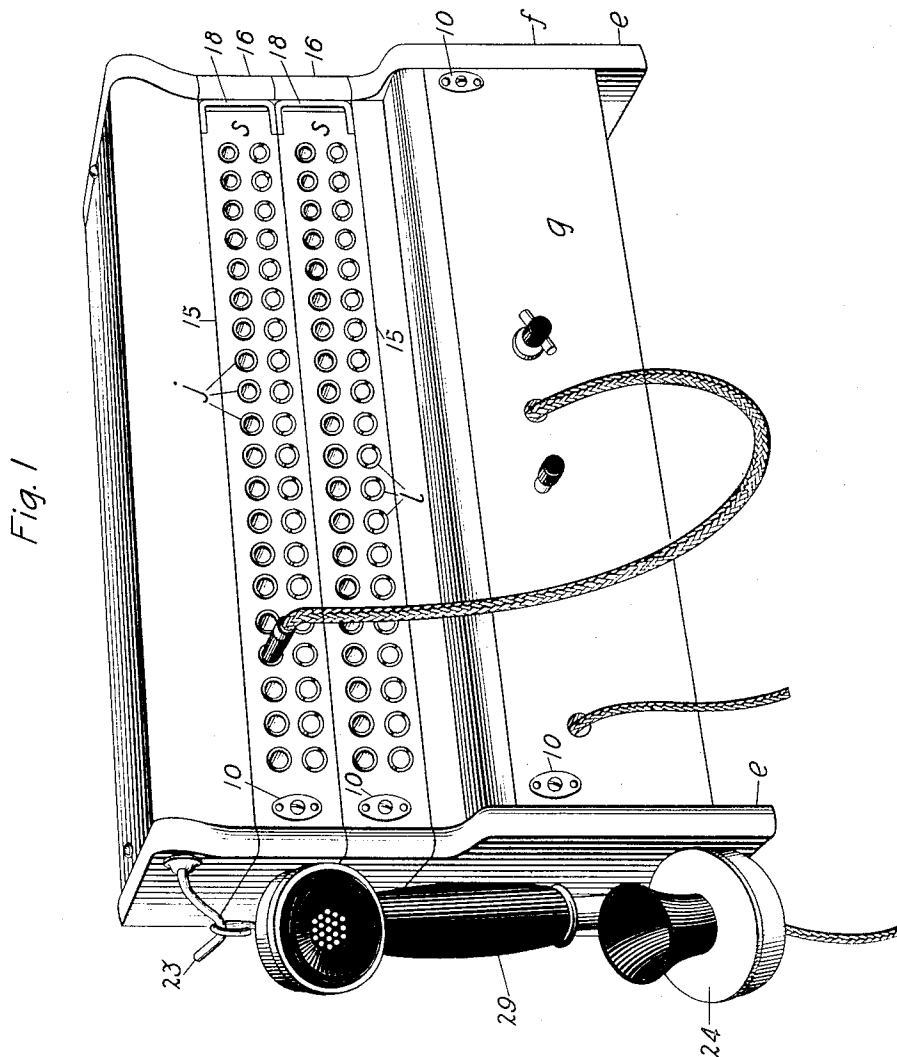


E. S. McLARN.  
TELEPHONE SWITCHBOARD.  
APPLICATION FILED OCT. 7, 1910.

1,039,773.

Patented Oct. 1, 1912.

3 SHEETS-SHEET 1.



Witnesses  
C. D. M. Guthe  
M. Washburn Jr.

Inventor  
Ernest S. McLarn  
by D. C. Tanner Atty.

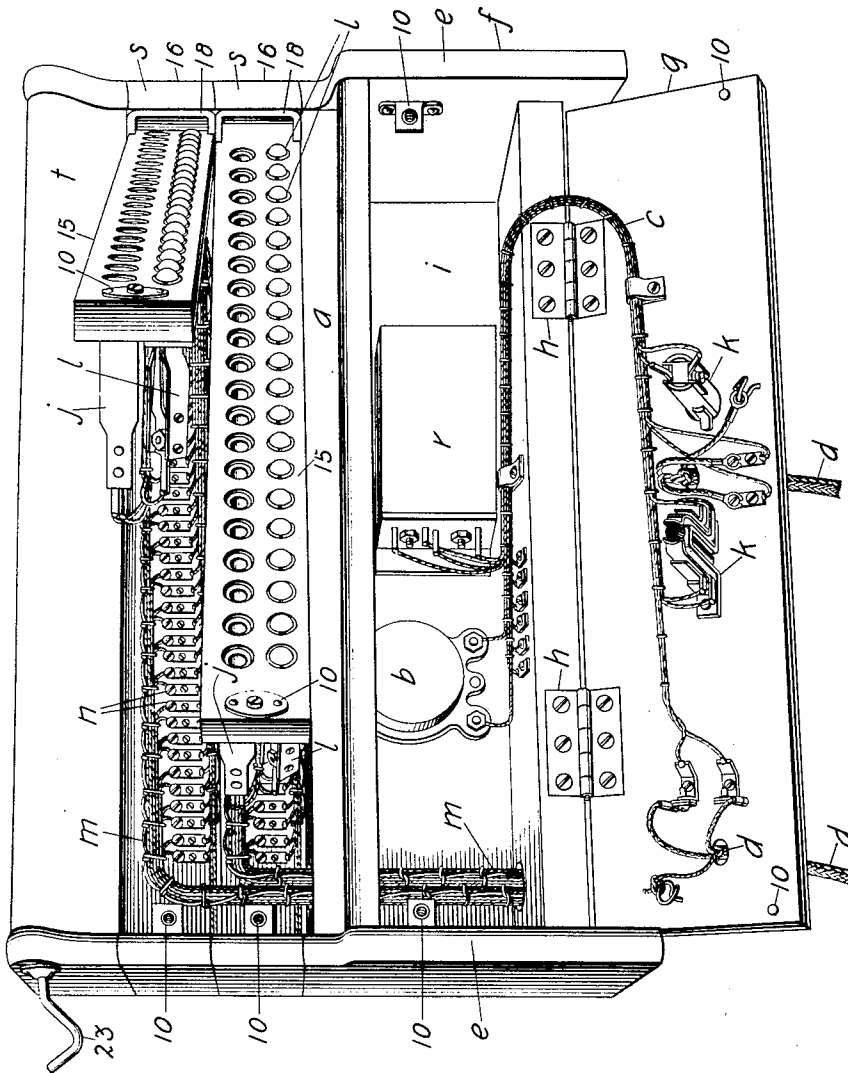
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3 SHEETS—SHEET 2.

Fig. 2



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3 SHEETS—SHEET 3.

Fig. 3

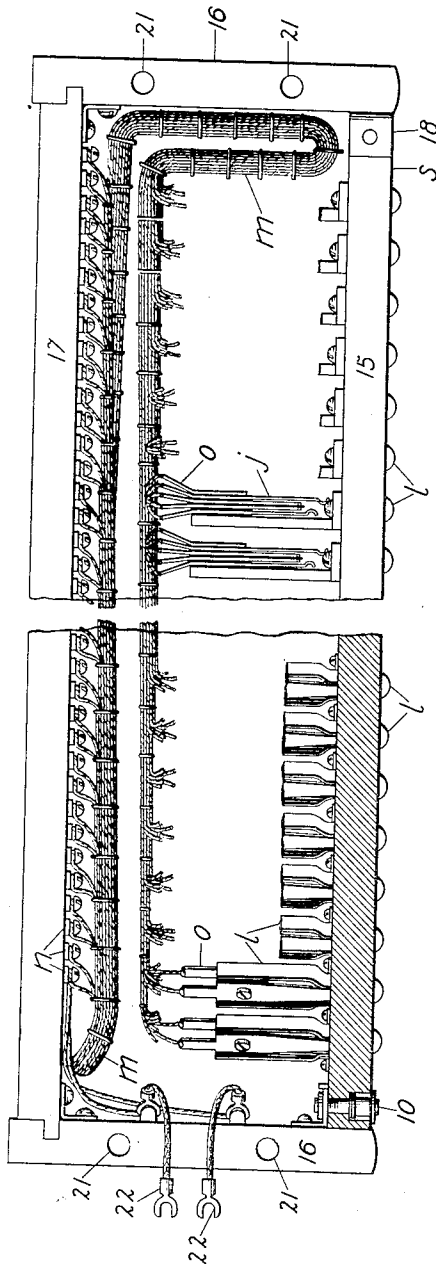


Fig. 4

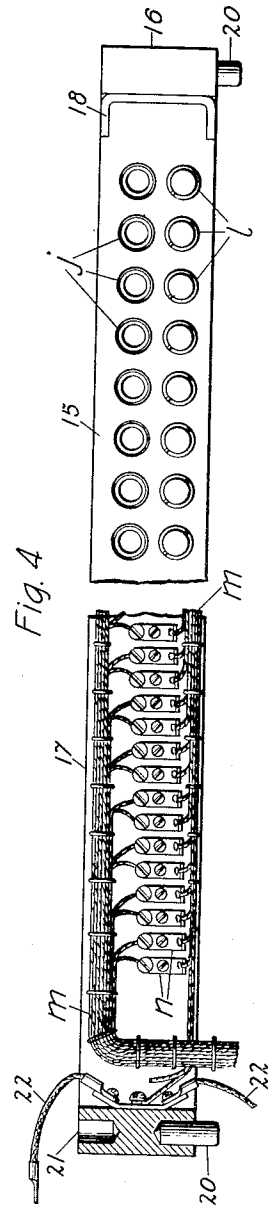
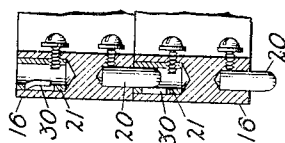


Fig. 5



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# UNITED STATES PATENT OFFICE.

ERNEST S. McLARN, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF NEW YORK, N. Y., A CORPORATION OF ILLINOIS.

## TELEPHONE-SWITCHBOARD.

1,039,773.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed October 7, 1910. Serial No. 585,805.

*To all whom it may concern:*

Be it known that I, ERNEST S. McLARN, citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Telephone-Switchboards, of which the following is a full, clear, concise, and exact description.

This invention relates to telephone circuit switchboards.

The object of the invention is to provide a switchboard for use with telephone circuits and apparatus so constructed that its capacity may be increased or decreased to accommodate a varying number of line circuits as required from time to time.

The board is composed of a foundation having a vertical portion to stand on the floor and it may have a horizontal or desk portion. Supported on this foundation there is a series of unit sections of substantially similar appearance and dimensions; each such section is preferably a strip or sheet of insulating material like wood and is perforated to receive and hold in symmetrical arrangement a series of line indicating devices, such as annunciators or lamps and spring-jacks. On the foundation there are telephone instruments for signaling and talking and connecting devices like flexible cords. Circuit terminals are connected to the apparatus on the foundation and line circuit terminals are connected to the devices on the unit sections. Each unit section also carries means for uniting it with an adjacent section or with the foundation, and for completing the inclosure of the wiring at the rear and ends. The sections may be hinged to the end inclosing pieces and may have dowel pins and sockets for uniting one section to another in superposed relation. These dowel pins and sockets may be of metal and constitute means for electrically uniting one section to another or flexible conducts may be used.

The accompanying drawings illustrate the invention:—

Figure 1 is a front elevation of a telephone switchboard consisting of a foundation and three superposed unit sections. Fig. 2 is a front elevation showing two unit sections hinged to end pieces which constitute a means for removably uniting and retaining the sections in superposed relation, such end pieces being carried by said sections. Fig.

3 is a plan view of one section consisting of a base piece supporting a series of line circuit devices with line circuit terminals connected thereto, a parallel rear member and end members to complete a quadrangular inclosure, all carried by the base piece. Fig. 4 is a front elevation of a portion of one unit section and of the rear member forming part of such unit section showing the electrical connections, the end pieces with dowel pins and sockets, and flexible connecting pieces for electrically uniting one unit section to an adjacent section. Fig. 5 shows the construction of the dowel pins and sockets when used for forming an electrical connection.

The foundation *f* is adapted to stand upon the floor. The front member of the foundation *g* is hinged to the foundation at *h* so that the hinged portion may drop down to expose the instruments located within the inclosure of the foundation, such as the relay *r*, the cable *c*, the keys *k*, the audible signal *b* and flexible conducting cords *d*. Locking devices 10 for holding the door closed are shown in position. The foundation *f* end members *e* and a rear member *i*, which are rigidly united together, and a horizontal piece *a* are shown supported on the end members *e*. The foundation *f* supports a variable number of unit sections *s*; each unit section *s* is complete in itself and is removably supported in position by means which it carries. Each section *s* consists of a base piece 15, end pieces 16 and a rear member 17. These pieces 16 and 17 are mechanically united at their junction and with the base 15 form a quadrangular inclosure. The base piece 15 is hinged at 18 to one of the end pieces 16 so that the base piece 15 carries with it the parts 16 and 17 by means of which it is removably supported upon the foundation *f*. In the end pieces 16 there are dowel pins 20 on the lower side and sockets 21 for dowel pins 20 on the upper side. The base piece 15 is preferably of insulating material, such as wood or hard rubber, and is perforated to receive and carry spring jacks *j* and small incandescent lamps *l*, which constitute line indicating and connecting devices. The cabled circuit terminals *m* are brought from the bottom upward through the foundation *f* and distributed to the electrical connections *n* on

the inside of the rear member of the section 17 and to the terminals *o* of the line devices on the base piece 15. The electrical connections from one section *s* to another 5 are made by flexible sections of conductor 22. The hinged piece 15 is retained in a closed position by a locking device 10. In Figs. 1 and 2 two such sections *s* are shown in superposed relation. These are of the 10 same dimensions and appearance, they have similar electrical line devices and electrical connections, and are substantially similar in every respect. Each section is complete in itself and may be added or removed at 15 pleasure, and in conformity with the increase or decrease of the number of lines to be accommodated. There is a top section carrying a support 23 for an operator's telephone 24.

20 In Fig. 5 there is shown an arrangement of dowel pin and socket. The dowel pin 20 is of metal and is set into the upper edge of one end piece 16 and the socket 21 is a metal thimble with a section 30 cut 25 from its wall and bent inwardly to insure a rubbing contact with the pin 20.

What I claim is:

1. In a telephone switchboard a desk adapted for operators' use having telephone 30 instruments attached thereto, in combination with a plurality of uniform, superposed sections, each consisting of a base piece, a series of line circuit devices supported thereon, a series of line circuits connected to said devices, respectively, and 35 means carried by said sections for removably uniting and retaining said sections in position.

2. In a telephone switchboard a foundation 40 having operators' apparatus located

thereon with electric circuit connections thereto, in combination with a removable section or unit consisting of a base piece, a plurality of line circuit devices carried 45 thereby, line circuits connected to said devices and means carried by said section for removably uniting it with its adjacent support.

3. In a telephone switchboard a foundation having electrical communicating apparatus located thereon with electric circuit connections thereto, in combination with a plurality of unit sections, a series of substation circuit terminals, a series of line circuit devices, one for each such terminal, 55 arranged upon base pieces of substantially uniform dimensions and appearance forming part of said unit sections, and means, carried by said base pieces, for removably retaining said unit sections in superposed 60 relation.

4. In a telephone switchboard a foundation having electrical communicating apparatus located thereon with electric circuit connections therefor, in combination with 65 a series of independently removable unit sections of substantially uniform dimensions and appearance, each section having electro-responsive line indicating devices arranged thereon, and means, carried by said section, 70 for removably uniting said section with an adjacent section.

In witness whereof, I, hereunto subscribe my name this 6th day of October A. D. 1910.

ERNEST S. McLARN.

Witnesses:

IRVING MacDONALD,  
MORGAN WASHBURN, Jr.