(No Model.)

2 Sheets—Sheet 1.

C. E. CHINNOCK.

Telegraphic Switch Board.

No. 229,672. Patented July 6, 1880.

Fig 1.

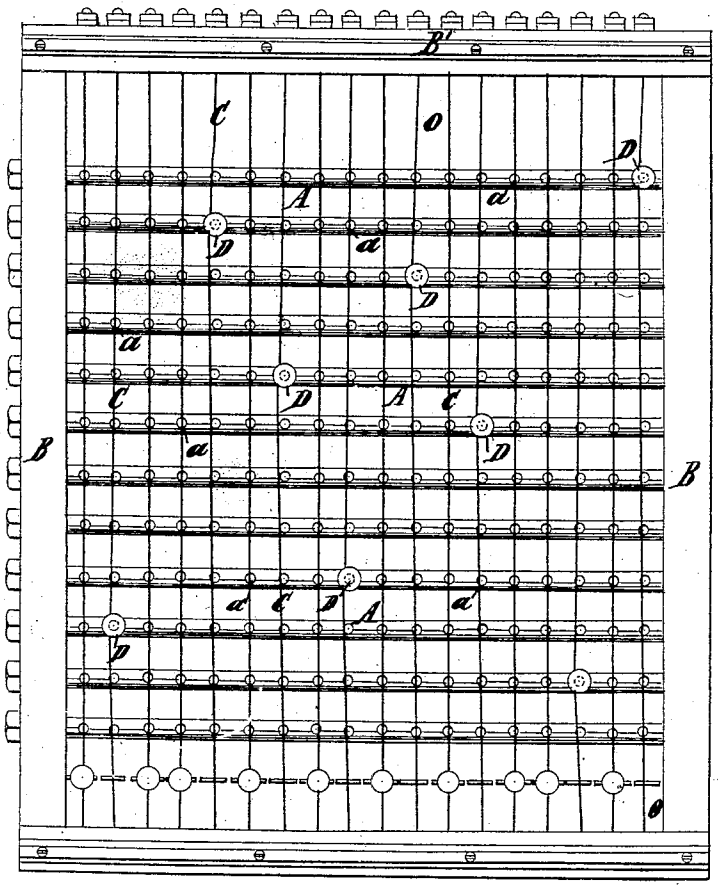
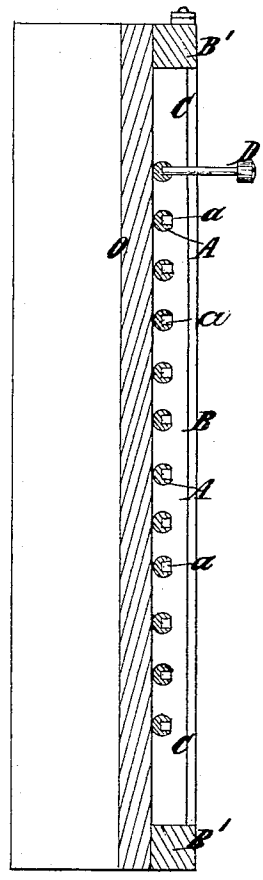


Fig 2.



Witnesses.
Thomas E Birch,
Fred Thornhill.

Inventor:
Charles E Chinnock
by his Attorneys
Brown & Brown

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

(No Model.)

2 Sheets—Sheet 2.

C. E. CHINNOCK.

Telegraphic Switch Board.

No. 229,672. Patented July 6, 1880.

Fig. 3.

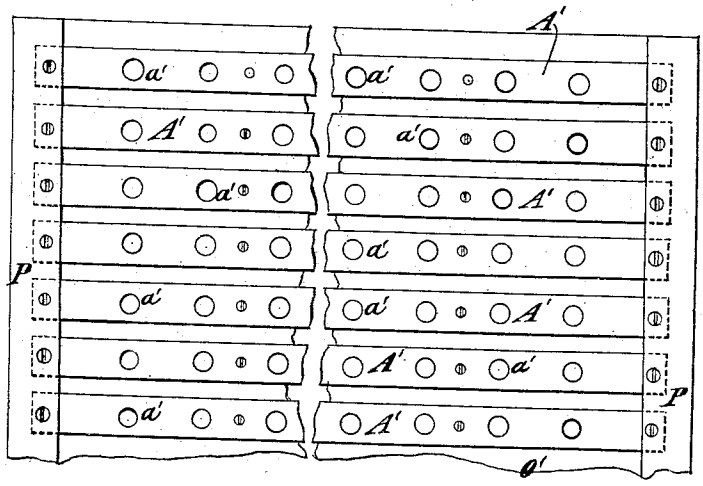


Fig. 4.

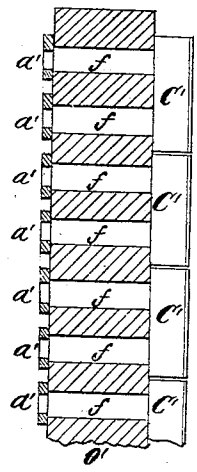


Fig. 5.

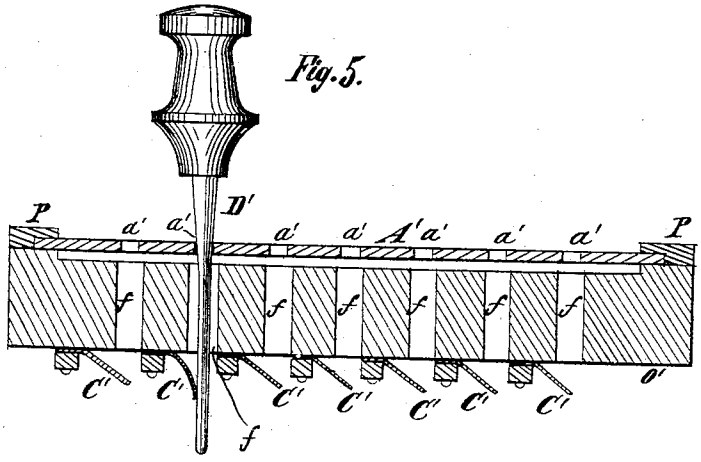
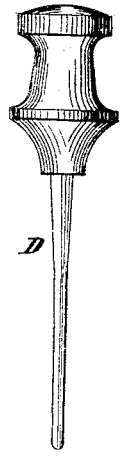


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES E. CHINNOCK, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE CHINNOCK ELECTRIC COMPANY.

TELEGRAPHIC SWITCH-BOARD.

SPECIFICATION forming part of Letters Patent No. 229,672, dated July 6, 1880.

Application filed May 18, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. CHINNOCK, of Brooklyn, in Kings county and State of New York, have invented certain new and useful Improvements in Switch-Boards for Telegraphic Purposes, of which the following is a specification.

My improvements relate especially to switch-boards employed in connection with speaking telegraphs or telephones for making connections between different parties.

Switch-boards for such purposes have heretofore been commonly made, comprising series of crossed rods or bars and pins inserted in the two series, so as to connect a rod or bar of one series with any desired rod or bar of the other series. As it was only with difficulty that the two series of rods or bars could be provided with holes for the reception of the pins in line, these switch-boards have been quite expensive.

The object of my invention is to provide a simple switch-board, which shall obviate the above-mentioned difficulties.

To this end my invention consists in the combination of a series of rods, plates, or bars provided with holes or recesses, and a series of flexible strips, rods, or wires extending transversely to the same, and metallic plugs capable of being inserted in the holes in the rods, plates, or bars, and bearing against the flexible strips, rods, or wires when inserted in the said holes or recesses, whereby contact may be effected in a simple and effective manner.

In the accompanying drawings, Figure 1 is a plan of a switch-board embodying my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a plan of a switch-board of modified form embodying the improvements. Fig. 4 is a transverse section thereof. Fig. 5 is a longitudinal section thereof, and Fig. 6 is a view of one of the plugs detached.

Similar letters of reference designate corresponding parts in all the figures.

Referring first to Figs. 1 and 2, A designates a number of parallel metallic rods or bars extending from one to another of side pieces, B, forming part of a frame, B B′, affixed to a base-board, O. These rods or bars connect with certain line-wires in the telegraph or telephone system, and have at regular intervals holes or recesses *a* in their upper sides.

C designates a number of wires stretched under a suitable tension between the side pieces, B′, of the frame B B′, and extending transversely to the rods or bars A, opposite their holes *a*, but at some little distance therefrom. These wires are connected with other line-wires in the telegraph or telephone system.

D designates metallic plugs or pins, which may be inserted in the holes or recesses *a* in the rods or bars A. When one of these plugs is inserted in one of the holes *a* it presses against and deflects one of the wires C, and thereby makes a firm electrical contact between said rod or bar and wire. Thus any one of the wires may be put in contact with any one of the rods or bars.

Referring now to Figs. 3, 4, 5, and 6, A′ designates a number of parallel plates or bars arranged upon a base-board, O′, and secured thereto by screws and by side pieces, P, lapping over their ends. These plates or bars are connected to certain of the line-wires in the telegraph or telephone system, and are provided at intervals with holes *a′*, in which may be inserted metallic plugs D′.

C′ designates strips or flaps of flexible metal, such as sheet-brass, arranged, as here shown, behind the base-board O, and projecting over the rear ends of holes *f* in the base-board, which are coincident with the holes *a′* in the plates or bars A′. Preferably, these strips or flaps C′ are only long enough to lap over, say, about two of the holes *f*, or are divided at intervals, as shown in Fig. 4, so as not to offer too much resistance to their deflection. These strips or flaps D′ are connected with other wires in the telegraph or telephone system.

The plugs D′ are inserted through the holes *a* and *f*, and press against and deflect the strips or flaps C′, so that the latter, through their resilience, impinge firmly against them. In this way a firm electrical contact is made between the plates or bars A′ and the strips or flaps C′ and the wires to which they are connected.

The plugs D′ are preferably made tapering

where they fit in the holes *a*, so that they may be wedged tightly therein and be retained in place.

By my invention I produce a switch-board which may be easily and cheaply made, and whereby different line-wires may be easily and quickly put in communication with other line-wires.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a switch-board, the combination of a series of parallel metallic rods, plates, or bars provided with holes or recesses, a series of flexible strips, rods, or wires extending transversely to the same, and metallic plugs capable of being inserted in the holes or recesses of the rods, plates, or bars, and impinging against the said flexible strips, rods, or wires, substantially as specified.

CHAS. E. CHINNOCK.

Witnesses:
EDWIN H. BROWN,
JOHN W. KONVALINKA.