

J. F. SKIRROW.
 SWITCHBOARD FOR ELECTRICAL CONDUCTORS.
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963,480.

Patented July 5, 1910.

Fig. 1.

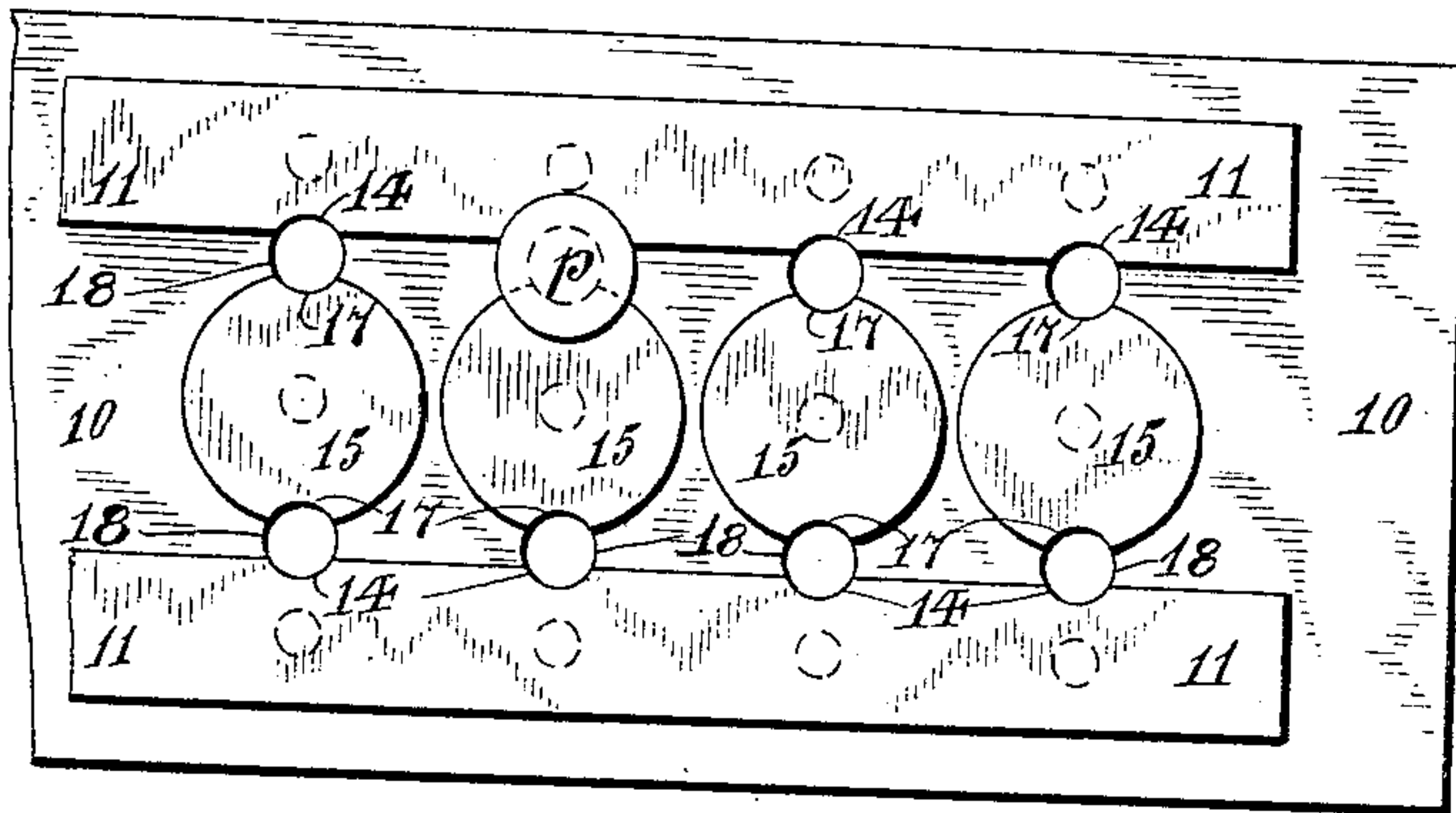


Fig. 2.

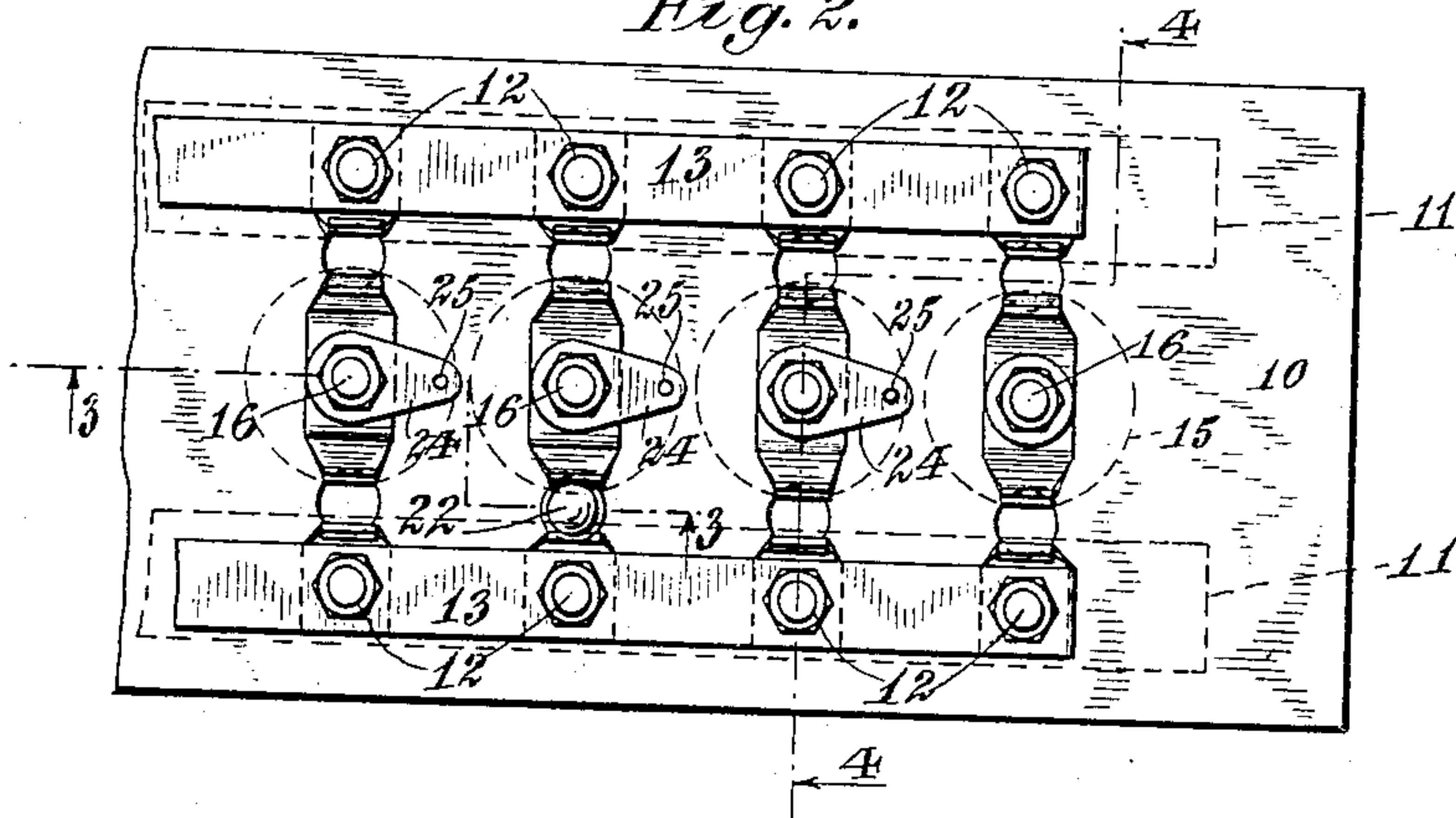


Fig. 3.

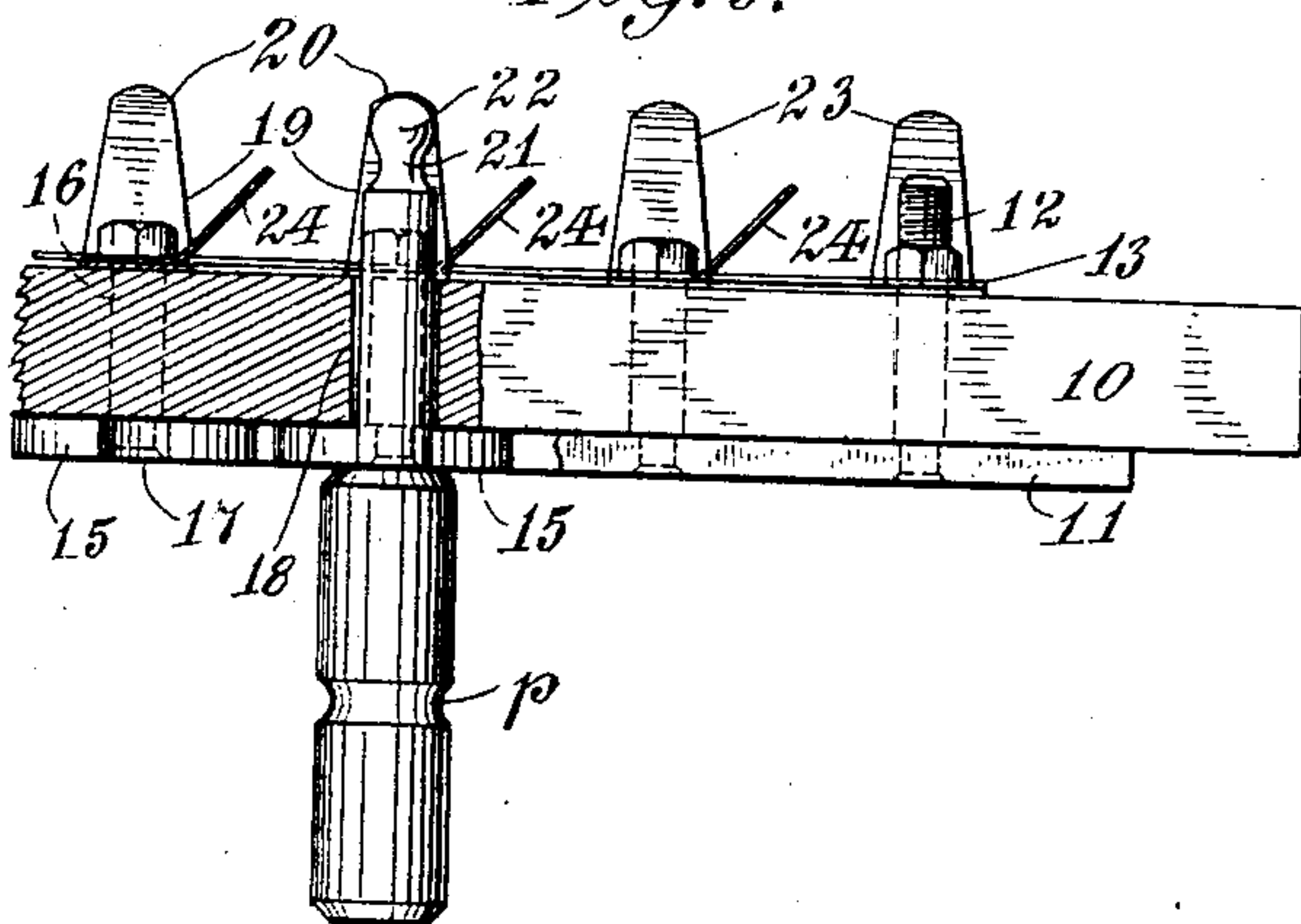
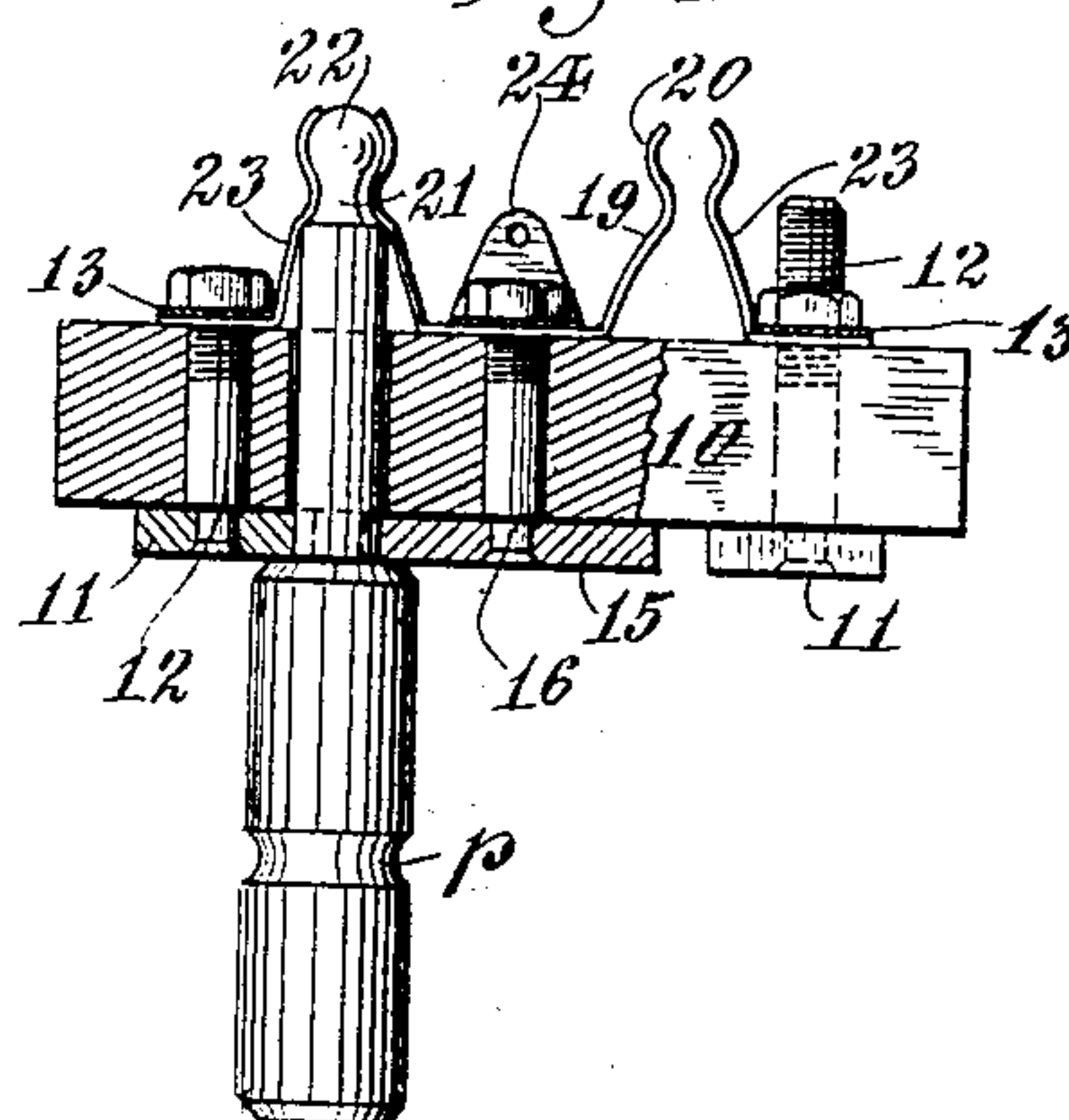


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN F. SKIRROW, OF EAST ORANGE, NEW JERSEY.

SWITCHBOARD FOR ELECTRICAL CONDUCTORS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN F. SKIRROW, a citizen of the United States, residing in East Orange, county of Essex, State of New Jersey, have made certain new and useful Improvements in Switchboards for Electrical Conductors, of which the following is a specification.

This invention relates to switchboards for connecting signaling wires together, and to signaling instruments, by the use of conducting-pins.

The object of the invention is to improve the conductivity and reliability of the electrical contact between the switchboard terminals and the connecting pin.

This improvement is especially adapted for use in connection with a foundation or back-board, preferably of insulating material, as wood, on which are fixed metal strips or straps, and in a row parallel with a strip or strap, a series of disks or buttons are fixed; complementary arc-shaped notches are provided in the adjacent surfaces of a strap and each button, and the back-board is perforated so that the pin may pass completely through it and project at the rear. Converging sections of sheet-metal having a certain degree of resilience are fixed to the buttons and the strap at the rear of the foundation, and are so arranged that they receive and hold the end of the connecting pin, which is projected through at the rear of the board between such spring-contacts. The pin is provided with a groove near its terminal and the ends of these spring-contacts engage the groove in the pin and tend to retain it in position.

The accompanying drawing illustrates the invention.

Figure 1 is a plan view of a section of a switchboard with a connecting pin in position; Fig. 2 shows the opposite side of the switch including the resilient contacts; Fig. 3 is a cross-section on the line 3—3, Fig. 2, and Fig. 4 is a cross-section on the line 4—4, Fig. 2.

In Fig. 1 there is a foundation of wood, 10, with brass straps, 11, bolted in position by bolts, 12; a strip of conducting material, 13, electrically unites these bolts, 12, on the reverse side of the board; each strap, 11, is notched as at 14. There is a row of disks, 15, between each pair of straps, 11; the disks, 15, are bolted in position by bolts, 16, and

at diametrically opposite points, there are arc-shaped notches, 17, adjacent to the arc-shaped notches, 16, in the straps, 11, a connecting pin, *p*, passes through the perforation, 18, in the board, 10, and more or less perfectly electrically connects strap, 11, with the disk, 15; but this contact alone is more or less variable and uncertain, to render it secure and certain, resilient contacts of sheet-brass or some inoxidizable metal are provided at the rear of the board. As seen in Fig. 4, the disk, 15, through its bolt, 16, is connected with the strip of resilient metal, 19, having curved terminals, 20, to fit a groove, 21, in the metal terminal, 22, of the plug, *p*; this strip of metal, 19, has two legs and a central portion which is perforated to receive the bolt, 16, whereby it is firmly and electrically united to the disk, 15. Each strap, 11, is provided with a series of spring-contacts, 23, which contacts are bolted in position and electrically connected with the straps, 13, by the bolt, 12, the free terminals of these contacts, 23, are shaped to engage the groove, 21, in the terminal, 22, of the connecting pin, *p*. Means for forming electrical connection with the disks, 15, on the rear of the board consist of resilient perforated projections of sheet metal, 24, these are perforated at 25 to receive a conductor terminal.

In use, wire terminals of signaling circuits are connected to the straps, 11, and instrument terminals are connected to disks, 15. By inserting a connecting pin, *p*, in the perforation, 18, connection is made between the strip, 11, and the disk, 15, both directly and by electrically uniting the spring-terminals, 21 and 23, which also mechanically hold and retain the plug, *p*.

What I claim and desire to secure by Letters Patent is:

1. In a switchboard, the combination of a suitable foundation or back-board, a row of insulated conducting buttons, a conducting strap parallel with said row, both said buttons and strap being fixed to said foundation, arc-shaped notches in said buttons, complementary arc-shaped notches in said strap adjacent to said buttons, spring-contacts connected with said strap and said buttons and connecting pins fitting said notches and spring-contacts.

2. In a switch-board, the combination of a suitable foundation, a row of insulated con-

ducting buttons, a conducting strap, parallel with said row, arc-shaped complementary notches in said buttons and said strap, conducting pins in said notches and means
5 for retaining said pins in conducting contact consisting of projecting sections of spring-metal electrically connected to the buttons and strap, respectively, substantially as described.

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