

(No Model.)

A. L. PRATT.

ELECTRIC SWITCHBOARD AND CIRCUIT MAKER.

No. 562,658.

Patented June 23, 1896.

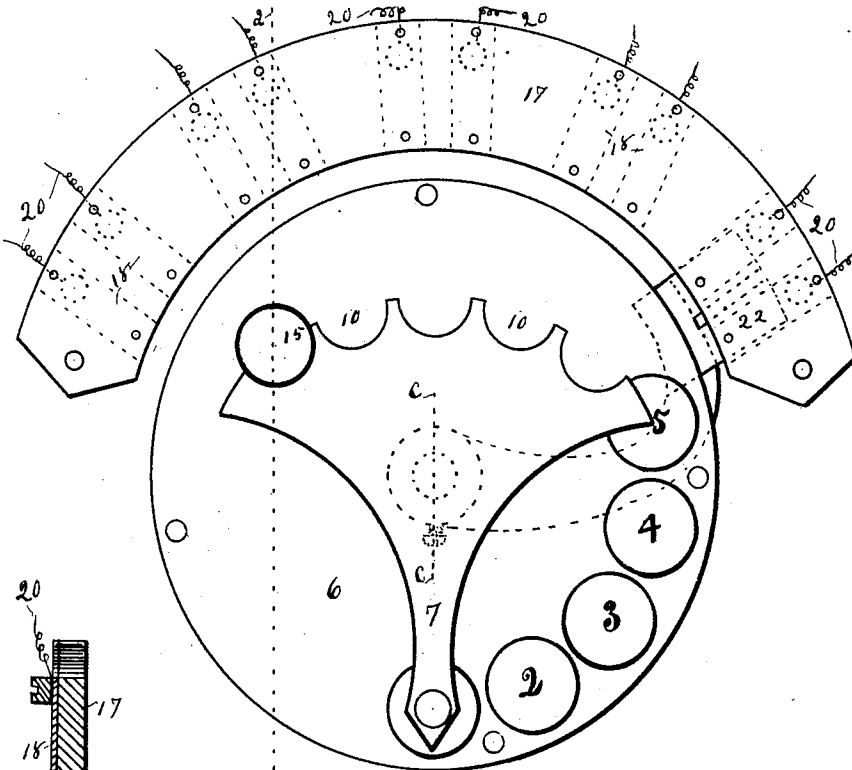


Fig. 1.

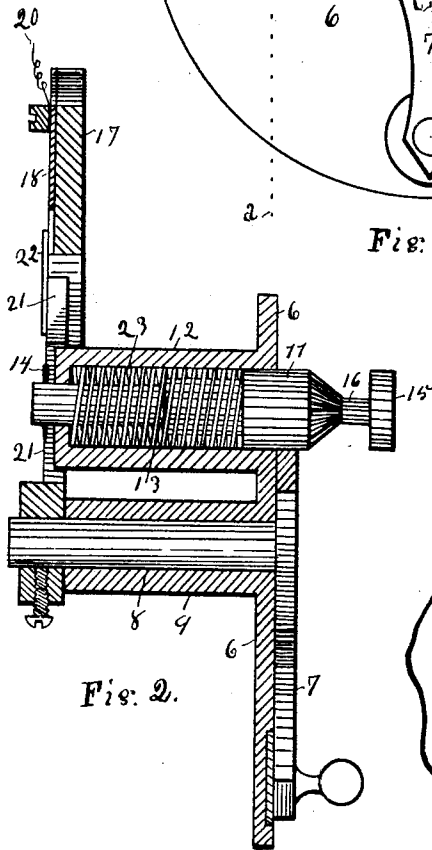


Fig. 2.

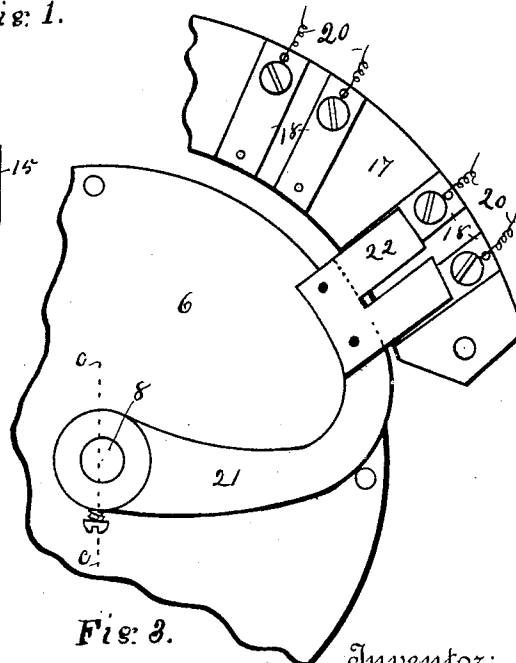


Fig. 3.

Witnesses
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Inventor:
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By his Attorney Lucius C. West.

UNITED STATES PATENT OFFICE.

ARTHUR L. PRATT, OF KALAMAZOO, MICHIGAN.

ELECTRIC SWITCHBOARD AND CIRCUIT-MAKER.

SPECIFICATION forming part of Letters Patent No. 562,658, dated June 23, 1896.

Application filed April 9, 1896. Serial No. 586,768. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR L. PRATT, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo, State of Michigan, have invented a new and useful Electric Switchboard and Circuit-Maker, of which the following is a specification.

This invention relates to devices for making and breaking electric circuits, which devices are arranged to switch from one set of circuit-terminals to another to make any one of a series of circuits running from several stations to a single station common to them all.

The leading object of this invention is to lock the switch at each shift from one set of terminals to another, and to prevent its being shifted until unlocked by a special operation by the design of the operator.

Other objects will appear in the following detailed description and claims.

In the drawings forming a part of this specification, Figure 1 is a front elevation if used in this position, but if used flat down it would be a plan view; Fig. 2, a section on line *a a* in Fig. 1, looking from a point at the left, and a part of Fig. 2 being on line *c c* in Figs. 1 and 3, looking from the same direction; and Fig. 3 is a broken portion of Fig. 1 inverted, thus showing the side opposite to that in Fig. 1.

Referring to the parts of the drawings pointed out by numerals, 6 is a base-plate provided with series of characters corresponding to as many stations removed from the station where the plate is, said characters here chosen being 1 2 3 4 5, Fig. 1, does not appear on the drawings, as it is covered by the end of the switch-lever 7. This lever 7 has a pintle 8, which has bearings in a tubular extension 9 of the base-plate 6, Fig. 2. Thus the lever 7 fits against the base-plate 6, so that the end of the switch-lever 7 will point to the station characters 1, 2, 3, 4, and 5, as in Fig. 1. The broad end of the switch-lever 7 is provided with a series of notches 10, corresponding to the number of stations, and these stations as well as these notches may be few or many, according to the needs.

At 11 is a bolt adapted to fit the notches 10, Figs. 1 and 2. This bolt is in a hollow back extension of the base-plate 6, said extension being shown at 12. The incased portion of

this bolt 11 is smaller and is provided with a shoulder at 13, to prevent it from being pushed too far in during the operation below explained. The end extends through the extension 12, and is held from pulling out by a pin 14. Between the body of the bolt 11 and its head 15 is a small annular groove 16, wider than the thickness of the notched end of the switch-lever 7. When the bolt is pushed in until the annular groove comes opposite the notches 10, then the switch-lever can be shifted, but otherwise it remains locked, and the particular circuit is made which runs to the station to which the switch-lever points.

In a suitable position in relation to the base-plate 6 is a segment of a circular strip of some suitable insulating material, (shown in the figures of the drawings at 17.) To this strip are attached metal plates, which are properly circuit-terminals, as they are in sets of two in a set at 18, and the wires of the circuits 20 run from one of the plates to the away station (not here shown) and back to the other plate of that set, and so on for all of them. The circuit-wires are here shown attached to the circuit-terminals and are broken away, since the stations to which they run use will be understood as being any desired points, and need not be illustrated here.

Attached to the rear end of the pintle 8 is an arm 21, provided at the outer end with contact-plates 22, in position to be brought into contact with any desired set 18 of the circuit-terminals, and thus make that circuit, since the contact-plates have the effect to connect the circuit-terminals with which they are in contact.

On that portion of the bolt 11 which is in the extension 12 is a spring 23, against the resistance of which the bolt is pushed in during the operation. In the operation, referring to Fig. 1, the circuit is established between the station where the switchboard is and the away station 1. Now the operator, if he desires to establish a circuit between this common-to-all station and station 3, we will say, to illustrate, he will push in on the bolt 11 against the resistance of the spring 23 until the annular groove 16 comes even with the notched edge of the lever 7, when he shifts said switch-lever so it points to 3, and as

this action also carries the arm 21, with its connecting-plates 22, to the third set of circuit-terminals 18, this circuit is established. This shows the operation for all the circuits.

5 When the bolt 11 is released, it comes back automatically by force of the expanding-spring 23, and hence the lever is always locked at some one point and cannot be changed without pushing in and holding the bolt, as
10 explained.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A switchboard and circuit-maker, comprising a non-conducting plate provided with a series of sets of circuit-terminal plates, a base-plate provided with characters to designate different stations, a switch-lever pivoted in the base-plate and having an arm attached
15 to it said arm being provided with contact-

plates adapted to contact with the circuit-terminals when the switch-lever is set, one end of said switch-lever being provided with a series of notches, and a spring-actuated bolt provided with the annular groove or depression, and adapted to interlock with said notches, substantially as set forth. 25

2. The adjustable switch-lever provided with the series of notches, combined with the spring-actuated bolt having the annular groove or depression, substantially as set forth. 30

In testimony of the foregoing I have hereto set my hand in the presence of two witnesses.

ARTHUR L. PRATT.

Witnesses:

LEVI F. COX,

LUCIUS C. WEST.