

(No Model.)

E. N. DICKERSON, Jr.
ELECTRICAL LOCK SWITCH.

No. 420,622.

Patented Feb. 4, 1890.

Fig. 1

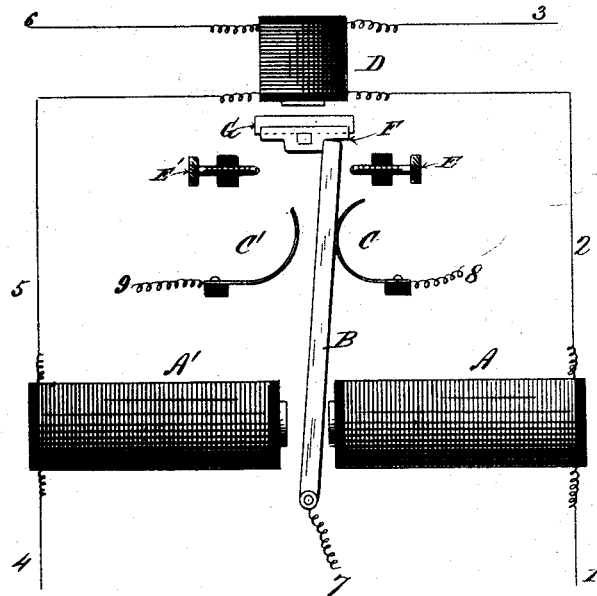
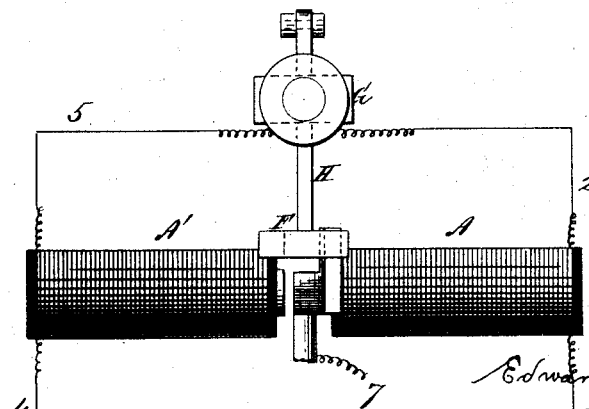


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ELECTRICAL LOCK-SWITCH.

SPECIFICATION forming part of Letters Patent No. 420,622, dated February 4, 1890.

Application filed January 16, 1888. Serial No. 260,887. (No model.)

To all whom it may concern:

Be it known that I, EDWARD N. DICKERSON, Jr., of the city, county, and State of New York, have invented a new and useful Improvement in Electrical Lock-Switches, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

The object of my invention is to make a switch of the kind making two connections, which, when one of those connections has been made, shall be mechanically locked until it is desired to make the other connection, and it is especially applicable to a switch for controlling electric-lighting systems in which it is desired to throw into circuit at a point distant from the central station a number of lights at such distant point.

In my drawings, Figure 1 represents an elevation of my switch, and Fig. 2 a plan view of the same.

The details may be modified in many ways without altering the principle of my invention.

The switch mechanism consists of the bar B, making contact with the springs C C'. As shown, the electricity is carried to the armature-bar B through the wire 7, whence it passes in the position shown by the switch to spring C and to the wire 8. When the bar B is in the opposite position, it makes contact with the spring C'. The circuits 7, 8, and 9 are preferably independent of the circuits passing through the magnets A, A', and D. The switch-bar D is moved by the opposite magnets A A', which are preferably made of considerable length, and are therefore slow in magnetization and demagnetization. The motion of the bar B is arrested by the stop-screws E E' in both directions, and the bar B is locked in contact with the springs C C' by means of the locking-bar F, supported upon the armature-bar H, moved by the armature G under the control of the magnet D.

The locking-plate F may be provided with two rectangular recesses, as shown, although many other forms of structure could be employed for this purpose. The magnet D is preferably double-wound, having two independent circuits—one by the wires 2 and 3 and

the other by the wires 5 and 6. This is only essential when it is intended to arrange two or more of these switches in the same circuits. The magnet D should preferably be quicker-acting and more sensitive than the magnets A A'.

The switch is controlled by means of the wires 1 and 4, extending to the central station or controlling-point. If it is desired to reverse the position of the switch shown in Fig. 1, a current is sent through the wire 4. This magnetizes the magnets A' and D. The locking-plate F is raised, thereby permitting the magnet A' to attract its armature-bar B, which is drawn over until it comes in contact with the stop-pin E', and the armature-bar is therefore beyond the locking-corner of the locking-plate F. If now the current through 4 is interrupted, the armature G first falls, the magnet D being quicker in movement than the magnets A A', and therefore on the return movement of the armature-bar B it is locked against the corner of the plate F; but the spring C' still maintains electrical connection.

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

1. The combination of the switch making opposite connections and moved by two controlling-magnets with an independent mechanical lock locking the said switch in each of its two connections, the mechanical lock being controlled by an independent magnet in the circuits with both of the controlling-magnets, substantially as described.

2. The combination of an armature switch-lever and contacts, two controlling-magnets therefor provided with comparatively elongated cores, a locking-bar for the lever, and a magnet controlling the locking-bar, having a comparatively short core and arranged in the circuits of the controlling-magnets, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

E. N. DICKERSON, JR.

Witnesses:

WM. A. POLLOCK,
ANTHONY GREF.