

R. HENNING.

Telegraph Cut-out and Switch.

No. 138,889.

Patented May 13, 1873.

Fig: 1

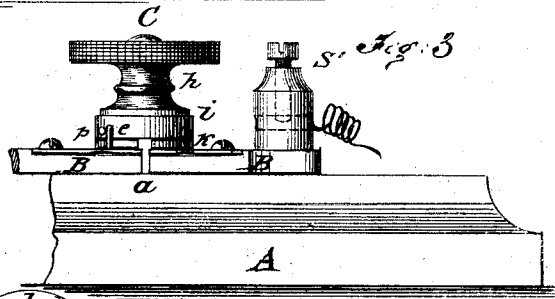
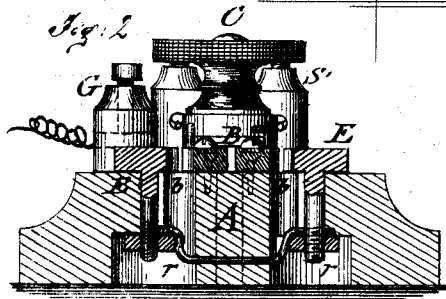
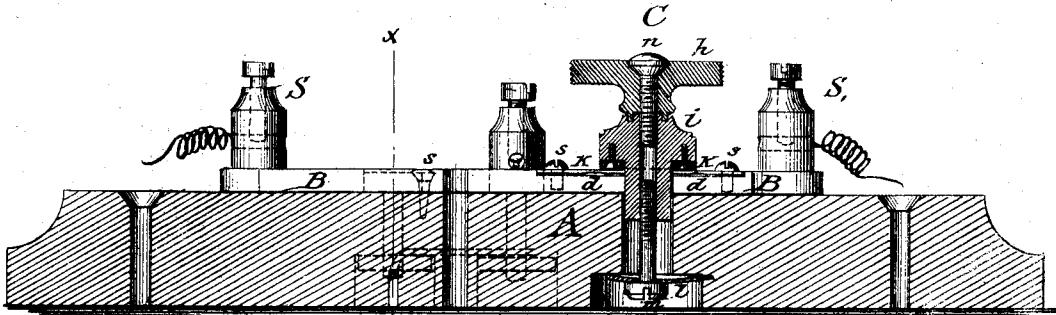


Fig. 4

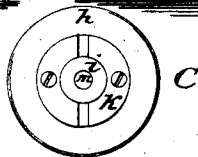
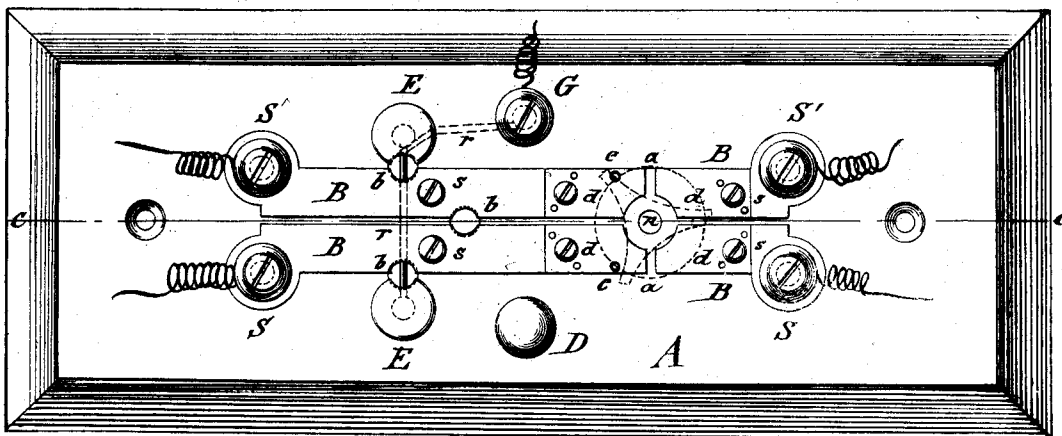


Fig. 5.



Witnesses.
John Becker
Chas. Nida.

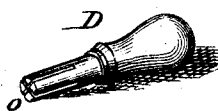


Fig. 6.

PER

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UNITED STATES PATENT OFFICE.

ROBERT HENNING, OF OTTAWA, ILLINOIS, ASSIGNOR TO HIMSELF AND
J. D. CATON, OF SAME PLACE.

IMPROVEMENT IN TELEGRAPH CUT-OUT AND SWITCH.

Specification forming part of Letters Patent No. **138,889**, dated May 13, 1873; application filed
February 8, 1873.

To all whom it may concern:

Be it known that I, ROBERT HENNING, of Ottawa, in the county of La Salle and State of Illinois, have invented a new and Improved Combined Cut-Out and Ground-Switch, of which the following is a specification:

Figure 1 is a longitudinal vertical section of my invention on the line *c c*, Fig. 5. Fig. 2 is a vertical transverse section of the same on the line *x x*, Fig. 1. Fig. 3 is a side view of the button as arranged on the longitudinal plates; Fig. 4, a bottom view of the same detached; Fig. 5, a plan or horizontal view of the instrument; and Fig. 6 is a perspective view of the metallic peg to establish the connection with the ground.

Similar letters of reference indicate corresponding parts.

The object of my invention is to substitute, for the different separate instruments used at present in telegraph-offices as cut-outs and ground-switches, a combination instrument which not only offers all the advantages of the former, but, by its simple construction, is quickly and clearly understood, easily operated, and furnished at less expense. The invention consists, mainly, in the combination of a cut-out and ground-switch by means of two parallel metallic plates connected with the line and local wires, which connection may be interrupted or established by the adjustable button or circuit-closer and a metallic peg, which may connect either wire, or both, to the ground.

In the drawing, A represents the frame of the instrument, of hard wood or other non-conducting material, which may be applied by screws to any convenient place in the telegraph-office. Two metallic plates, B, are longitudinally attached by screws *s s* to frame A. They are both separated into two parts by a transverse slot, *a*, with circular extensions at their insides for the admission of the button. To the ends of the plates are applied the binding-screws S and S'. To one pair, S, are attached the line-wires, and to the other pair, S', the wires connecting the plates B with the instrument. Three semicircular holes are cut into the plates B, two of them symmetrically at the outsides thereof, corresponding

with similar holes in the heads of metallic screws, the third at the inner edges of the plates, forming circular apertures *b* for the admission of the metallic peg. The four parts of plates B are provided with thin metallic face-plates *d*, screwed at one end to plates B in such a manner that their ends toward the circular separating-slot act like springs. The plates B are also supplied with two vertical pins, *e*. The button C rests on the spring-plates *d* by means of a diametrically-slotted metallic ring, K, screwed to the non-conductive body *i* of the same. A cylindrical extension of said body *i* passes through plates B and an aperture of frame A, into which a head-screw, *m*, is fitted, which rests on a triangular spring-plate, *l*, placed into a recess on the lower side of frame A. The button C is thereby closely pressed on the upper spring-plates *d*, establishing a continuous connection with plates B. The head *h*, of brass or other suitable material, is also screwed firmly to the body *i* of the button. A horizontal-projecting pin, *p*, is further applied to body *i*, which pin is arrested, on turning the button C, by pins *e*, so that the same can only be moved between them. The peg D, Fig. 6, is, when not in use, placed into a hole provided in frame A. Its lower metallic part O is slotted crosswise under right angles, producing a spring-like action of the sections. Its head may be made of ebony, rubber, or other material. Peg D fits closely into holes *b*, and establishes thereby the connection of the line-wires with the earth. Metallic heads E are screwed and secured firmly by nuts into recesses of frame A, and are connected, by a wire on the lower side thereof, with each other, and also with binding-screw G, having the ground-wire attached to it.

To use the instrument as a circuit-closer or cut-out, the button C is turned in such a manner that the diametrical slot of the same is placed above the transverse slot *a* of plates B, connecting thereby the line-wires directly by means of the longer plates B and the button. The button-pin *p* rests on one pin, *e*, of the plates; by turning the button C toward the other pin *e*, the diametrical slot of the button stands longitudinally with plates B, restoring the connection of the line-wires with the local

or instrument wires. The simple turning of the button between the pegs will connect or divide the circuits as desirable.

By means of the side holes *b* and insertion of peg D either one of the line-wires may be connected with wire *r* and binding-screw G to the earth, or both may be connected to the ground-wire by cutting off at the same time the local circuit by button C. The central hole *b* brings the plates B and line-wires into direct contact, assisting greatly the expeditious closing of the main circuit during the presence of the operator, who, on leaving the office, cuts out with button C the local circuit,

and may secure, by peg D and side holes *b*, the main line to the ground.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A switch and cut-out formed of two parallel plates, with line, local, and ground wire connections, adjustable button, and metallic peg, as and for the purpose described.

ROBERT HENNING.

Witnesses:

THOS. D. CATLIN,
HENRY A. COLE.