

E. CANN.
CUT-OFF FOR TELEPHONES.

No. 468,281.

Patented Feb. 2, 1892.

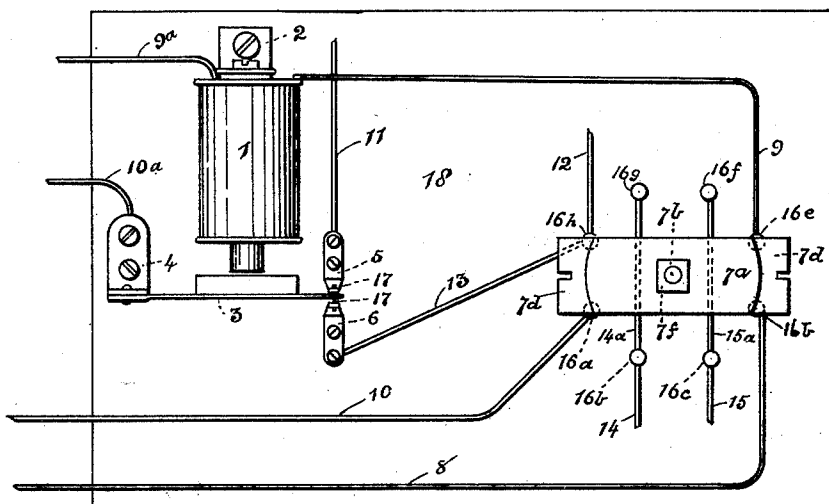


Fig. 1

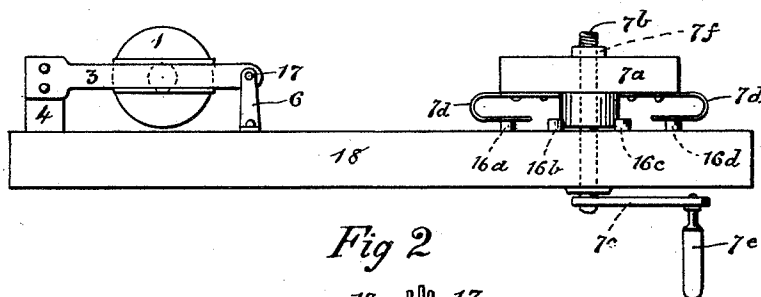


Fig. 2

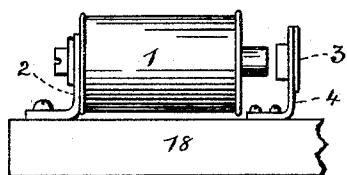


Fig. 4.

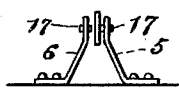


Fig. 3

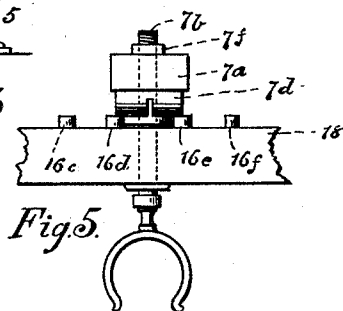


Fig. 5.

Witnesses
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EDWIN CANN, OF WINNIPEG, CANADA.

CUT-OFF FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 468,281, dated February 2, 1892.

Application filed October 3, 1890. Serial No. 367,029. (No model.)

To all whom it may concern:

Be it known that I, EDWIN CANN, of the city of Winnipeg, in the county of Selkirk and Province of Manitoba, Canada, have invented certain new and useful Improvements in Cut-Offs for Telephones, of which the following is a specification, reference being made to the accompanying drawings, in which—

Figure 1 is a front view of an apparatus embodying my invention. Fig. 2 is a side view of the same. Fig. 3 is a side view of point-support. Fig. 4 is a side view of electro-magnet. Fig. 5 is an end view of cut-off, showing audiphone-holder. Fig. 6 is a diagram showing the operation of my invention.

My invention relates, first, to reducing the number of conducting-wires by enabling a number of telephones to be attached to one circuit; secondly, to enable communication to be had between any two members of one circuit without application to the central office for connection, which is only necessary where it is desired to speak with any one on another circuit; thirdly, to entirely cut off all other telephones than the two in use, so that no communication can be overheard by another; fourthly, to enable a system of telephones to be arranged for a small community without a central office, a battery of sufficient capacity being all that is required; fifthly, to cutting out all call-bells when two telephones are in communication.

The other apparatus now in general use can be employed without alteration beyond the necessary wire connections.

In the drawings, 1 is an electro-magnet of ordinary construction.

2 is the standard or support to the same, secured to back 18.

3 is the armature; 4, the support to the same, secured to back 18, as shown.

5 is a point-support and terminus of wire 11; 6, point-support and terminus of wire 13; 7^a, vulcanite or non-electric conductor-beam working on center-pin 7^b, which passes through back 18.

7^c is a lever attached to 7^b at the back of 18, with holder 7^e for telephone attached, as shown.

7^d 7^d are spring-metal plates secured to 7^a.

7^f is a nut holding 7^b in position.

8 is the positive wire, and 9 and 9^a are continuations of positive wire 8.

9^b is the negative wire; 10 and 10^a, call-bell circuits; 11 and 12, call-bell connecting-wires; 13, call-bell cut-off connecting-wire; 14 and 15, telephone-wires; 14^a and 15^a, continuations of 14 and 15, respectively.

16^a, 16^b, 16^c, 16^d, 16^e, 16^f, 16^g, and 16^h are studs secured to 18, as shown.

17 17 are platina points in 5 and 6.

18 is the board upon which the apparatus is fixed.

19 is the ordinary bell attachment.

20 is the ordinary telephone-transmitter; O, the battery.

Fig. 6 is a diagram showing a circuit of four telephones A B C D, to which others may be added. A and C show the position of the cut-off when the telephones are not in use. B and D show the position of the cut-off in each while the communication is going on. When the speakers have finished, the telephone is placed on the holder 7^c, which draws the cut-off into the position shown at A and C. The position of the cut-off being as at A, the sender signals on the call-bell the number representing the person on the circuit to whom he desires to speak, which is answered by the receiver. The sender then moves his lever 7^c to the right or left, according to his position on the circuit, the receiver moving his lever in the opposite direction. This places them in direct communication, the remaining telephones being neutral and are cut off completely. Taking the diagram 6, showing the position of the cut-offs on the circuit, then the electric current starting from battery O passes along wire 8 to studs 16^d at station A; spring-plate 7^d, stud 16^e, wire 9, electro-magnet 1, wire 9^a to stud 16^d in station B; spring-plate 7^d, stud 16^e, wire 15, and stud 16^f to telephone by wire 15^a onto stud 16^g by wire 14^a, plate 7^d, stud 16^h, wire 13 to point-support 6, thereby diverting the current from wire 9 and magnet 1 allowing armature 3 to spring back in contact with point 17 in support 6, carrying current by support 4, wire 10^a to stud 16^a in station C; spring-plate 7^d, stud 16^a, wire 13, support 6, armature 3, wire 10^a, stud 16^a in station D; spring-plate 7^d, stud 16^b, wire 14 15, stud 16^g, wire 14^a to telephone 20, wire 15^a,

stud 16^f, spring-plate 7^d, stud 16^e, wire 9, magnet 1, wire 9^a, and return by 9^b to battery. Station A and C show position when telephone is not in use, current passing through all electro-magnets bringing armatures in contact with points in support 5, thereby bringing call-bells into circuit on wire 10, as shown at station A.

When desired to signal any station, the number of said station is first sounded. After a short pause the number of station calling is sounded, thereby indicating to station called in which direction to turn the switch, calling station turning in opposite direction, as shown at station B and D, thereby bringing their telephones into circuit and cutting out all others and call-bells. Call-bell at station A is cut out by break in circuit at stud 16^a in station B. B and C are cut out at point 17 in support 5, and D by break at 16^h.

I make no claim for any particular form of electro-magnet or armature; but

What I do claim, and desire to secure by Letters Patent, is—

1. A three-wire system of telephone communication having a non-electric conductor-beam 7^a, working on a center-pin 7^b, lever 7^c,

with telephone-holder 7^e, spring-metal plates 7^d 7^d, nut 7^f, and studs 16^a, 16^b, 16^c, 16^d, 16^e, 16^f, 16^g, and 16^h, and with wires, substantially as and for the purpose set forth.

2. A three-wire system of telephone communication having a non-electric conductor-beam 7^a, working on a center pin 7^b, lever 7^c, with telephone-holder 7^e, spring-metal plates 7^d 7^d, nut 7^f, and studs 16^a, 16^b, 16^c, 16^d, 16^e, 16^f, 16^g, and 16^h, with wires, in combination with electro-magnet 1, support 2, armature 3, support 4, and point-supports 5 and 6, with points 17 17 and wires, substantially as and for the purpose above set forth.

3. A vulcanite or non-electric conductor-beam 7^a, center-pin 7^b, lever 7^c, spring-metal plates 7^d 7^d, telephone-holder 7^e, nut 7^f, and studs 16^a, 16^b, 16^c, 16^d, 16^e, 16^f, 16^g, and 16^h, in combination with electro-magnet 1, support 2, armature 3, support 4, and point-supports 5 and 6, with platina points 17 17, substantially as and for the purpose specified.

Winnipeg, Manitoba, August 29, 1890.

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Witnesses:

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