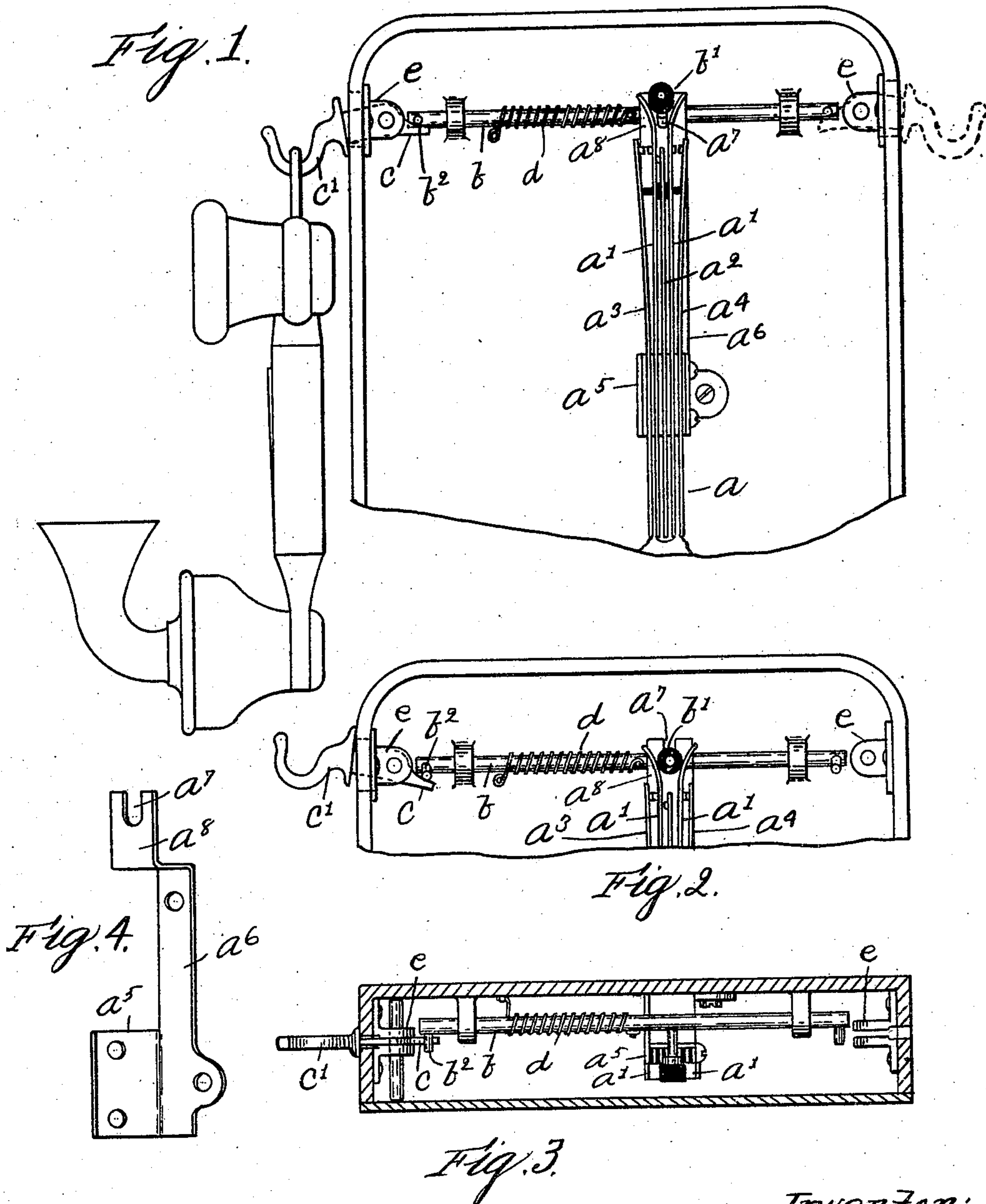


No. 847,367.

PATENTED MAR. 19, 1907.

F. M. POTTER, JR.
TELEPHONE SWITCH OPERATING MECHANISM.
APPLICATION FILED MAY 28, 1906.

2 SHEETS—SHEET 1.



Witnesses;
H. B. Davis
Cynthia Doyle

Inventor:
Frank M. Potter Jr.
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attys.

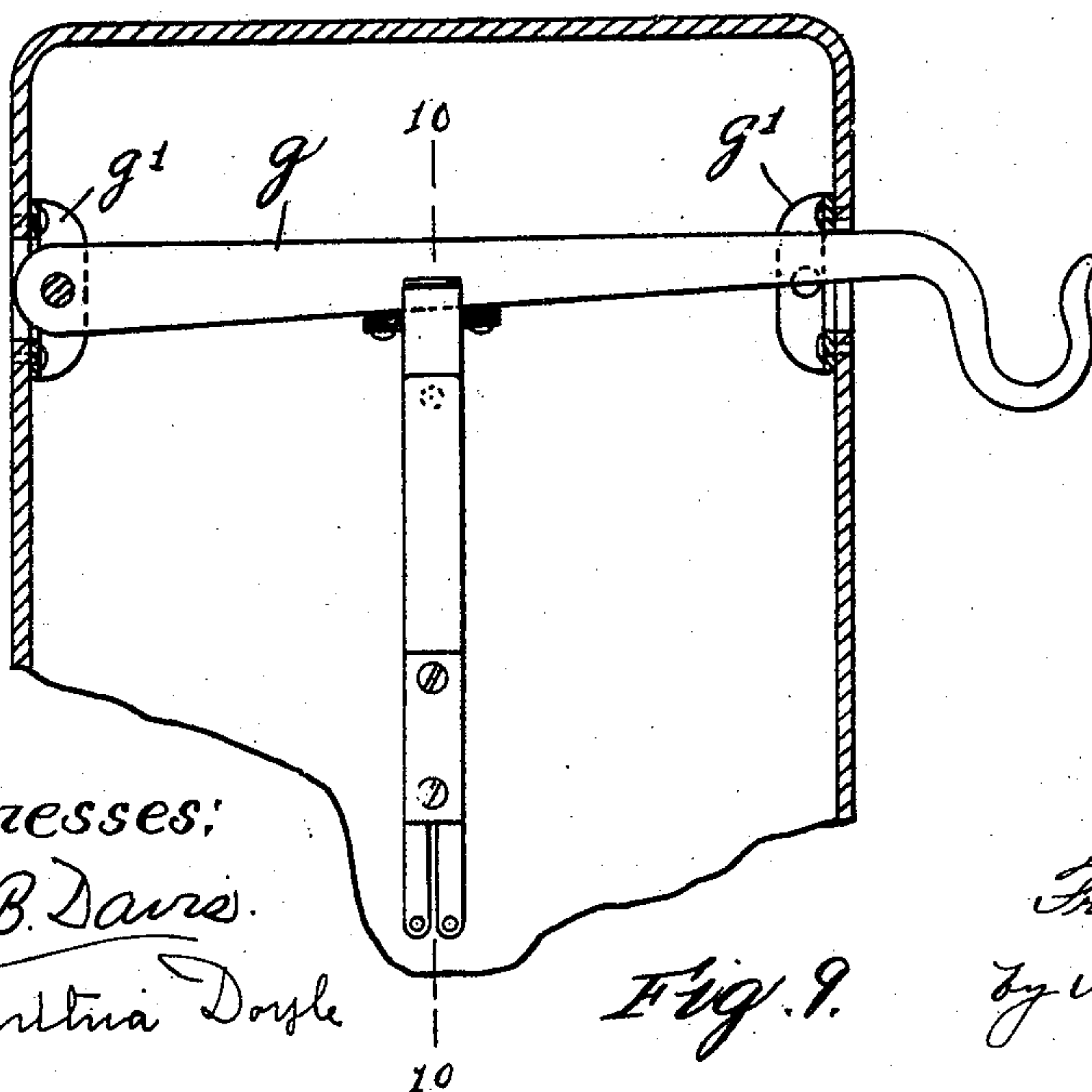
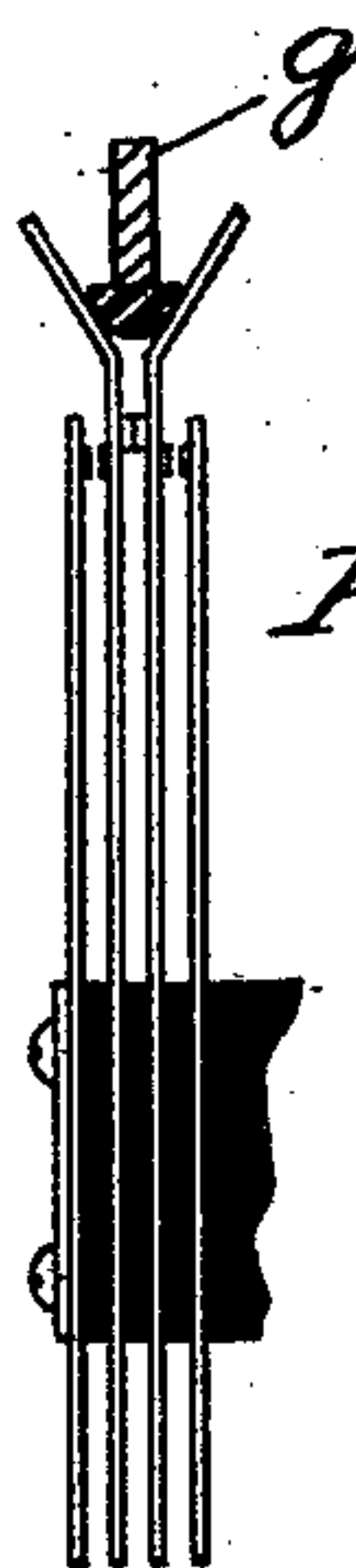
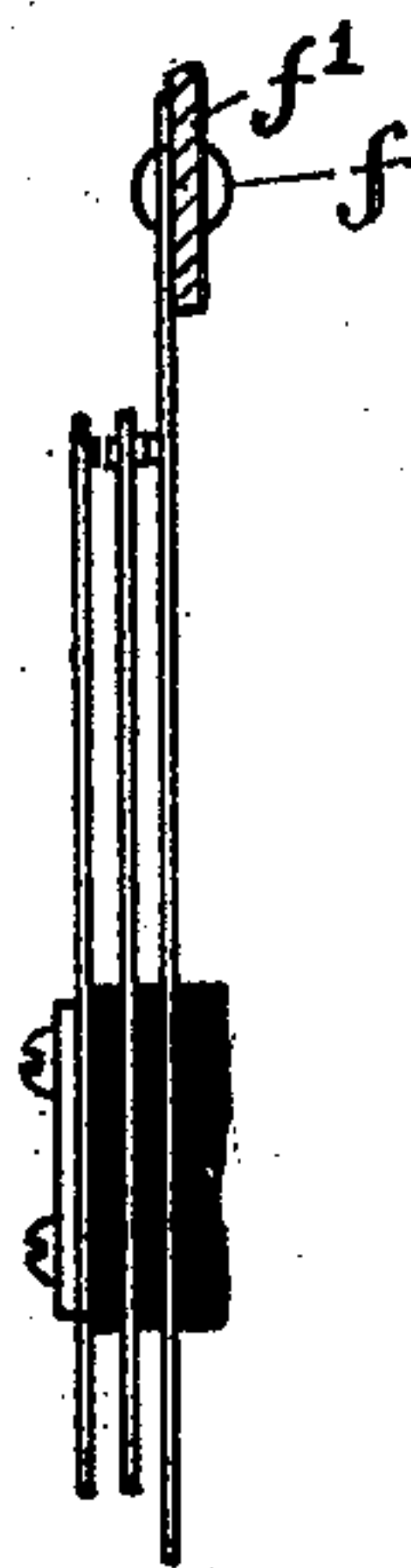
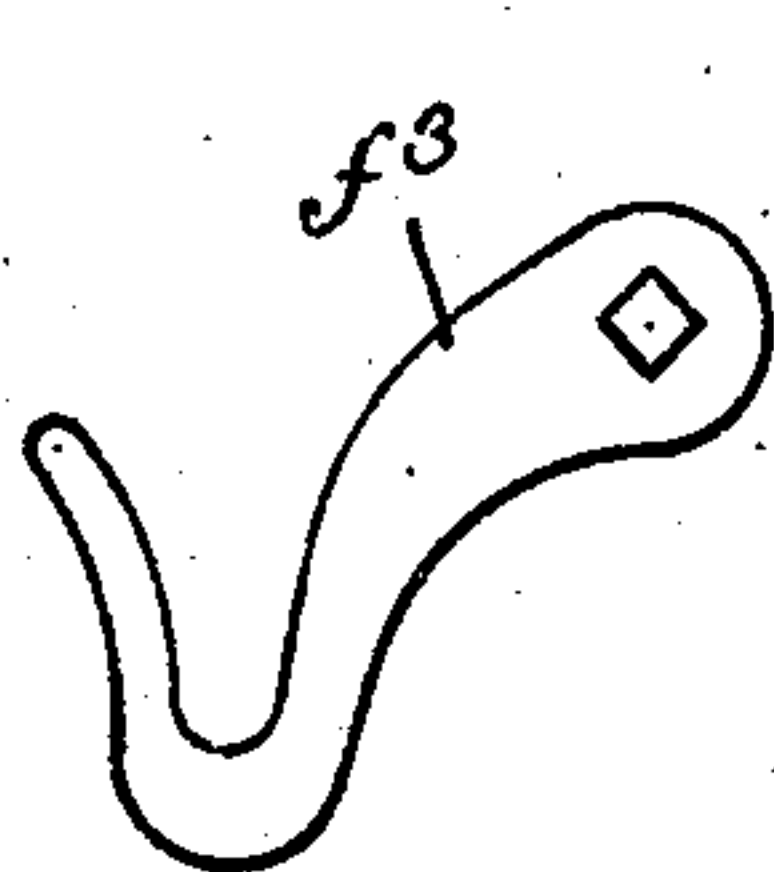
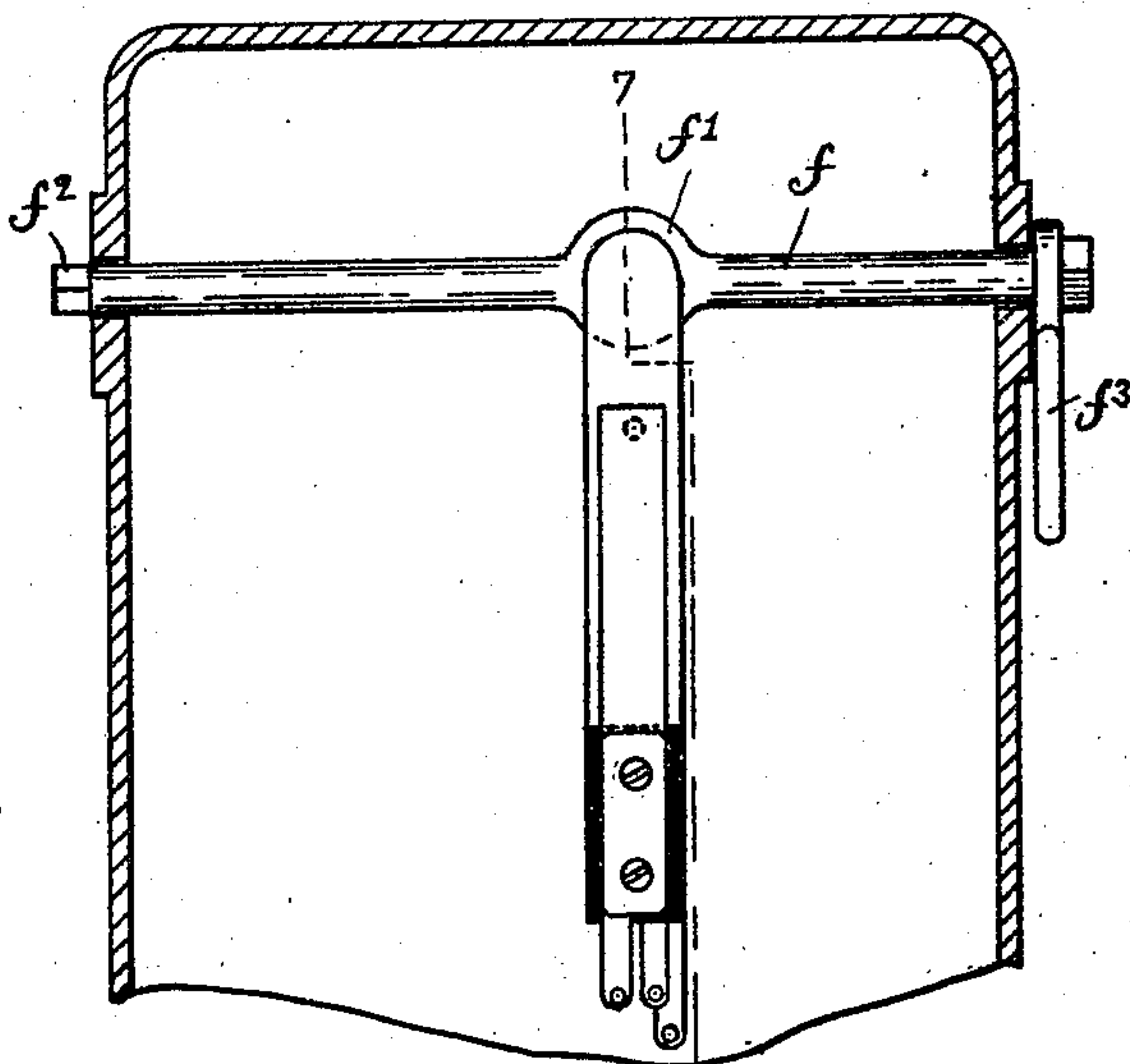
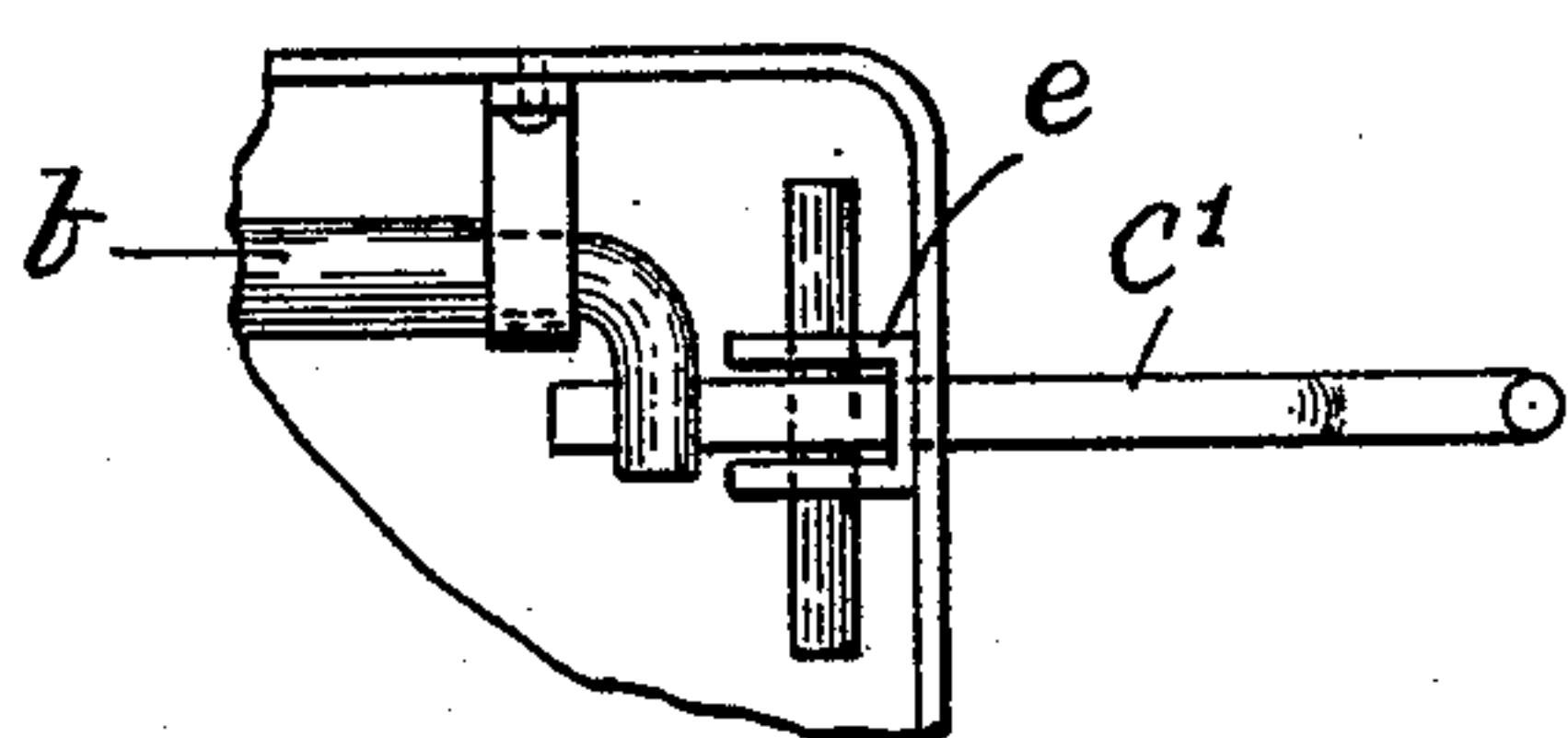
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FRANK M. POTTER, JR., OF ROME, NEW YORK.

TELEPHONE-SWITCH-OPERATING MECHANISM.

No. 847,367.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed May 28, 1906. Serial No. 319,080.

To all whom it may concern:

Be it known that I, FRANK M. POTTER, Jr., of Rome, county of Oneida, State of New York, have invented an Improvement in Telephone-Switch-Operating Mechanism, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to telephone-switch-operating mechanism, and has for its object to provide improved means for operating the switch automatically when the telephone-receiver, or it may be a combined receiver and transmitter, is removed from or replaced upon the pivoted hook, which is adapted to receive and support it.

One of the essential objects of my invention is to provide means for supporting the telephone-hook at either side of the switch-box, and to this end means are provided for supporting said hook at both sides of the box, to either one of which supports said hook may be connected.

Another object of my invention is to improve the construction of the switch-actuating mechanism.

Figure 1 shows in front elevation the operating mechanism of a group of telephone-switches embodying this invention, the pivoted hook being depressed. Fig. 2 is a similar view showing the pivoted hook in its elevated position. Fig. 3 is a plan view of the parts shown in Fig. 1. Fig. 4 is a detail of the support for the telephone-switches and guide for the switch-operating arm. Fig. 5 is a detail showing a modification of the angularly-formed end on the cross-bar. Fig. 6 shows a modified form of switch-actuating mechanism. Fig. 7 is a vertical section of the switch-actuating mechanism, taken on the dotted line 7 7, Fig. 6. Fig. 8 is a detail of the telephone-supporting hook detached from its support. Fig. 9 shows another modified form of switch-actuating mechanism; and Fig. 10 is a vertical section of the form shown in Fig. 9, taken on the dotted line 10 10.

Referring to Figs. 1 to 4, a represents the group of switches, comprising a plurality of spring-acting arms, two of which, as a' a' , serve as the actuating members and have diverging ends, as shown. These spring-acting arms are arranged side by side, and the two actuating members a' a' are connected together at their lower ends, while the other arms are arranged one between and one at

each side of said actuating members, a^2 representing the middle arm and a^3 a^4 the outside arms. The several switch-arms are supported by means whereby they are insulated from each other and are attached to an ear a^5 on a supporting-plate a^6 . The actuating members a' a' each bear contacts at or near their upper ends which are adapted to engage contacts on the outside arms, and the middle arm bears a contact which is adapted to be engaged by a contact on one of the actuating members. This group of spring-acting arms, however, operate the local circuits, so that a detail description of the circuits is not necessary, and said group of switches is herein referred to as the "telephone-switch."

b represents a rock-shaft supported by suitable bearings and extended from side to side of the base, which supports the parts. An arm b' extends radially from the shaft b , having an enlarged end which is adapted to engage the diverging ends of the spring-acting arms and thereby operate the switches. The switch-operating arm b' works in a slot a^7 , formed in an ear a^8 on the supporting-plate, and is guided by said slotted ear. A pin b^2 extends radially from the rock-shaft b , near one or both ends thereof, adapted to be engaged by an extension c on the pivoted hook c' , which receives upon it the receiver, or combined receiver and transmitter, which element is hereinafter referred to as the "telephone," or in lieu of said pin the ends of the bar are bent at right angles, as shown in Fig. 5, in both instances, however, angularly formed ends being produced. The weight of the telephone depresses the pivoted hook and the extension c thereon engages and lifts the end of the rock-shaft and thereby turns said shaft on its axis in one direction, and also lifts the radially-extended arm b' free from the actuating members a' a' of the switches a . A spring d is connected with the rock-shaft for the purpose of turning it in the opposite direction, and said spring is made to encircle the shaft and is permitted to act when the telephone is removed from the hook. At each side of the switch-box a support e is provided for the telephone-supporting hook, which, as shown in Fig. 1, consists of a pair of ears projecting from a base-plate to which said hook is pivoted, and it will be understood that said hook is detachably connected to either one of said supports. By providing the rock-shaft with angularly-formed ends, as herein shown,

and making provision for pivoting the hook c' at both sides of the box said hook may be arranged at either end of said shaft, as shown by dotted lines, Fig. 1, and hence may be located at either side of the switch-box, and the telephone thereby supported at either side of the switch-box.

Referring to Figs. 6, 7, and 8, the bar f extends transversely of the box, which has at a point intermediate its length an enlarged flattened portion f' , located adjacent to the actuating member of the group of switches, and said bar has its bearings in the side walls of the box and is formed with squared ends, as at $f^2 f^2$, either one of which is adapted to receive upon it the detachably-connected telephone-supporting hook f^3 . The shaft f will be turned in one direction by the weight of the telephone upon the hook, and when so turned the flattened portion of the shaft will press upon the actuating member of the group of switches and move it out of its normal position, and when the telephone is removed from the hook said actuating member by exerting its spring-pressure upon said enlarged flattened portion will turn the shaft.

Referring to Figs. 9 and 10, the switch-arm g extends transversely of the box, which has the telephone-supporting hook formed at its outer end, the inner end of said arm being pivotally connected to one or the other of two supports $g' g'$, which are secured to the side walls of the box, and said switch-arm is adapted to operate the switches, being moved in one direction by the weight of the telephone and in the opposite direction by the pressure upon it of the spring-acting members of the groups of switches.

In all of the instances shown especial provision is made for locating the telephone-supporting hook, which is adapted to operate the telephone-switch, at either side of the switch-box.

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

1. The combination of a telephone switch-box, a switch contained therein, a reversible telephone-supporting hook adapted to operate said switch, substantially as described.

2. The combination of a telephone switch-box, a switch contained therein, switch-actuating mechanism extended crosswise the

box and a telephone-supporting hook adapted to be connected with either end of said switch-actuating mechanism for operating it in the same direction, substantially as described.

3. The combination with a telephone-switch, of a rock-shaft having a radially-extended arm for actuating said switch, a pivoted telephone-supporting hook constructed and arranged to engage either end of said shaft and turn it in the same direction, and supports for said hook at both sides of the box, to either of which said hook may be connected, substantially as described.

4. The combination with a telephone-switch, of a rock-shaft having a radially-extended arm for operating said switch and having radially-extended ends, a pivoted telephone-supporting hook having an extension and means for supporting it whereby said extension may engage either of said ends to turn the shaft in the same direction, and means for turning it in the opposite direction when the telephone is removed from the hook, substantially as described.

5. The combination with a telephone-switch, of a rock-shaft having a radially-extended arm for operating said switch and having a radially-extended end, a pivoted hook adapted to support the telephone, having an extension which engages said end to turn the shaft on its axis in one direction, and means for turning it in the opposite direction when the telephone is removed from the hook, substantially as described.

6. The combination with a telephone-switch, the actuating members of which have diverging ends, of a rock-shaft having a radially-extended arm for engaging the diverging ends of said actuating members, and having an angularly-formed end, a pivoted hook adapted to receive the telephone having an extension which engages said end to turn the shaft on its axis in one direction, and means for turning it in the opposite direction when the telephone is removed from the hook, substantially as described.

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

FRANK M. POTTER, JR.

Witnesses:

S. C. HOUGHTON,
M. E. ROUGEOT.