

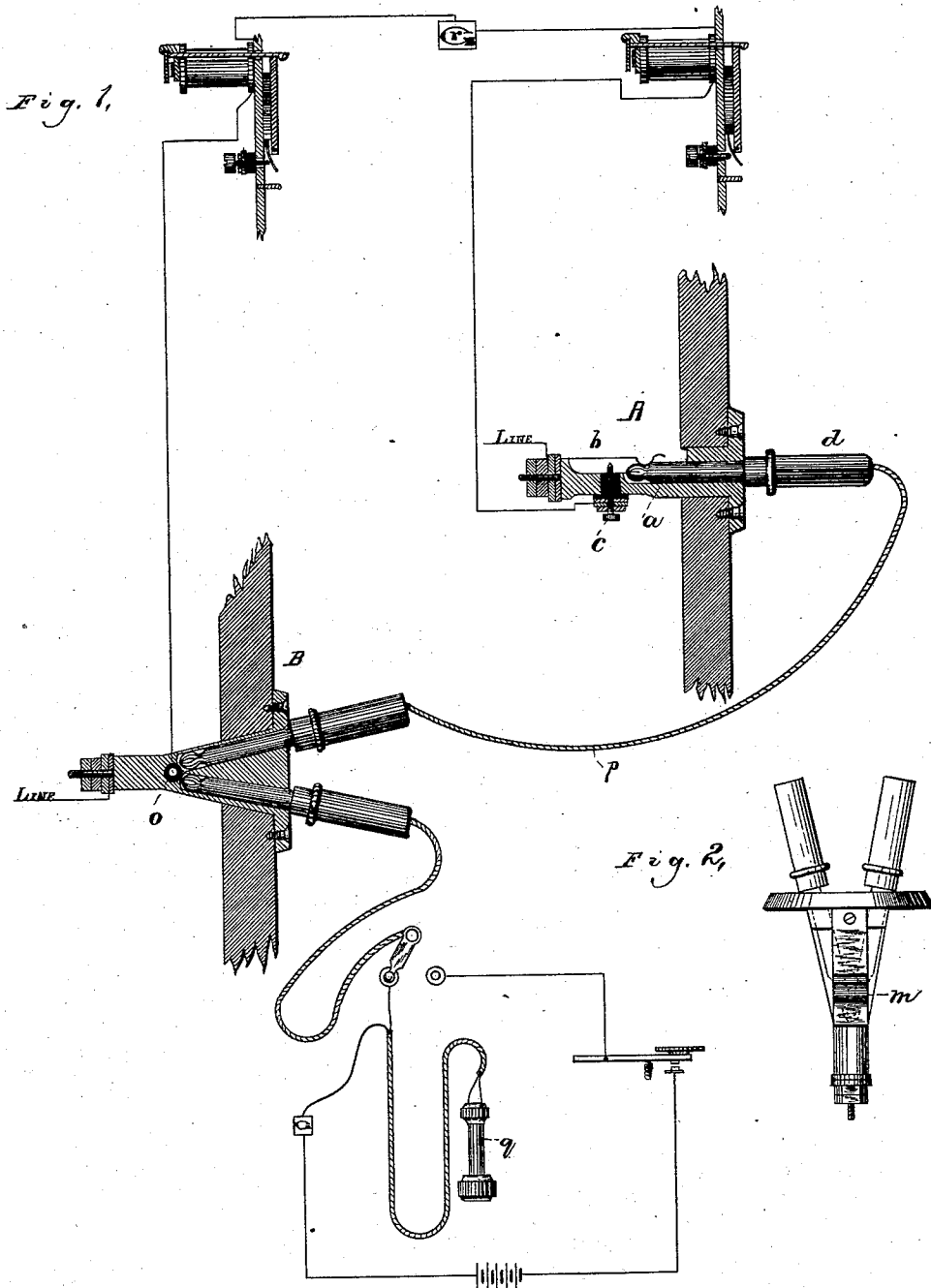
(No Model.)

J. C. WARNER.

SPRING JACK SWITCH FOR TELEPHONE EXCHANGES.

No. 281,741.

Patented July 24, 1883.



WITNESSES

William S. Granger  
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# UNITED STATES PATENT OFFICE.

JAMES C. WARNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN  
ELECTRIC COMPANY, OF SAME PLACE.

## SPRING-JACK SWITCH FOR TELEPHONE-EXCHANGES.

SPECIFICATION forming part of Letters Patent No. 281,741, dated July 24, 1883.

Application filed June 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES C. WARNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Spring-Jack Switches for Telephone-Exchange Switch-Boards, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My improvement relates to automatic switches or cut-outs; and it consists in the specific devices and combinations herein described and claimed.

Prior to my invention the Scribner "jack-knife" switch was well known.

In the drawings, Figure 1 shows my single and my double spring-jack, with ordinary central-office connections.

The annunciator, being the subject-matter of another of my applications, is disclaimed herein.

Fig. 2 is a top view of the double spring-jack.

In Fig. 1 the single spring-jack A is shown in section.

The frame *a* should be a brass casting provided with an opening or bore of sufficient size to admit the plug. The flange at the outer end of the frame comes against the board, as shown, and is secured thereto by screws.

The spring *b* is attached to the inner end of the frame and placed substantially parallel to the axis of the frame, and normally rests upon the insulated contact-point *c*, which forms the ground-connection of the line.

The plug *d* is provided with a metallic point, which comes against the spring and lifts the spring from contact-point *c*, thus taking off

the ground. The line is thus connected with the conducting-cord of the plug, as shown. When the plug is removed, the spring is brought again by its own tension into contact with point *c*, thus restoring the ground-tension.

The frame of spring-jack B is provided with two openings converging toward the inner portion thereof, as shown. A plug inserted in either hole lifts the spring *m* (see Fig. 2) from contact with ground-contact *o*.

The lines of switches A and B are shown connected through the cord *p*, and the circuit of the two connected lines is tapped by a branch circuit through the operator's telephone *q*.

It will be seen that the spring-jack thus constructed occupies the least possible space upon the board, and that all the working parts are in the rear, protected by the board, instead of being on the front of the board, as is necessary when the jack-knife switch is used.

Another advantage possessed by my spring-jack is that the openings are of considerable depth, and the springs are so arranged that a plug, when inserted, moves in a line nearly parallel with the spring or switch-lever, and thus has greater purchase than when inserted in a shallow hole, so as to meet the edge of the lever, as in the jack-knife.

I claim—

The combination, in a spring-jack switch, of the frame *a*, provided with a plug-hole of considerable depth, with the spring *b*, contact *c*, and plug *d*, substantially as and for the purpose specified.

In witness whereof I hereunto subscribe my name this 24th day of May, A. D. 1882.

JAMES C. WARNER.

Witnesses:

GEORGE P. BARTON,  
F. S. BAKER.