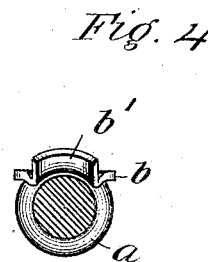
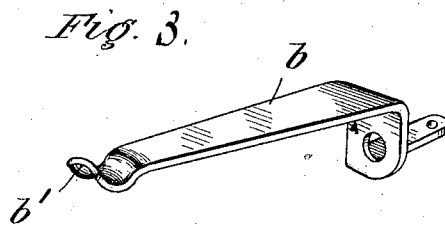
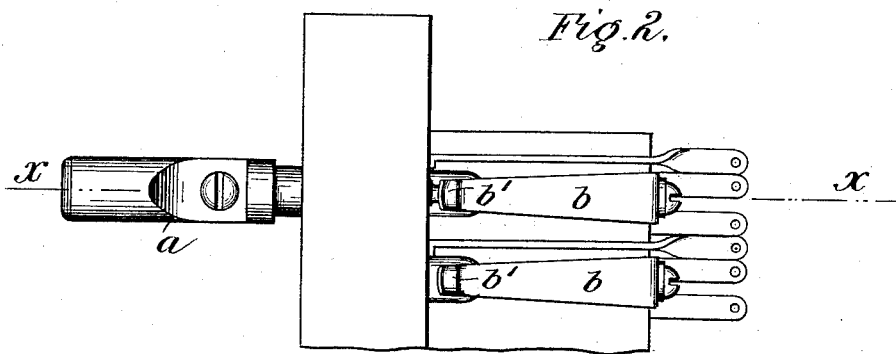
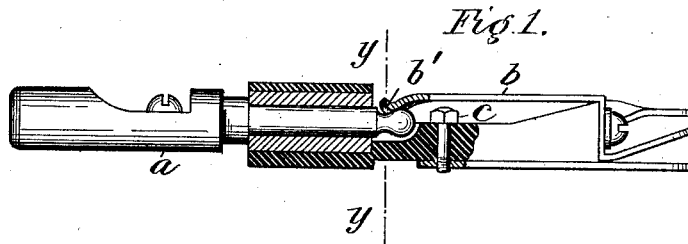


(No Model.)

C. E. SCRIBNER.
SPRING JACK SWITCH.

No. 385,528.

Patented July 3, 1888.



Witnesses:
Sam. B. Dover.
Wm. M. Giller.

Inventor.
Charles E. Scribner
by George A. Barton
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES E. SCRIBNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN
ELECTRIC COMPANY, OF SAME PLACE.

SPRING-JACK SWITCH.

SPECIFICATION forming part of Letters Patent No. 385,528, dated July 3, 1888.

Application filed August 3, 1887. Serial No. 216,026. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SCRIBNER, 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, 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 invention relates to the switches used upon the switch-boards of telephone-exchanges where the connections are made by means of terminal plugs connected with flexible cords. These switches consist each of a frame provided with a plug-hole and a spring or lever which is substantially parallel with the direction or axis of the plug-hole, and so arranged that when the plug is inserted the spring will be lifted or wedged away from its normal contact-point while a new connection is made between the tip of the plug and the spring. As more clearly disclosing the state of the art, reference is made to Patent No. 281,741, granted James C. Warner July 24, 1883, for spring-jack switches for telephone-exchanges.

My invention herein relates more especially to the crimping or bending of the free end of the spring; and its object is to make the spring-jack more durable and less liable to become loose upon the board, while at the same time the plug may be readily inserted and held in place or removed with the greatest facility.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a partial sectional view of my spring-jack upon line *xx* of Fig. 2. Fig. 2 is a plan view of two spring-jacks. Fig. 3 is a perspective view of the spring or lever detached. Fig. 4 is a view as seen from section-line *yy* of Fig. 1.

Like parts are indicated by similar letters of reference in the different figures.

It will be seen that the plug *a*, when inserted, as shown, lifts the lever *b* from contact-point *c*. The free end of the spring is made to conform to the shape of the plug-point. Thus the plug-point first takes the

spring at *b'*, and as the plug is forced in the tip is guided over the bent concave surface of the spring until it passes to the position shown in Fig. 1, where the pressure of the spring tends to retain the plug in place by friction.

A spring bent at the free end to form a groove conforming in size and shape to the tip of the plug is new in spring-jack switches. Heretofore the flat spring has been simply bent to form an inclined plane and a frictional catch or rib, as shown in said Warner patent, in which case the rounded point of the plug soon wears away the central part of the spring, thus cutting through the spring and rendering the spring-jack inoperative.

The movement of the plug has not been as free and unobstructed as is desired in the spring-jacks heretofore in use. By the use of my invention, however, it will be seen that the groove at the end of the spring is brought in line with the axis of the plug-hole, and is made of such size that the tip of the plug will come against the concave surface of the groove as it is forced in. Thus the spring will be worn gradually thinner by the plug, instead of being cut away at the center, as heretofore. Thus, in addition to the better working of the plug, we have the advantage of greater durability on account of the larger wearing-surface. The bearing of the plug being upon the concave spring and of substantially the width of the plug, the plug when inserted presses against the spring-jack firmly in one direction, and does not tend to twist the spring and cause it to become loose, as is the case when the spring is not made concave. The concave surface of the spring resting upon the plug-point makes the electrical contact more reliable than when the spring is flat or simply bent at right angles to the axis of the plug-hole, as heretofore, in which case but a single point of the spring touches the rounded end or tip of the plug.

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

1. The combination, with the plug and its point, of a spring with its free end placed in the path of the plug and provided with a concave bent surface conforming to the shape of the tip of the plug, as described, whereby the

tip of the plug on being inserted is guided over the concave surface, lifting the spring and being held thereby, substantially as and for the purposes specified.

- 5 2. In a spring-jack switch, a spring or lever with its free end provided with a concave and bent or crimped surface conforming to the shape of the plug-point inserted therein.

In witness whereof I hereunto subscribe my name this 27th day of May, A. D. 1887.

CHARLES E. SCRIBNER.

Witnesses:

GEORGE P. BARTON,
WM. M. GILLER.