

(No Model.)

R. V. FREEMAN.
SPRING JACK SWITCH.

No. 309,218.

Patented Dec. 16, 1884.

Fig. 1.

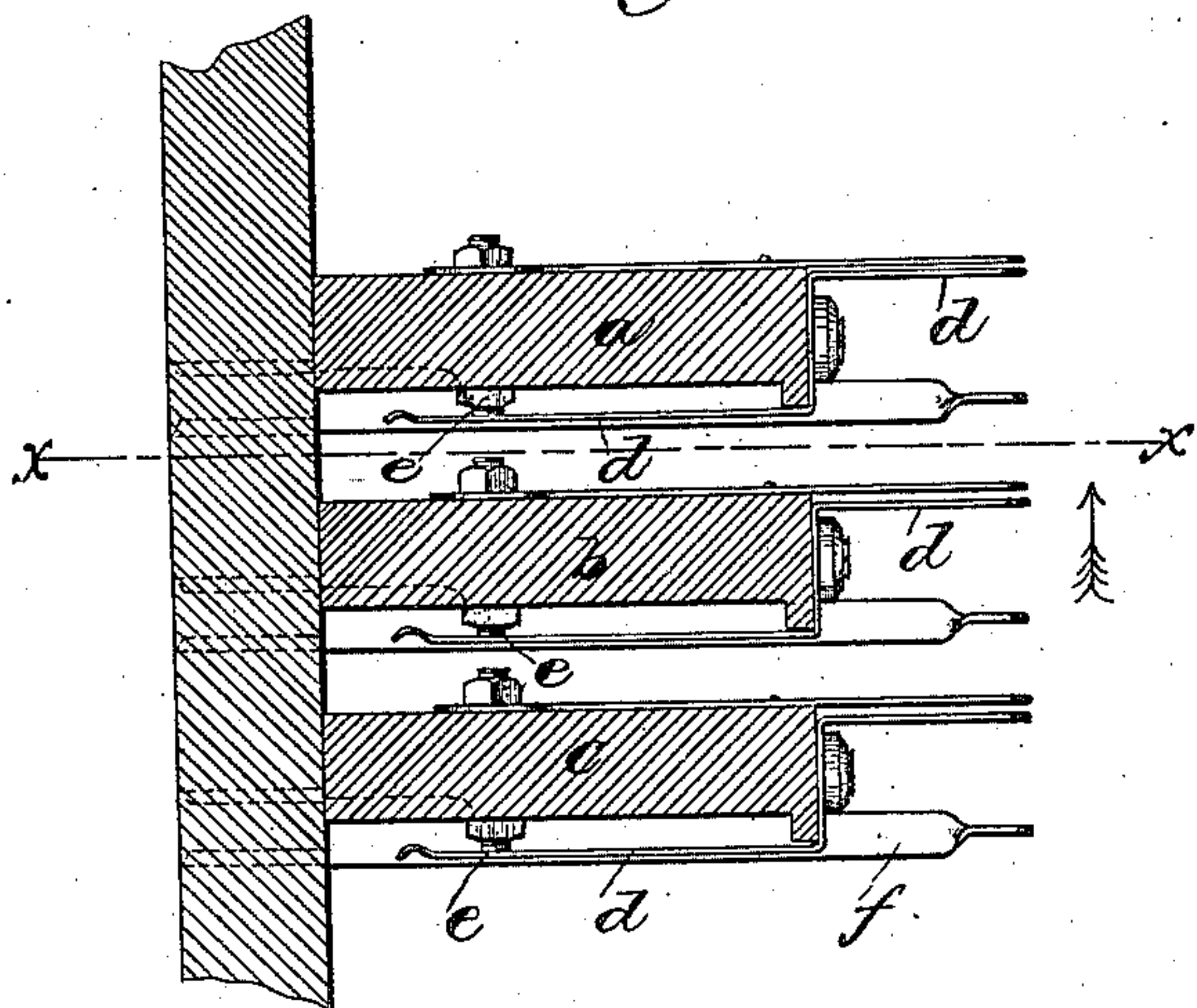


Fig. 2.

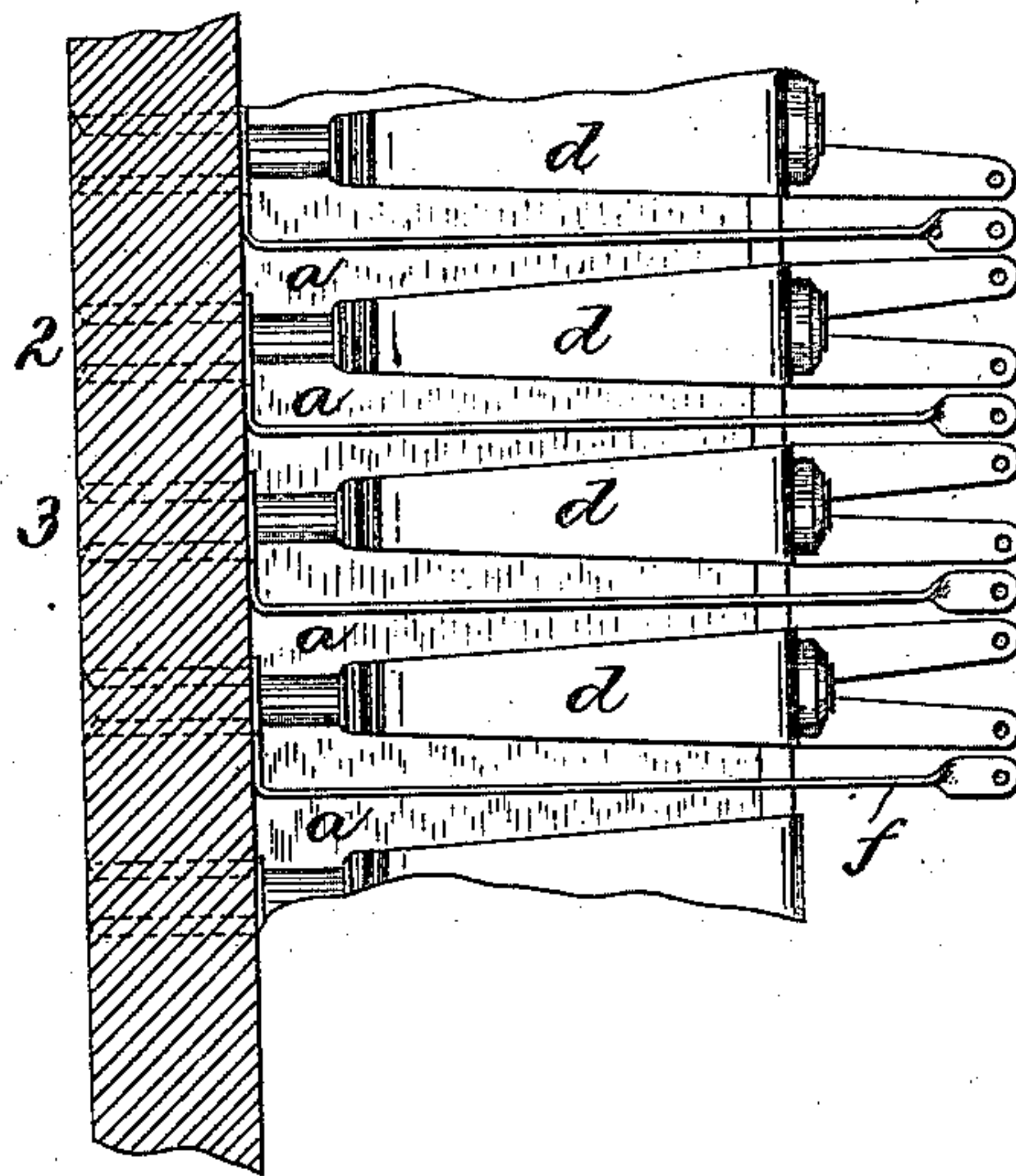


Fig. 3.

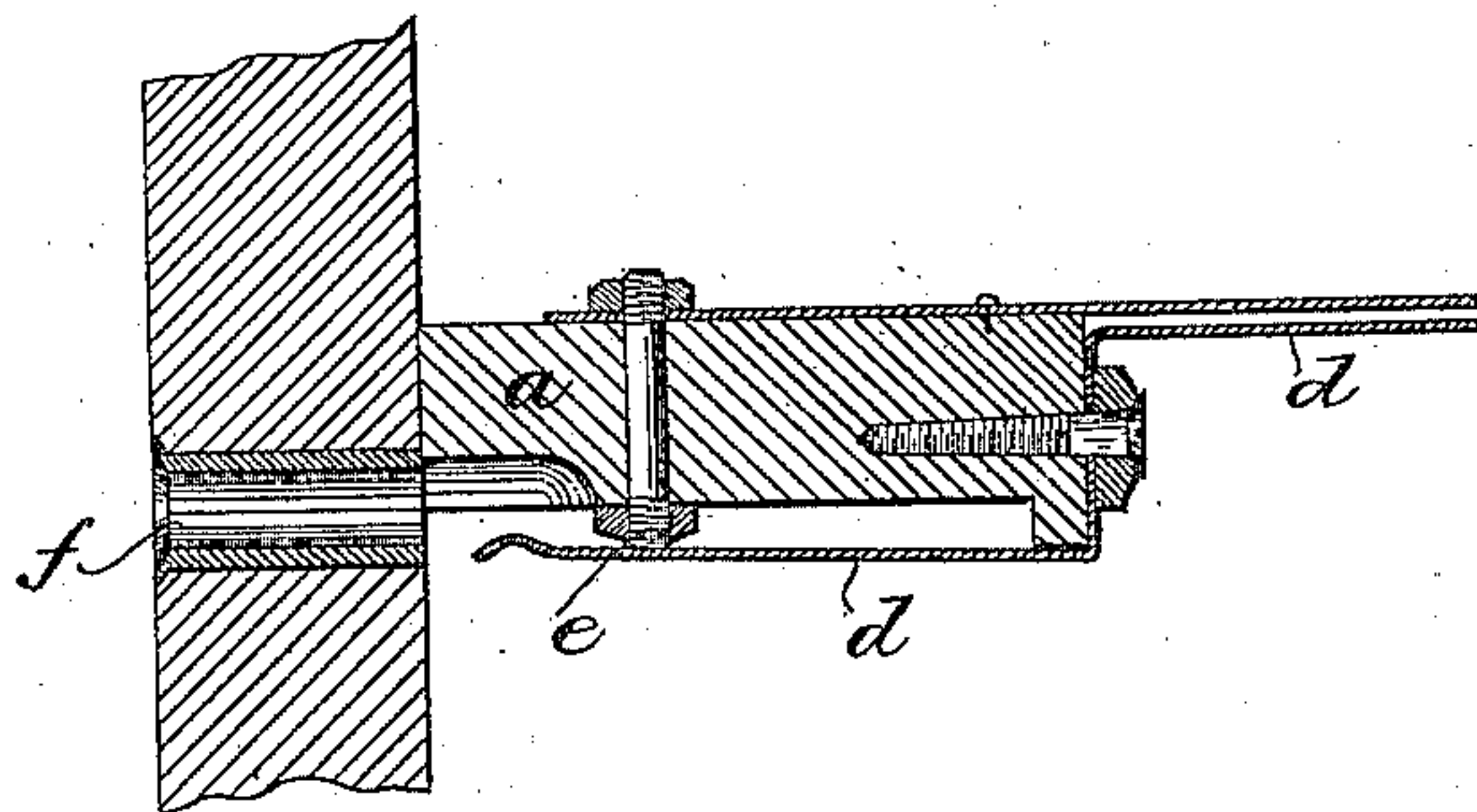
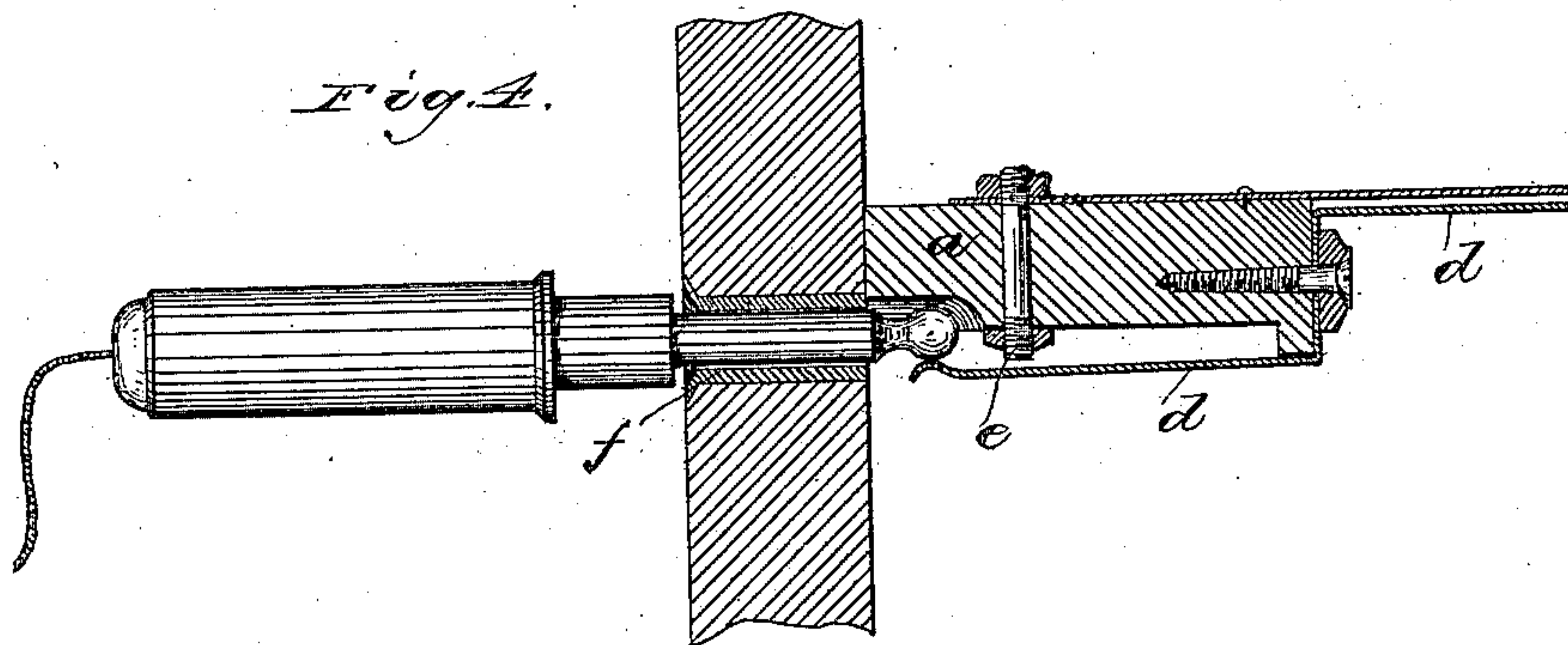


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

RICHARD V. FREEMAN, OF NEW YORK, N. Y., ASSIGNOR TO THE WESTERN
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SPRING-JACK SWITCH.

SPECIFICATION forming part of Letters Patent No. 309,218, dated December 16, 1884.

Application filed July 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, RICHARD V. FREEMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, 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 spring-jack switches which are used upon the switch-boards of telephone-exchanges, of which the Scribner switch shown in Patent No. 293,198, of February 5, 1884, and the James C. Warner switch, shown in Patent No. 281,741, of July 24, 1883, may be taken as types.

My invention consists in making the framework of several switches of a single strip of insulating material, preferably wood, and mounting the several springs or contact-pieces thereon, as herein described. The weight of the switches is thereby materially decreased, while better insulation between the various parts is maintained, better contacts insured, and the cost of construction lessened.

My invention is illustrated in the accompanying drawings, in which Figure 1 is a vertical sectional view of a portion of a switch-board and three spring-jack switches mounted on different strips. Fig. 2 is a horizontal sectional view, as indicated by line *x x* of Fig. 1, showing a single strip carrying the springs or connecting-pieces of several switches. Fig. 3 is a central sectional view of a single spring-jack. Fig. 4 is a similar view with the connecting-plug inserted.

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

The strips *a b c* (shown in Fig. 1) may each serve as the frame-work or support of several switches. Thus, as shown in Fig. 2, the strip *a* carries the metallic parts of several switches, 1 2 3, &c.

Each spring-jack switch consists of three metallic parts—the spring or lever *d*, to which the line-wire may be connected, the insulated ground-connection *e*, against which the said lever *d* normally rests, as shown in Figs. 1 and 3, and the insulated tube or socket *f*, with which a connection is made by the shank of the plug when inserted, as shown in Fig. 4, thus establishing a cross between the spring *d*

and the said piece *f* through the medium of the plug when the line is disconnected from the ground-point *e* and connected to the cord of the plug, as shown in said Fig. 4.

The object in establishing a cross through the medium of the shank of the plug will be readily understood by reference to the testing system for multiple switch-boards described in Scribner's Patent No. 305,021, of September 9, 1884.

As shown in the drawings, the metallic pieces or parts *d e f* are extended to the rear of the board, where the connections with the wires may be readily made. The insulated pieces *f* of the different switches are especially useful in multiple systems of switch-boards, in which a normally-open test-circuit is used with each telephone-line, as shown and described in application No. 55,791, of Charles E. Scribner, filed March 20, 1882, and allowed June 3, 1884. In ordinary closed-circuit telephone systems these parts *f* may be dispensed with, the pieces *d e* being sufficient to do all the work required.

My switch is not limited to any particular system or systems of circuits, but may be used wherever it is adapted to do the work required. The strips *a b c*, as shown, are attached to the rear of the board. It is evident, however, that by making the strips wider the switch-board may be built up of sections or strips carrying any required number of spring-jacks.

I claim as my invention and desire to secure by Letters Patent—

1. A spring-jack switch consisting of the lever *d*, the ground-connection *e*, and the metallic socket *f*, mounted on a wooden strip, in combination with a plug adapted, when inserted, to separate the parts *d* and *e* and form a connection between parts *d* and *f*, substantially as and for the purpose specified.

2. The combination, with the strip of insulating material, of several spring-jack switches mounted thereon, each consisting of the lever or spring *d*, the ground-connection *e*, and the insulated socket *f*, substantially as and for the purpose specified.

In witness whereof I hereunto subscribe my name this 28th day of June, A. D. 1884.

RICHARD V. FREEMAN.

Witnesses:

GEO. M. PHELPS, Jr.,
A. J. ARMSTRONG.