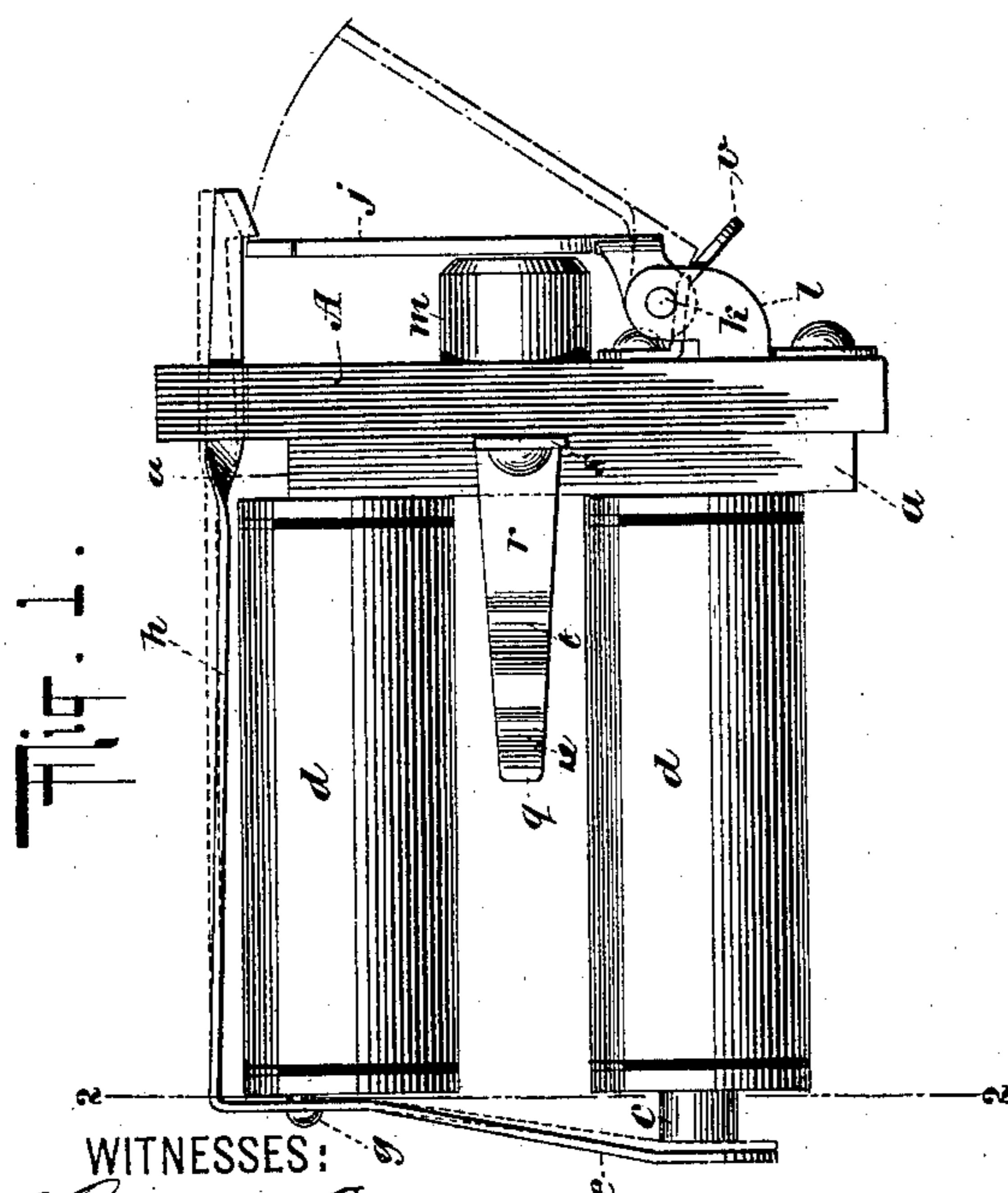
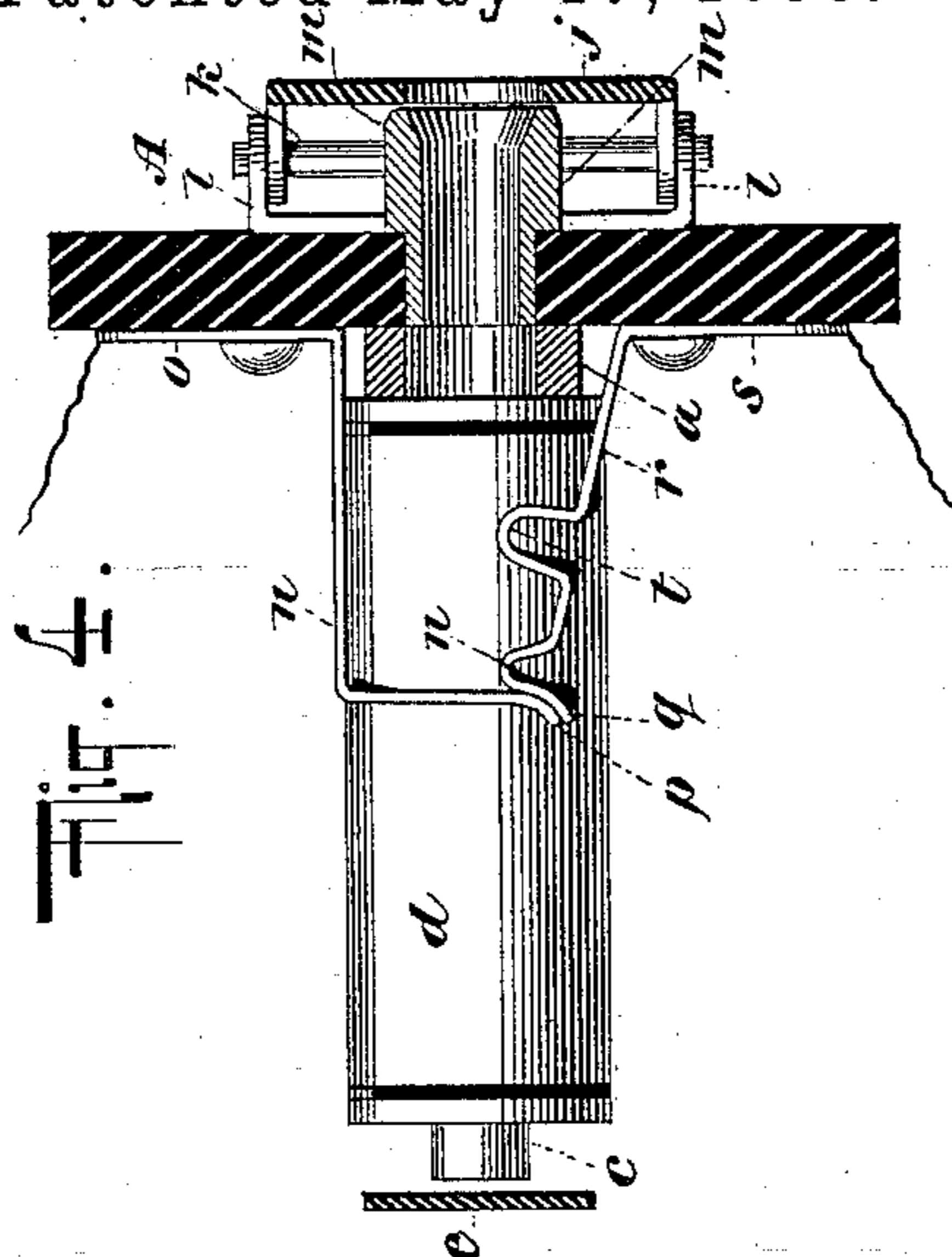
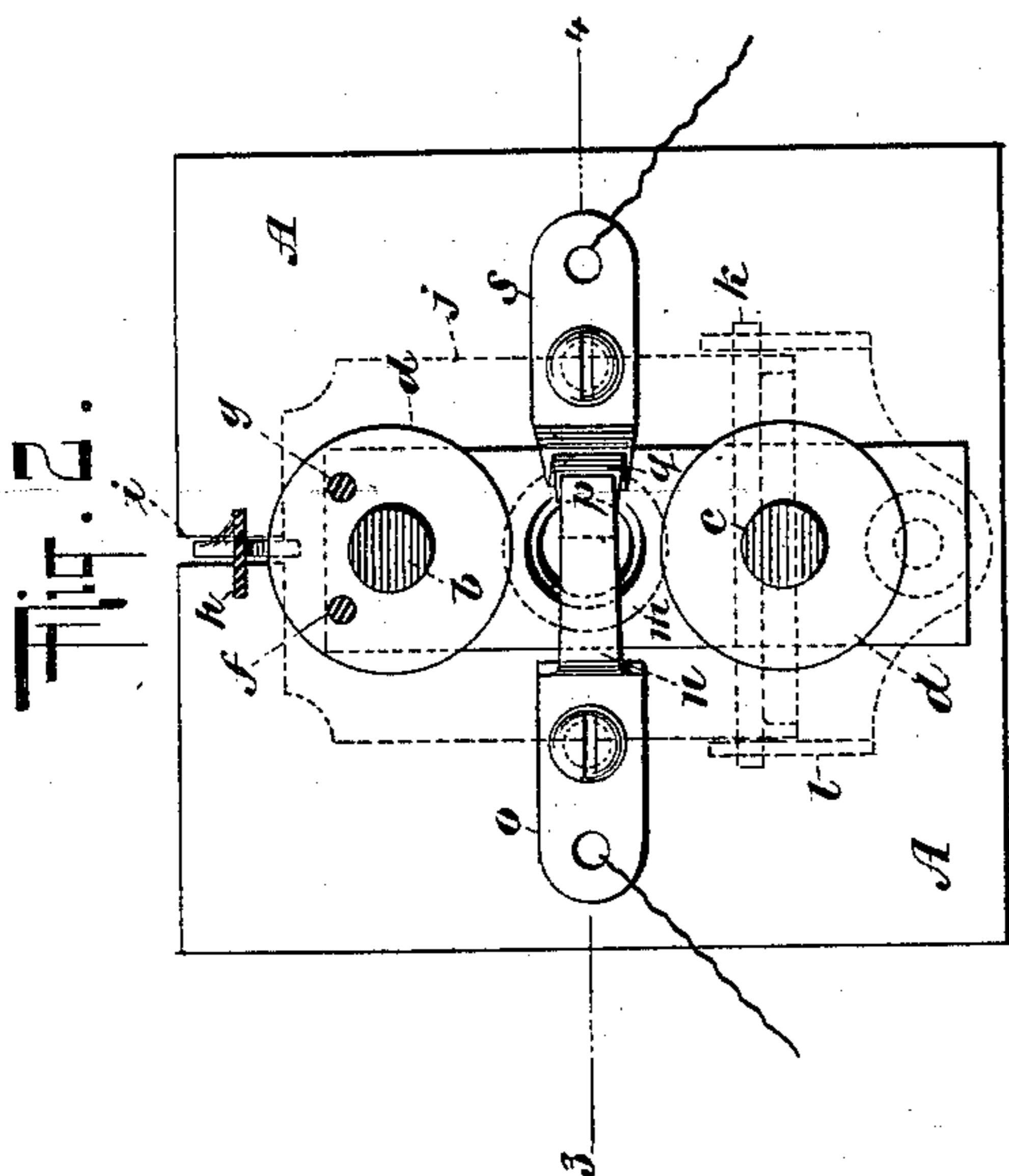


(No Model.)

G. W. SUTTON.
COMBINED ANNUNCIATOR AND SPRING JACK.

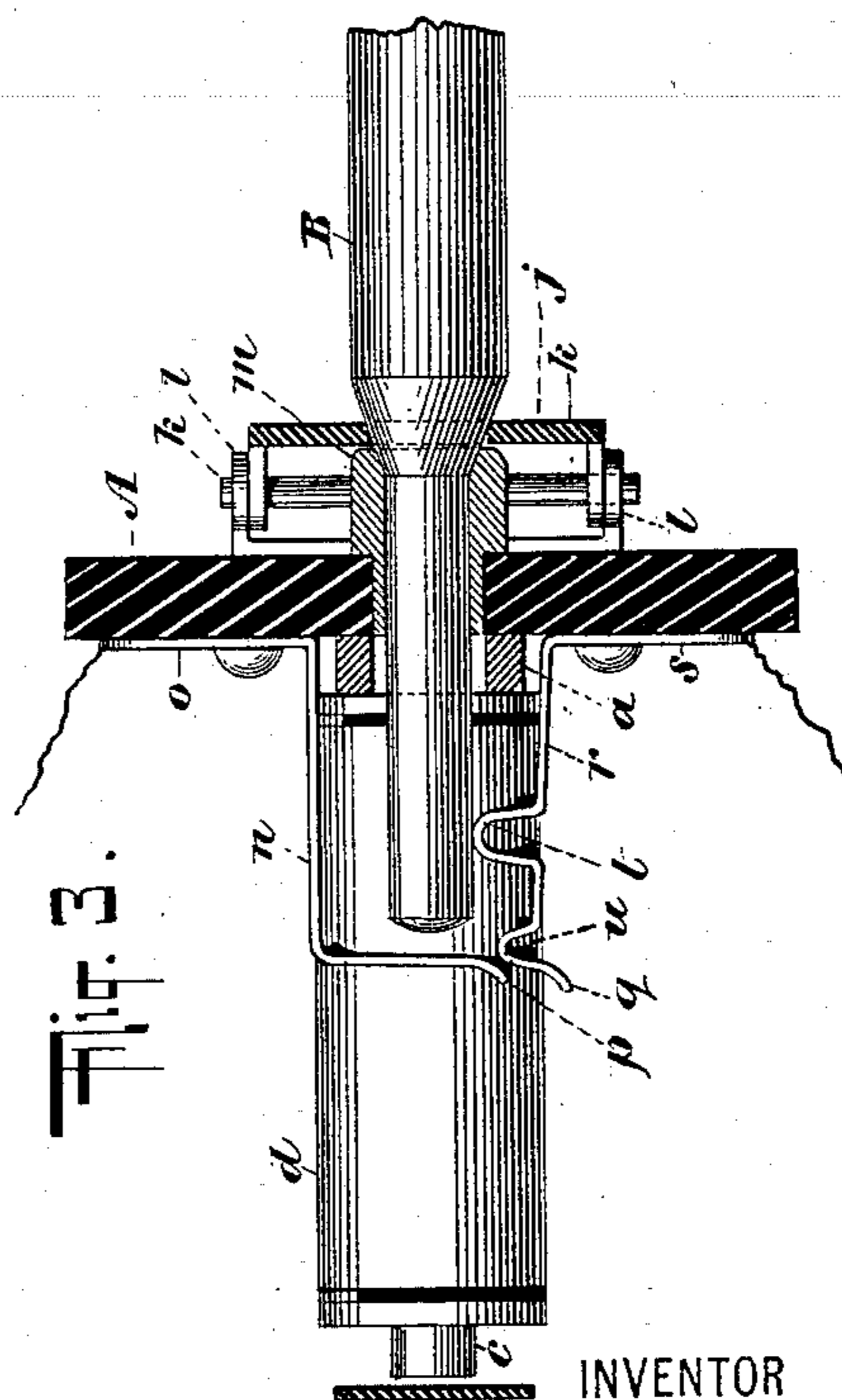
No. 604,340.

Patented May 17, 1898.



WITNESSES:

Gustave Fréderick.
 Geo. A. Mearns.



INVENTOR

George H. Sutton,
BY Briesen Knauth

ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE W. SUTTON, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO THE
PHOENIX INTERIOR TELEPHONE COMPANY, OF NEW YORK, N. Y.

COMBINED ANNUNCIATOR AND SPRING-JACK.

SPECIFICATION forming part of Letters Patent No. 604,340, dated May 17, 1898.

Application filed April 8, 1897. Serial No. 631,215. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SUTTON, a resident of New Rochelle, Westchester county, State of New York, have invented certain new and useful Improvements in a Combined Annunciator and Spring-Jack Structure, of which the following is a specification.

My invention relates to combined annunciator and spring-jack structures, and has for its object to produce a compact efficiently-operating organism which will be operable to perform switching operations, and in which the annunciator-drop will be replaced by the action of switching the line.

To this end my invention consists in the construction hereinafter set forth and claimed.

My invention will be understood by referring to the accompanying drawings, in which—

Figure 1 is a side elevation of a combined annunciator and spring-jack embodying my invention. Fig. 2 is a rear elevation thereof, partly in section, the section being taken on line 2 2 of Fig. 1. Fig. 3 is a horizontal section on line 3 4 of Fig. 2, showing the spring-jack plug in place; and Fig. 4 is a similar section showing the spring-jack plug out. These two last-mentioned figures exhibit the contact-springs of the switch in different positions.

In the drawings, A indicates an insulating base or support for the operating parts of the structure, which insulating base or support is usually the front panel of a switch-board and is so shown in the present instance. Mounted upon the base A is a cross-bar *a*, carrying cores *b c* of electromagnets *d*. The armature *e* of the electromagnets is provided with two apertures, through which pass pins *f g*, by which the armature is suspended. These pins *f g* are placed side by side (see Fig. 2) and allow the armature to slide back and forth thereon as well as to swing in their planes. The armature *e* is provided with the usual forwardly-extending hook *h*, which passes through a slot *i* of the front plate or base A and engages a shutter *j*, which is hinged at *k* to a bracket *l* on the face of the base A. This shutter may be of any usual form and actuated in any suitable manner,

either as a "drop," as shown, or as a swinging or sliding shutter, so that when I mention "shutter" or "drop" I do not wish to be thereby understood as confining myself to the form shown. The said magnets, armature, hook, and drop or shutter constitute the switchboard-annunciator. The drop is apertured for the passage of the switch-plug B, which passes through a sleeve *m* in the face of the base A to the rear thereof, where it operates the contact-springs, as will be explained. The contact-springs just referred to are mounted on the back of the base A, one spring *n* being secured to said base by its base-piece *o* and being Z-shaped and having its free end *p* bent outwardly to receive the thrust of the end *q* of the other spring *r*. This spring *r* is secured to the base at *s* and is provided with a cam *t* and a bend *u*, from which the bent end *q* projects. The spring-jack plug B, entering, comes against the cam *t*, and thereby bends the spring *r*, carrying its end *q* away from the end *p* of the spring *n*, and when the plug is withdrawn from the spring-jack the contact-spring *r* brings its end *q* against the end *p* of the spring *n* with a rubbing movement, thereby keeping the contact-surfaces bright. Located below the shutter is a stop *v*, which prevents the shutter from falling completely down, arresting the same in the position shown by dotted lines in Fig. 1, so that access to the sleeve *m* cannot be obtained by the plug B without inserting the said plug through the aperture in the annunciator, and thereby resetting the annunciator by the act of switching the line with the plug B, so that when the said plug B is withdrawn from the spring-jack the annunciator will remain set.

I am aware that it is not broadly new to reset an annunciator by means of the spring-jack or switching-plug, and I do not desire to be heard as claiming such feature broadly.

I claim—

1. In a combined annunciator and switching structure, the combination of a plug and switching device, and an apertured "drop," the aperture in the said "drop" being so located as to bar access by the plug to the said switching device when the "drop" is in position to indicate a call and to allow the plug

to have access to the said switching device when the "drop" is in its reset position, whereby the "drop" may be reset by the act of inserting the plug to operate the switching device.

2. In a combined annunciator and spring-jack, the combination of a switching device, a movable apertured "drop" having its aperture so located as to allow access to the switching device when the "drop" is in its set position and to prevent access thereto except when in said set position, whereby when the "drop" is in position to indicate a call the switching device can be operated by a switching-plug only by inserting the said switching-plug through the aperture in the "drop," all combined with means for limiting the movement of the "drop."

3. In a combined annunciator and spring-jack, the combination with a spring-jack switch of an apertured shutter mounted in front of the said spring-jack switch having its aperture so located as to allow the switching-plug to have access to the spring-jack switch only when the shutter is in its set position and to bar access to the spring-jack switch when the shutter is in position to indicate a call, whereby the spring-jack plug will be ineffective to operate the spring-jack except by being passed through the aperture in the

shutter and into the spring-jack switch and thereby resetting the shutter.

4. In a combined annunciator and switching device which is accessible through an opening, the combination with the said switching device of a plug, a movable apertured annunciator having its aperture so arranged as to register with the opening when in its set position so as to admit the plug to actuate the switching device and to bring a solid portion in front of the said opening when the said shutter is thrown out of registry by being actuated.

5. The combination of a switching device and an apertured pivoted shutter barring access to the said switching device, except through the aperture thereof, whereby a plug for operating the switching device must be passed through the shutter to reset the same, substantially as described.

6. In a spring-jack switch, the combination of a contact n having a bent portion p , of a contact-spring r having a cam t and a bent portion q adapted to contact with the bent portion p of the contact n with a rubbing motion.

GEORGE W. SUTTON.

Witnesses:

MAURICE BLOCK,
ISAAC A. LEVY.