(No Model.) 2 Sheets—Sheet 1.

H. M. FISK.

COMBINED ANNUNCIATOR AND SPRING JACK.

No. 521,461. Patented June 19, 1894.

Fig 1.

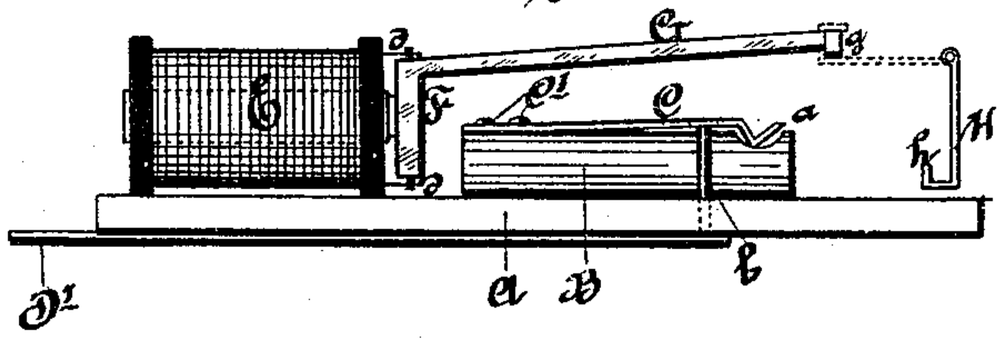

Fig 2.

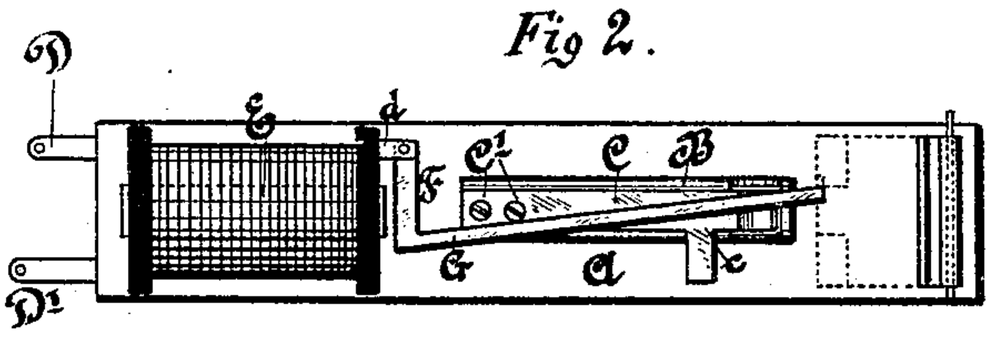

Fig 3.

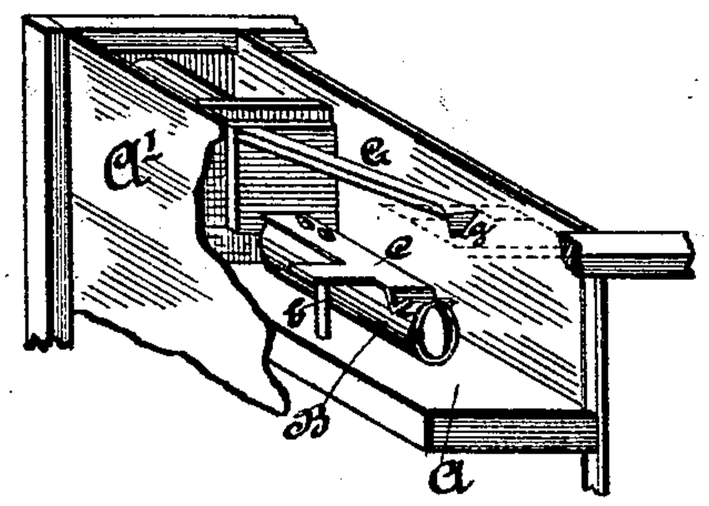

Fig 4.

Witnesses

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Henry M. Fisk Inventor

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(No Model.) 2 Sheets—Sheet 2.

H. M. FISK.

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Fig 5.

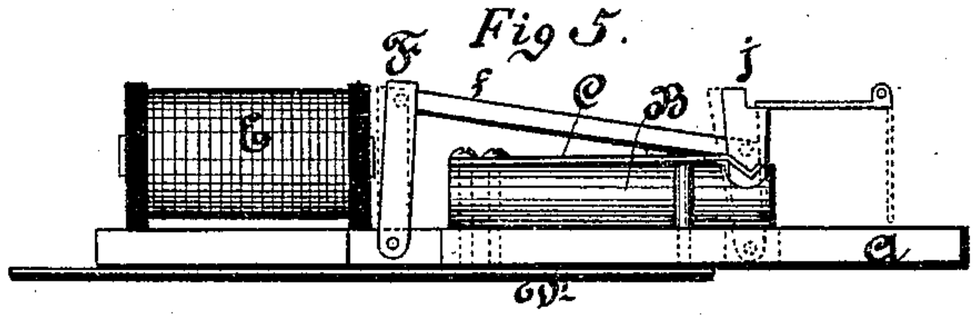


Fig 6.

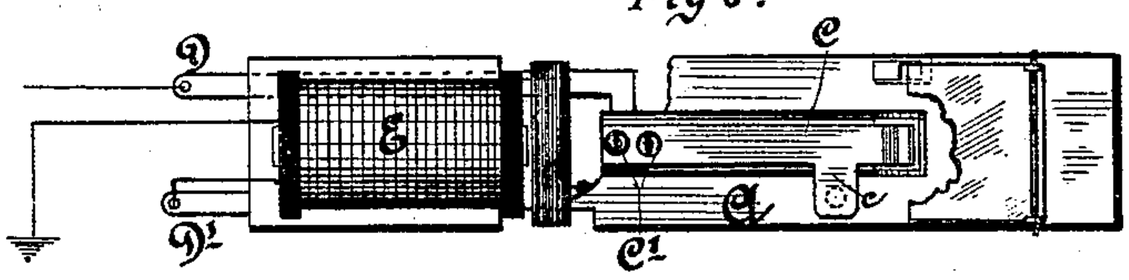


Fig 7.

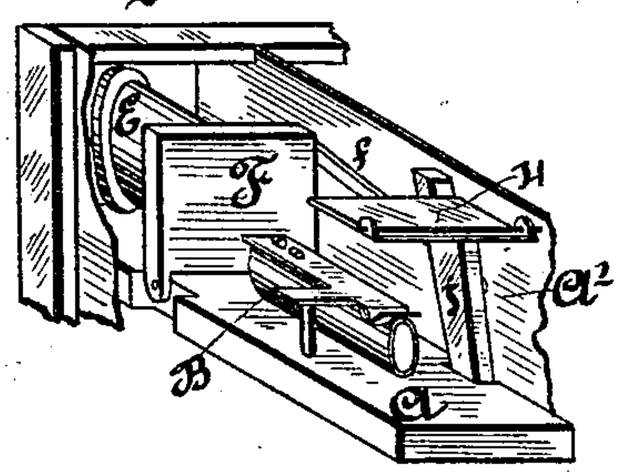


Fig 8.

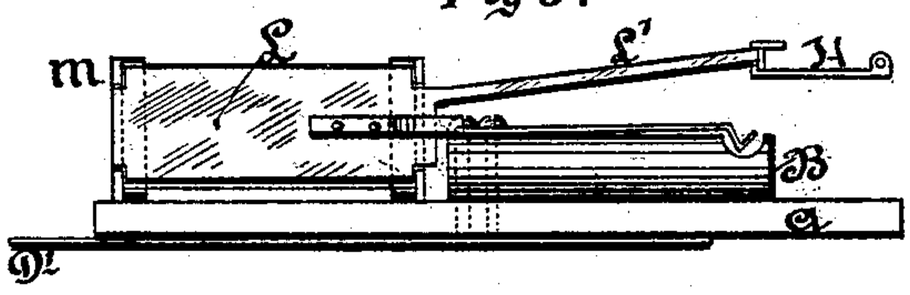
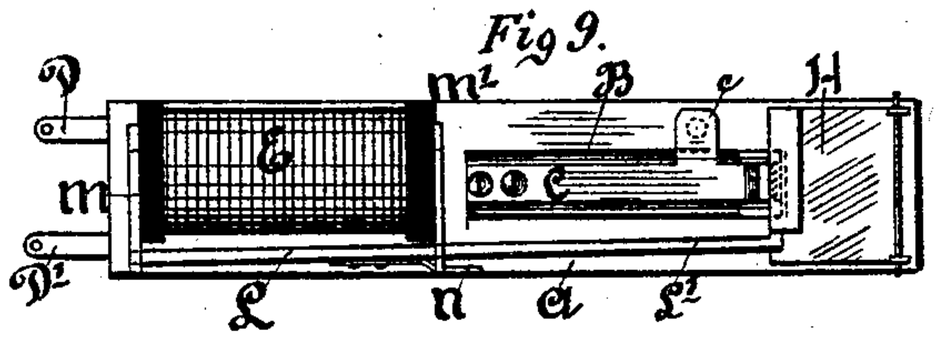


Fig 9.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY M. FISK, OF CHICAGO, ILLINOIS.

COMBINED ANNUNCIATOR AND SPRING-JACK.

SPECIFICATION forming part of Letters Patent No. 521,461, dated June 19, 1894.

Application filed May 14, 1894. Serial No. 511,246. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. FISK, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Telephone Switchboards, of which the following is a full, clear, and exact description, reference being had to the drawings making part of this specification.

My invention relates to switch-boards for telephone exchanges and will be fully described hereinafter.

In the drawings Figure 1 is a side elevation of a portion of a switch-board embodying my invention. Fig. 2 is a top view of the same. Fig. 3 is a broken perspective, and Fig. 4 a detail. Figs. 5, 6, and 7 respectively are side, top and perspective views of a modification, and Figs. 8 and 9 respectively side and top views of still another modification.

A is the bottom of a compartment containing the spring jack B which latter is hollow and notched as at *a* to receive the bent end of a superimposed spring C, the rivets C′ securing the spring C to the jack passing down to the compartment and securing a strip D to it while at the same time making a metallic connection between the spring and the strip. The spring is also formed with an arm or offset *c* that normally rests upon a pin *b* which passing through the bottom A connects a strip D′ to it. A spool E is secured to the bottom at the rear of the jack and from the head of the spool are projected lugs *d d* to which one edge of an armature F is pivoted and from the upper portion of the opposite edge of this armature an arm G projects forward and at an acute angle to the width of the armature and the outer end of this arm is formed with a lip *g* for engagement at the proper time with the bent flange *h* of a drop H to hold the drop up when the core of the spool is de-energized.

In Figs. 5, 6 and 7 the armature is pivoted in the bottom A and one of its upper corners is connected by a link *f* with a trigger *j* the lower end of which is pivoted to the bottom A while its upper end is notched to form a ledge for the drop to rest upon when up.

In Figs. 8 and 9 the armature is in a form of a bar L having an arm L′ which is bent at its front end to engage the flange of a drop similar to that in Fig. 4. The rear end of bar L is reduced and fits loosely in furcations of an extension M of the core of the spool and the bar is also supported loosely by a like extension M′ on the front end of the core and the free end of a spring N that is attached to the bar L near its middle, resting against the side A′ of the compartment forms a fulcrum so that when the spool is energized the rear extension drawing upon the rear end of arm L′ will carry its front end from engagement with the drop and let it fall.

The operation is as follows: When a call is made the current from line goes through strip D, spring C, pin *b*, strip D′ into the spool and thence to the battery, thus energizing the core and causing the armature to be attracted and to pull the support from under the drop. The plug K is then inserted by the operator and connection between spring C and strip D′ broken and the party called connected with the party calling through spring C, strip D, and plug. As the drop is released by the spool operating on the armature it is lifted by the plug as it is inserted in the jack, for the drop hangs directly in front of the mouth of the jack and is caught in its raised position and held up until another call is made and the operator accomplishes in one motion what has hitherto required two motions.

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

1. The combination in a switch-board of a jack, and a drop adapted to swing in front of it, an electro magnet located in the rear of the jack and an armature having a connection for catching and supporting the drop when it is raised by the entrance of the connecting plug as set forth.

2. The combination in a switch-board of an annunciator drop adapted to hang in front of the jack and be lifted by the operator's plug as it is thrust into the jack and a trigger or arm for catching it when so raised and an electro magnet and its armature and connections whereby the support is drawn from en-

gagement with the drop when the magnet is energized as set forth.

3. The combination in a switch-board of an electro-magnet, a jack located in front of it and a drop hung in front of the jack with a support for the drop when raised and a connection between the support and armature for drawing the support from engagement with the drop when the magnet is energized as set forth.

HENRY M. FISK.

Witnesses:
HARRY CAGE,
S. S. STOUT.