

(No Model.)

F. E. KINSMAN.

COMBINED ANNUNCIATOR AND ALARM.

No. 330,903.

Patented Nov. 24, 1885.

Fig. 1.

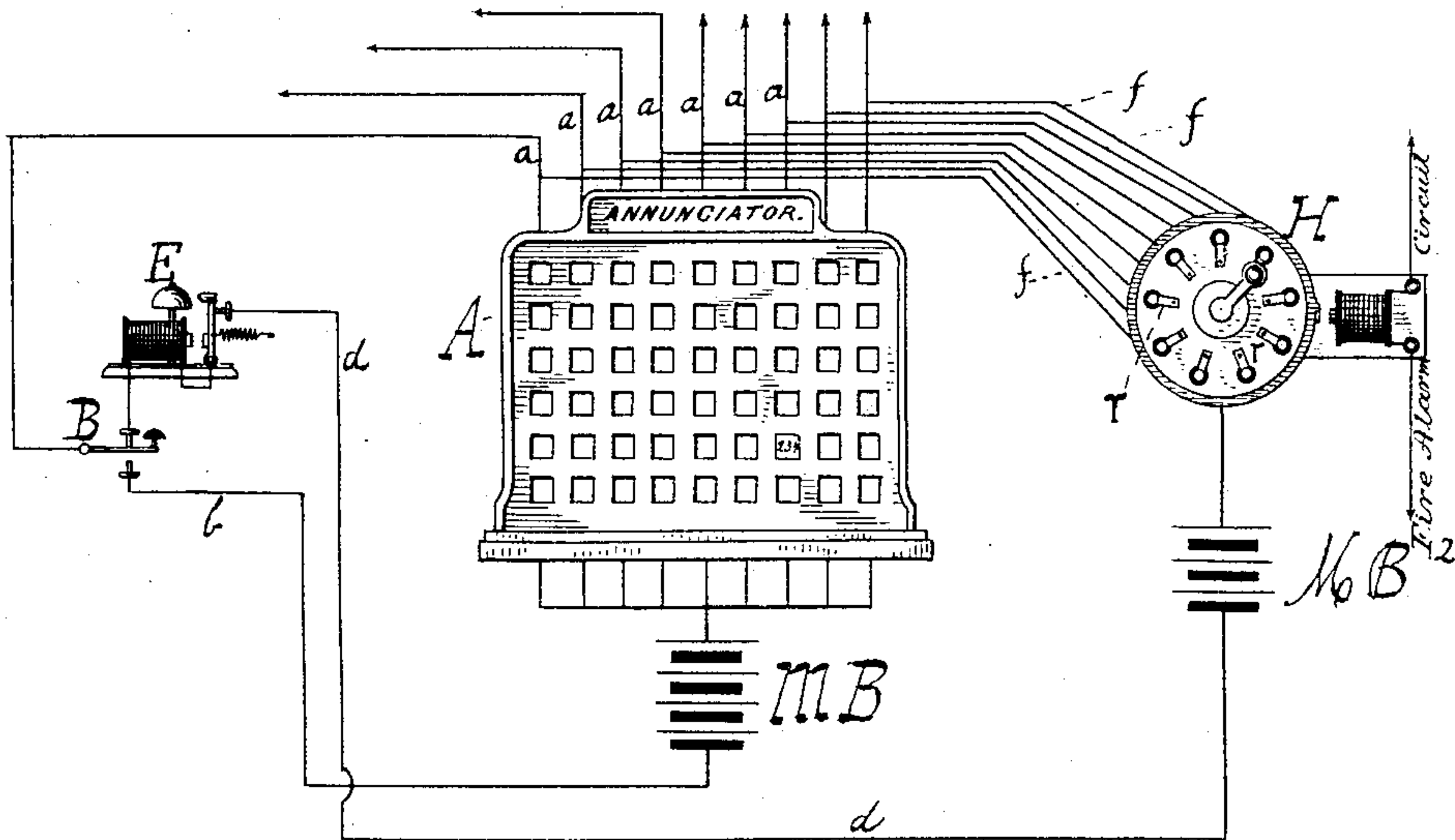


Fig. 2.

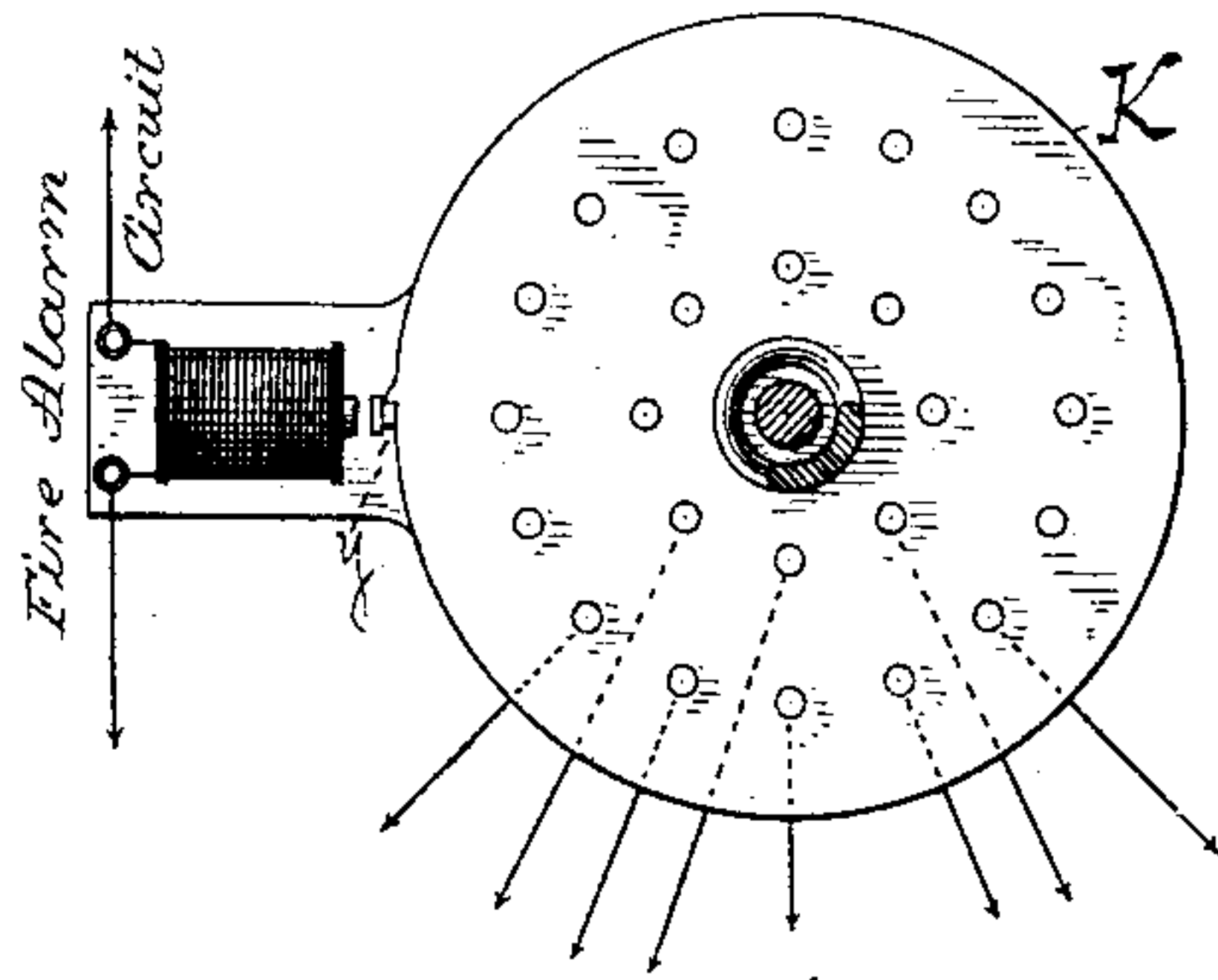
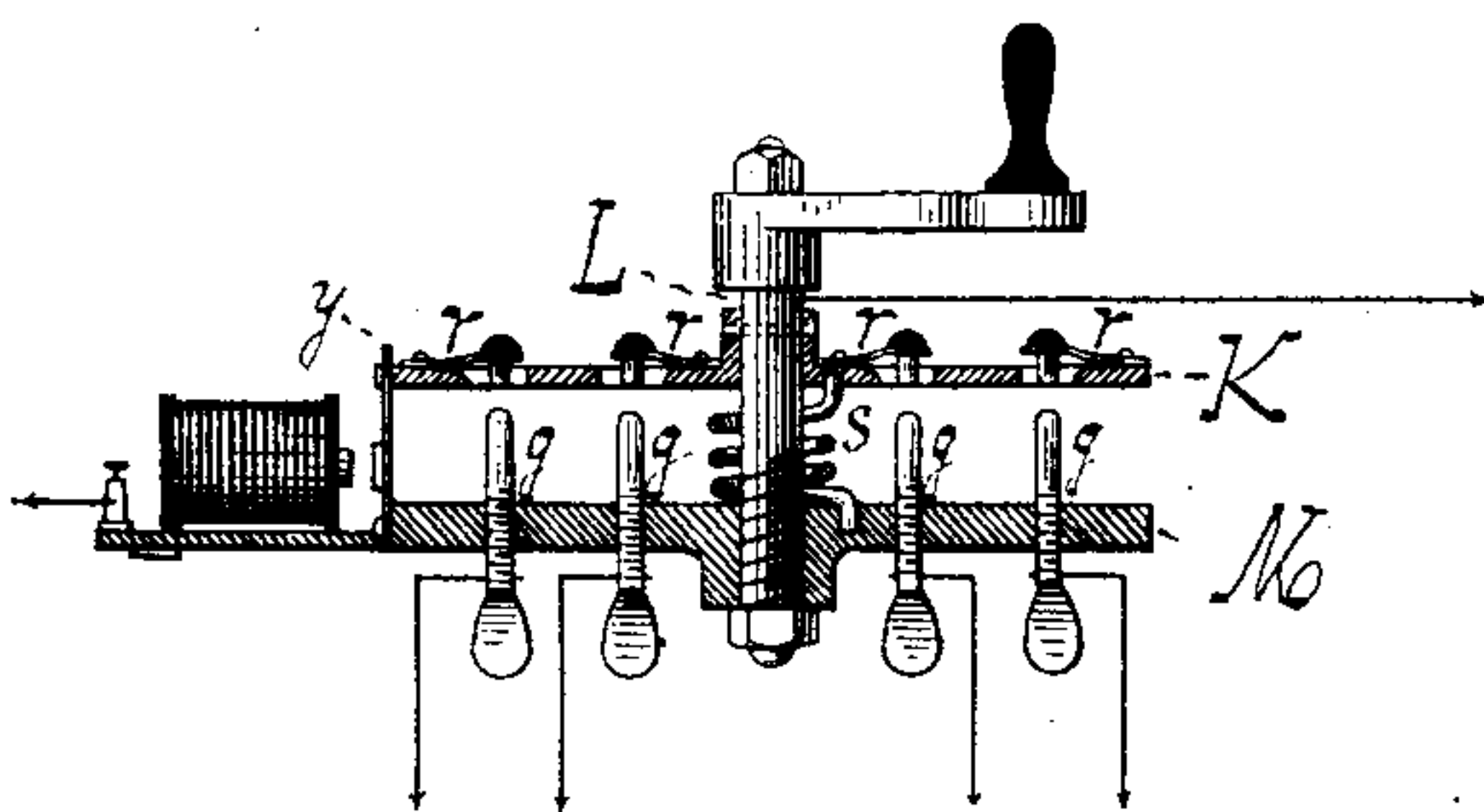


Fig. 3.



WITNESSES
Ernest Abshagen
Chas. J. Jolley

By his Attorney

INVENTOR
F. E. Kinsman
H. C. Townsend

UNITED STATES PATENT OFFICE.

FRANK E. KINSMAN, OF NEW YORK, N. Y.

COMBINED ANNUNCIATOR AND ALARM.

SPECIFICATION forming part of Letters Patent No. 330,903, dated November 24, 1885.

Application filed January 31, 1883. Serial No. 83,615. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. KINSMAN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented a certain new and useful Combined Annunciator and Alarm Apparatus, of which the following is a specification.

The object of my invention is to provide a means whereby electric annunciator systems as used in hotels and other places may be utilized with apparatus for giving an alarm or signal to the occupants of rooms in case of fire or under other circumstances—as, for instance, where a guest desires to be called at a certain hour.

My invention consists in the combination, with the annunciator system, of alarm apparatus placed in return-circuits between a back contact of the signaling push buttons or keys and the central office, and means for connecting all of the annunciator-wires at or near the annunciator or at the hotel office with a battery or other generator of electricity, so as to give a signal or alarm in the rooms in which the signal-bells are placed.

My invention consists also in the combination, with the annunciator system, of extra return-circuits leading from the several rooms and through back or normal contacts of the signaling push buttons or keys to a central point—as, for instance, the hotel office—and means at or near such point whereby any one of the leading-wires of the annunciator system may be connected at pleasure with a battery or generator connected to the extra return wire or wires.

My invention consists, further, in the combination, with an ordinary annunciator system, of signaling push buttons or keys having normally-electrically-closed back contacts for extra return-circuits, signal-bells or their equivalents in said extra return-circuits, and means at a common point for connecting the wires of the annunciator system to a battery or generator of electricity automatically in case of fire, said means consisting of suitable circuit-closing devices restrained from action by a detent which is withdrawn by means of an electro-magnet in an automatic fire-alarm circuit, or circuit controlled in the ordinary way by automatic thermostatic circuit-closers.

My invention consists also of certain details of construction of the apparatus for connecting the annunciator-wires to the alarm-battery, whereby either one or all of the annunciator-wires may be connected to said battery.

In the accompanying drawings, Figure 1 is a diagram of circuits and apparatus illustrating my invention. Fig. 2 is a top view of the circuit-closing apparatus at the central office, whereby a signal may be given in all of the rooms simultaneously, or in one only of them. Fig. 3 is a vertical cross-section of said circuit-closing apparatus.

Referring to Fig. 1, A represents the face of an ordinary hotel-annunciator, and *a a a*, &c., the wires leading to the various rooms, and connected in the rooms to a push button or key, by which the leading-wire *a* may be connected (when a call is to be given from the room) with a return wire or wires, *b*, connecting with the main battery M B. These circuits are the ordinary annunciator-circuits, and need not be further described.

At B is indicated the push-button or signaling-key for a room, which key I have here illustrated as an ordinary strap or spring key connected with the leading-wire and arranged to make connection with the return-wire *b* when it is depressed by coming into contact with a suitable stop. The normal or back contact-stop for said key is connected to an extra return-wire, *d*, and the same arrangement or connection is provided for every room.

In the return-wire connection and in every room is an alarm apparatus or bell of any suitable construction for operation by an electric current. I generally prefer to employ the well-known automatic electro-magnetic vibrator-bell worked by an electro-magnet in which the bell-hammer is kept in vibration by the armature, which latter breaks the circuit of its operating-magnet when it is attracted. I do not, however, limit myself in any way as to the construction or method of operation of the alarm apparatus. It is only necessary that it should be of suitable construction to be operated or set into operation by the passage of an electric current sent over the leading-wire *a* for the annunciator when the signal-key or push-button at B is at rest.

The construction of the signal-key or push-

button may be varied. I have here shown an ordinary strap-key; but the ordinary push-button may be adapted to the purpose, and I have in practice so adapted it.

5 Each of the leading-wires *a a*, &c., of the annunciator system is connected by an independent wire, *f*, with the signaling apparatus indicated at H for giving an alarm in one or all of the rooms on apparatus E. The independent connections *f* are normally open; but
10 by means of the apparatus H either one or all simultaneously may be connected with an alarm battery or generator, M B², to the opposite pole of which the extra return wire or
15 wires *d* are connected.

A preferred construction of apparatus H is as follows: K is a metallic plate secured to a spindle, L, which latter is by preference provided with a handle, by which it may be turned,
20 and is mounted in a suitable support, M. The spindle L is provided with a screw-thread of quick-pitch engaging with an internal screw-thread in M, so that when the plate K and spindle are turned the plate is drawn down
25 into simultaneous connection with a series of contacts, *g*, suitably mounted in the insulating-plate M and forming the terminals of connections *f*. Plate K is suitably connected with battery M B², so that, as will be readily seen,
30 the effect of drawing the plate down into contact is to connect all the leading-wires *a a a* with battery M B², the current from which latter circulates over said wires through all of the alarm apparatus at E, causing them to
35 sound, and back through the extra return wire or wires *d*.

In order to provide for giving a signal in any one room without affecting the others, I provide a series of spring circuit-closers, (indicated at *r*,) one for each wire or connection *f*.
40 These circuit-closers are mounted on plate K, and by preference consist each of a blade-spring secured directly at one end to the plate, and provided at its other end with a suitable
45 contact, which may be forced into contact with a contact, *g*, through an opening in the plate K by depressing the fore end of the spring. The contacts of circuit-closers *r* are normally
50 above the lower or contact surface of K, so as not to interfere with the operation of the latter when all of the circuits are to be closed at once, as in case of fire. They might, however, project below, in which case they would all together come into contact with contacts *g g*
55 when the plate is turned, but in such case they would obviously have to be spaced with great accuracy. The circuit-closers *r* are numbered to correspond with the rooms, and when the plate K is at rest or in its normal position each is immediately over its appropriate
60 contact *g*. When any guest is to be called, the proper circuit-closer *r* is operated, thus causing the alarm E in his room only to operate. A return-signal may be given by operating the
65 push-button at B to cause the annunciator to indicate the number.

In case it is desired to operate circuit-closer

K automatically upon the occurrence of fire in any portion of the structure to be guarded, a suitable motive power is applied to K—as,
70 for instance, a spring, *s*, attached at one end to the plate or spindle, and at the other to a fixed support—and the action of said motive power is restrained until the proper time by
75 a detent of any suitable kind, which is released through the agency of an automatic fire-alarm circuit. Such a detent is indicated at *y*, and consists of an armature-lever, which engages with a catch on the edge of the plate
80 K, and is disengaged from the same so as to allow it to be turned by the spring, and to close all the connections *f* by the action of an electro-magnet connected in any ordinary or
suitable manner with an automatic fire-alarm circuit, operated or controlled in the usual
85 way by automatic circuit closers or breakers, which act upon an increase of temperature in any portion of the structure to be guarded. In case it be desired to close all the circuits independently of the operation of the magnet
90 by the occurrence of fire, it is only necessary to move the armature-lever of said magnet by hand, so as to release the plate K.

I do not limit myself to any particular construction of device for closing the connections
95 *f* simultaneously, and many variations will readily suggest themselves to those skilled in the art.

What I claim as my invention is—

1. In a combined annunciator and alarm
100 system, annunciator push-buttons having two contacts, one normally open, the other normally closed, a return-circuit to the annunciator from the normally-open contact, an extra
105 return-wire for each leading-wire of the annunciator system connected with the normally-closed contact of the push-button or circuit-controller in each room, and containing an alarm apparatus, in combination with means
110 for completing a circuit through a generator between any one or all of the leading-wires of the annunciator system and the extra return-wires, as and for the purpose described.

2. The combination, substantially as described, with each leading-wire in an annunciator system, and its push-button or circuit-controller having a normally-open contact and
115 return-wire therefrom, of a separate extra return-wire whose circuit is formed through a normally-closed contact of the push button or
120 key for the annunciator system, an alarm in each extra return-wire, a normally-open separate connection from each leading-wire at or near the annunciator, and means for completing a circuit between each such separate con-
125 nection and a corresponding extra return-wire, all as set forth, so that by the addition of extra and independent return-wires and normally-closed contacts to the push-buttons of the
several leading-wires of the annunciator sys-
130 tem a duplication of leading-wires may be avoided and each apparatus may be worked without interfering with the other.

3. The combination, with an annunciator

system comprising the usual separate leading-wires and normally-open push-buttons for the several rooms, of extra normally-closed contacts for the push-buttons, extra return-wires, 5 one for each annunciator leading-wire, an alarm in each extra return-wire, and a series of contacts, *g*, insulated from one another, and connected with the annunciator leading-wires, whereby a complete metallic circuit may be 10 formed through each alarm simultaneously with the others, each such circuit thus formed being entirely independent of the others and of the ordinary return-wires of the annunciator system.

15 4. The combination, with the series of contacts *g g*, connected with the leading-wires *a*, &c., of contact-plate K, mounted on a screw-spindle, as and for the purpose described.

20 5. The combination, with the annunciator leading-wires *a a* and alarm, each having an extra return-connection, of means for automatically connecting said leading-wires with an alarm-battery upon the occurrence of fire.

25 6. The combination, with the annunciator leading-wires normally connected to alarm apparatus in the several rooms, of a circuit-closer for connecting said leading-wires with

a generator, a detent for restraining the action of said circuit-closer, and an electro-magnet connected to an automatic fire-alarm circuit 30 for controlling the detent, and the consequent action of the circuit-closer.

7. The combination of plate K, mounted on screw-spindle L, circuit-closers *r*, and contacts *g*, as and for the purpose set forth. 35

8. The combination, with plate K, spindle L, provided with a screw-thread, circuit-closers mounted on the plate and over openings in the same, and a series of contacts beneath the plate and corresponding to the circuit- 40 closers.

9. A multiple and individual circuit-controller consisting of two plates carrying a series of independent electrical contacts, and mounted upon a screw-spindle adapted to force 45 said contacts together.

Signed at New York, in the county of New York and State of New York, this 30th day of January, A. D. 1883.

FRANK E. KINSMAN.

Witnesses:

THOS. TOOMEY,
GEO. C. COFFIN.