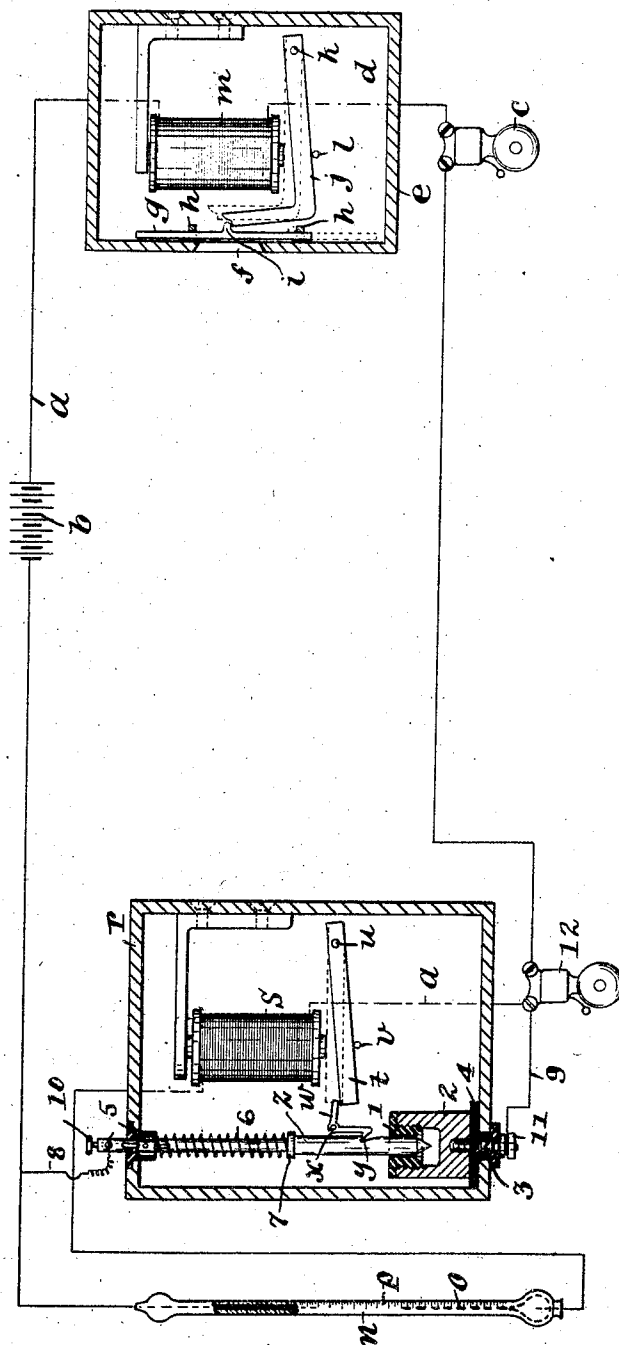


No. 869,014.

PATENTED OCT. 22, 1907.

J. A. OBESTER.
ELECTRIC FIRE ALARM.
APPLICATION FILED APR. 25, 1907.



WITNESSES

Wm. D. Zell.
Eliu Kaufmann.

INVENTOR,
John A. Obester,
BY
Garth Steward,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN A. OBESTER, OF PASSAIC, NEW JERSEY.

ELECTRIC FIRE-ALARM.

No. 869,014.

Specification of Letters Patent.

Patented Oct. 22, 1907.

Application filed April 25, 1907. Serial No. 370,181.

To all whom it may concern:

Be it known that I, JOHN A. OBESTER, a citizen of the United States, residing in Passaic, Passaic county, New Jersey, have invented certain new and useful Improvements in Electric Fire-Alarms: and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to apparatus for detecting the location of fire in buildings, and it has for its object to provide an apparatus of this nature which shall be simple in construction, positive and certain in operation, and proof against being interfered with by dirt, dust, etc., which might, in some cases, as in mills, factories, etc., prevent the perfect establishment of the electrical connections upon the apparatus being set in operation by the outbreak of fire.

My invention will be found fully illustrated in the accompanying drawing where it appears in semi-diagrammatic form.

In the drawing, *a* is the main line or circuit and *b* its generator.

C is a bell alarm included in the circuit and *d* may be another alarm of the annunciator type, the same comprising a case *e* having the orifice *f*, a drop *g* moving in guides *h* and adapted to present an index at the orifice *f* when it falls and rests with its lug *i* on the lower guide *h*, *j* a lever fulcrumed at *k* and normally resting on a stop *l*, in which position it is engaged by the lug *i* of the drop *g* and so sustains the same, and *m* an electro-magnet which has the lever *j* for its armature and is included in the circuit *a*. When the circuit *a* is closed, alarm *c* is sounded and the magnet *m* attracts lever *l* to permit the drop *g* to fall, as will be manifest. The alarm or alarms are located in some portion of the building, where some one is constantly present.

In some suitable part of the building is placed the thermo-actuating device shown at the extreme left of the drawing. This, in the adaptation shown, is a sealed glass tube *n* containing mercury or other thermo-expansive liquid *o* and having a gage *p*, so that it is in all essentials an ordinary thermometer. Into the bulb *q* at the lower end of the tube *n* extends one end of the wire *r*, and into upper end of said tube the other end of said wire; the upper end of the wire extends down into the tube to a point of the gage, say 130°, which would be abnormally high for the apartment in which the device is located. When the temperature in that apartment reaches that degree, as by the outbreak of fire, the consequent expansion of the liquid in the tube until it raises high enough to contact with the end of the wire

extending into the upper end of the tube, cause the circuit to be closed and set off the alarms.

In the main circuit *a* is placed in a suitable case *r* an electro-magnet *s* which becomes energized as soon as the circuit is closed. This magnet has the armature *t* which is fulcrumed at *u* and normally rests on a stop *v*. In this position the armature has its free end overlapped by the end of the pawl *w* pivoted at *x* and engaging in a notch *y* in the side of a plunger *z*, holding the plunger elevated. Said plunger is guided by an insulating bushing *1* in a metallic thimble *2* which is secured to a wall of the case *r* by the screw *3*, being insulated from said wall by the insulation *4*. At its upper end the plunger is guided in the insulating bushing *5*, said plunger being pressed towards the thimble *2* by a spiral spring *6* coiled about the plunger between bushing *5* and a shoulder *7* on the plunger.

The wires of the branch are indicated at *8* and *9*, the former extending from the main line *a* to the upper end of the plunger, where it is secured by a thumb screw *10*, and the latter to the screw *3* to which it is secured by a nut *11*. Thus assuming that the main circuit has been automatically closed in the manner above indicated, the magnet *s* is immediately energized and said magnet actuates its armature and this in turn moves pawl *w* so that the latter releases the plunger, which thereupon falls and contacts with thimble *2*, and thereby enables the current to pass through the branch.

The importance of the parts *r* to *11*, inclusive, will be apparent when it is stated that thereby, as soon as a fire breaks out and sets off the alarms, a circuit which does not depend on elements in the vicinity of the fire and likely to be destroyed by it is established.

At *12* is shown an alarm near the thermo-actuating device and within the main circuit *a*; this may be used in conjunction with the annunciator, or alone, to enable the fire to be more definitely located.

I do not wish to be limited to any of the details of construction herein set forth, what I claim being:

The combination, with the main circuit having a normal break therein and an alarm located in said main circuit, of a thermo-actuating circuit-closer adapted to bridge said break, a branch also having a break therein comprising a metallic thimble, a circuit-closer adapted to bridge the break in the branch and comprising a rectilinearly movable plunger normally movable toward and into said thimble in contact therewith, a pawl normally restraining said plunger from closing the break in the branch, an electro-magnet located in the main circuit, and an armature for said magnet engageable with said pawl, substantially as described.

In testimony, that I claim the foregoing, I have hereunto set my hand this 24th day of April 1907.

JOHN A. OBESTER.

Witnesses:

JOHN W. STEWARD,
WM. D. BELL.