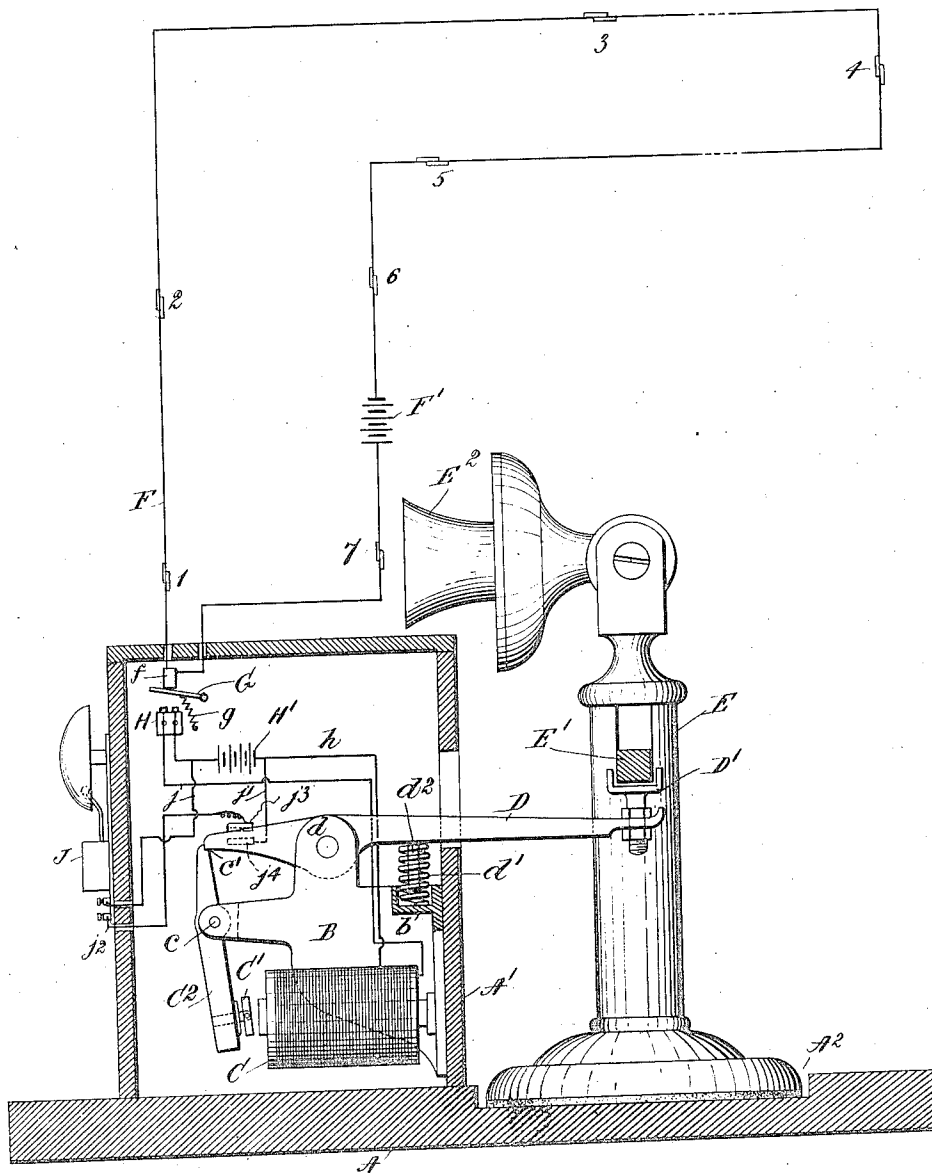


APPLICATION FILED JUNE 13, 1914.

1,206,531.

Patented Nov. 28, 1916.



WITNESSES=
M. E. Flaherty.
J. E. O'Brien

INVENTOR:
Daniel P. Gosline
By *John H. [unclear]*
his attorneys.

UNITED STATES PATENT OFFICE.

DANIEL P. GOSLINE, OF BOSTON, MASSACHUSETTS.

AUTOMATIC FIRE-ALARM.

1,206,531.

Specification of Letters Patent.

Patented Nov. 28, 1916.

Application filed June 13, 1914. Serial No. 844,867.

To all whom it may concern:

Be it known that I, DANIEL P. GOSLINE, a subject of George V, King of Great Britain and Ireland, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Automatic Fire-Alarms, of which the following is a specification.

The purpose of my invention is primarily to transmit automatically the news of fire to a central station; for example, to a telephone exchange or other similar point, and it comprises an alarm of some kind which is automatically energized by the breaking of an electric circuit containing one or more fusible links and at the same time the automatic throwing into circuit of a telephone whereby the sound of the alarm will be transmitted to the central station with which the telephone is connected.

My invention will be understood by means of the drawings in which it is shown partly in diagram with the inclosing box in section in its preferred form.

A is a table or shelf on which is mounted a box or suitable casing A^1 . Within this casing is mounted a bracket B which carries an electro-magnet C, the armature C^1 of which is mounted on a trip lever C^2 pivoted at c to the bracket B. Upon the top of the bracket at d is mounted a horizontal lever D, the long arm of which projects through a slot in the side of the box and carries at its outer end a rest D^1 which is adjustably supported on the end of the arm D so that its height may be regulated as required.

E is the ordinary telephone stand, and E^1 (shown in cross section only) is the usual lever carrying the fork or hook upon which the receiver is ordinarily hung when the telephone is not in use.

As is well known, in the construction of the telephone when the receiver is taken off from the hook the arm E^1 rises automatically and this throws the telephone transmitter (the mouthpiece of which is indicated at E^2) into circuit, so that the telephone is then in commission for use.

d^1 is a spring, the lower end of which rests upon a shelf b forming part of the bracket B, its upper end resting upon the under side of the long arm of the lever D. A pin d^2 projecting down from the under side of the long arm of the lever D, centers the spring. The strength of this spring is sufficient to lift the long arm D of the lever and with it

the lever E^1 and the receiver hung thereon. This, however, can only be done when the short arm of the lever D is allowed to drop. The trip lever C^2 has a notch c^1 in its upper end which serves as a rest and stop for the short arm of the lever D, and as shown in the drawing the short arm of the lever D rests in this rest or stop c^1 so that the spring d^1 cannot lift the long arm of the lever. This construction is such that if the electro-magnet C is energized it will attract the armature C^1 and the lower end of the trip lever C^2 and withdraw the rest c^1 from under the short arm of the lever D, thus allowing the spring d^1 to become effective and cause the lifting of the telephone lever E^1 , thus bringing the telephone into circuit.

The energizing of the electro-magnet C is caused automatically in the following manner: The building is wired in a single circuit F. A station, so to speak, comprising a fusible link or links is located in each room. The various stations are indicated by the numerals 1, 2, 3, 4, 5, 6 and 7. In this house circuit is a battery F^1 and also an electro-magnet f . This circuit is closed until one of the links is fused, and while this circuit is closed the electro-magnet f is always energized, and it attracts to it a pivoted arm G carrying an armature and attracted against the force of the spring g . This arm G as shown is a circuit closer to close a circuit through two terminals indicated diagrammatically at H, which circuit closer is in the same circuit h with the electro-magnet C, H¹ being the battery. When therefore the circuit F is broken by the fusing of one of the links owing to, for example, fire in one of the stations or rooms, the armature on the arm G is released and the spring g brings the arm G into a position to close the circuit at H through the battery H^1 and the electro-magnet C and causing the attraction of the trip lever C^2 which releases the lever D and allows the spring d^1 to throw the long arm of lever D up so that it lifts the lever E^1 and throws the telephone into circuit. At the same time, however, the alarm is sounded. This alarm as shown comprises an electric bell or buzzer J of ordinary construction. Branch wires j , j^1 lead from the wire h on either side of the battery H, the wire j leading directly to the bell J which is connected by the wire j^2 with a terminal j^3 mounted on the short arm of the lever D. Underneath it is the terminal j^4 supported inde-

pendently, which is connected with the circuit k by the wire j^1 . Thus the releasing of the lever D not only throws the lever into circuit but also throws the electric bell J into circuit.

In use the mouthpiece of the telephone E^2 is preferably turned in the direction of the alarm bell J so that when the telephone is thrown into circuit, the alarm bell being simultaneously energized, the operator at the central station being called and listening, hears the violent ringing of the bell and thus realizes that there is a fire, and, knowing the location of the telephone station, can immediately send in an alarm to the fire department, the apparatus thus doing automatically what the occupant of the house would otherwise be obliged to do. This of course only happens when the circuit F is broken by the melting of one of the links 1, 2, 3, etc. Of course it is understood that there are other modes of sounding an alarm than by means of the ordinary bell J. A graphophone, for instance, can be substituted therefor, its mechanism to be energized or started at the proper time by the closing of the circuit j , j^1 , j^2 ; and such graphophone could if desired repeat the number of the house together with the word "fire", or give such other alarm as seems best. The details for such apparatus are no part of my present invention and hence are not described and are only referred to, to suggest that other alarm apparatus may be substituted for the bell J. One advantage of this apparatus is that it requires no attachment to the telephone and hence does not require any special permission from any telephone company to be used therewith. The table A may be located in the neighborhood of the ordinary telephone stand or may be located thereon, and at night or when the building is to be vacant the telephone can be set into the recess A^2 provided for the purpose, with its lever E^1 simply resting upon the rest D^1 and its mouthpiece turned toward the alarm as shown in the drawings. When the electro-magnet C is energized the arm E^1 is immediately lifted and the alarm bell J is also energized by the connection between the plates j^3 , j^4 , and the message transmitted automatically to the exchange.

Other arrangements of circuits will no doubt occur to those skilled in the art, but so far as I know my device is the first in which a closed electro-circuit comprising fusible metal stations is so arranged in connection with other circuits that upon its being broken through the breaking of one of the links another circuit shall be energized which will throw a telephone circuit into

commission and sound an alarm which may be transmitted through the telephone. Being operated on a closed circuit, the alarm will sound whenever that circuit is broken or the battery F^1 becomes ineffective.

What I claim as my invention is:—

1. In combination with a telephone having a hook lever adapted when lifted to render the telephone operable, means for lifting said hook lever comprising a lifting lever one arm of which engages said hook lever, means operating said lifting lever to lift the hook lever, a trip lever adapted to restrain said lifting lever, a normally open electric circuit adapted when closed to operate said trip lever and having a circuit closer, and means for closing said open circuit comprising a closed circuit having fusible links and an electro-magnet adapted to attract said circuit closer and hold it out of circuit-closing position.

2. In combination with a telephone having a hook lever adapted when lifted to render the telephone operable, means for lifting said hook lever comprising a lifting lever one arm of which engages said hook lever, means operating said lifting lever to lift the hook lever, a trip lever adapted to restrain said lifting lever, a normally open electric circuit adapted when closed to operate said trip lever and having a circuit closer, and means for closing said open circuit comprising a closed circuit having fusible links and an electro-magnet adapted to attract said circuit closer and hold it out of circuit-closing position, said open circuit containing an alarm operable when said open circuit is closed.

3. In combination with a normally closed circuit comprising fusible links and an electro-magnet, a normally open circuit, a circuit closer in said open circuit located to be normally attracted by said electro-magnet to keep said circuit normally open, a telephone having a hook lever adapted when lifted to render the telephone operable, means for lifting said hook lever comprising a lifting lever one arm of which engages said hook lever, means for operating said lifting lever to lift said hook lever, and means for restraining said lifting lever comprising a trip lever and an electro-magnet in said open circuit and adapted when said circuit is closed to release said lifting lever, an alarm also located in an open circuit, and a circuit closer adapted to close said alarm circuit upon the operation of said lifting lever.

DANIEL P. GOSLINE.

Witnesses:

GEORGE O. G. COALE,
M. E. FLAHERTY.