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M. R. NEY & S. S. ULLMAN.

BURGLAR ALARM SYSTEM AND APPARATUS THEREFOR.

APPLICATION FILED SEPT. 25, 1907.

Fig. 1.

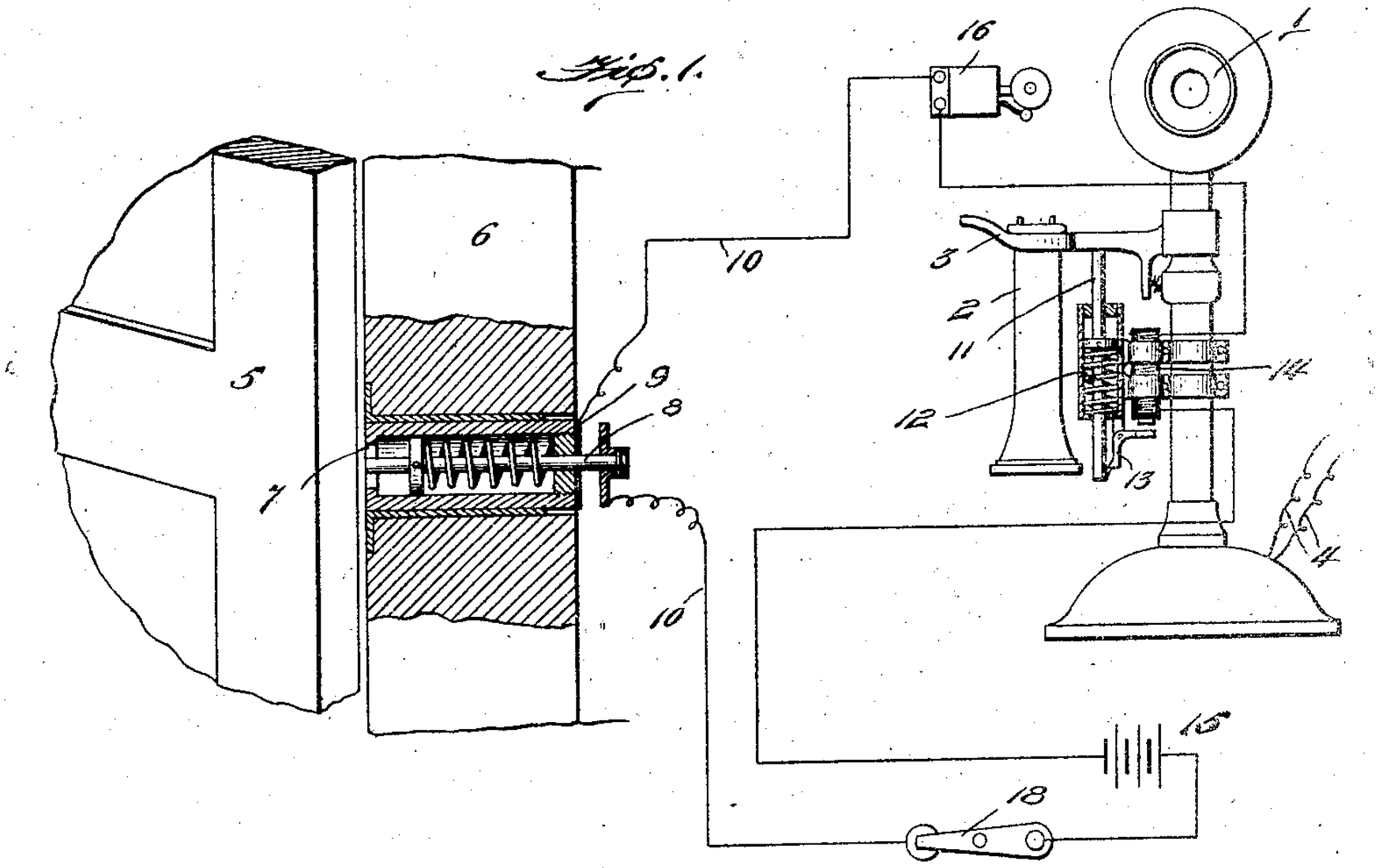
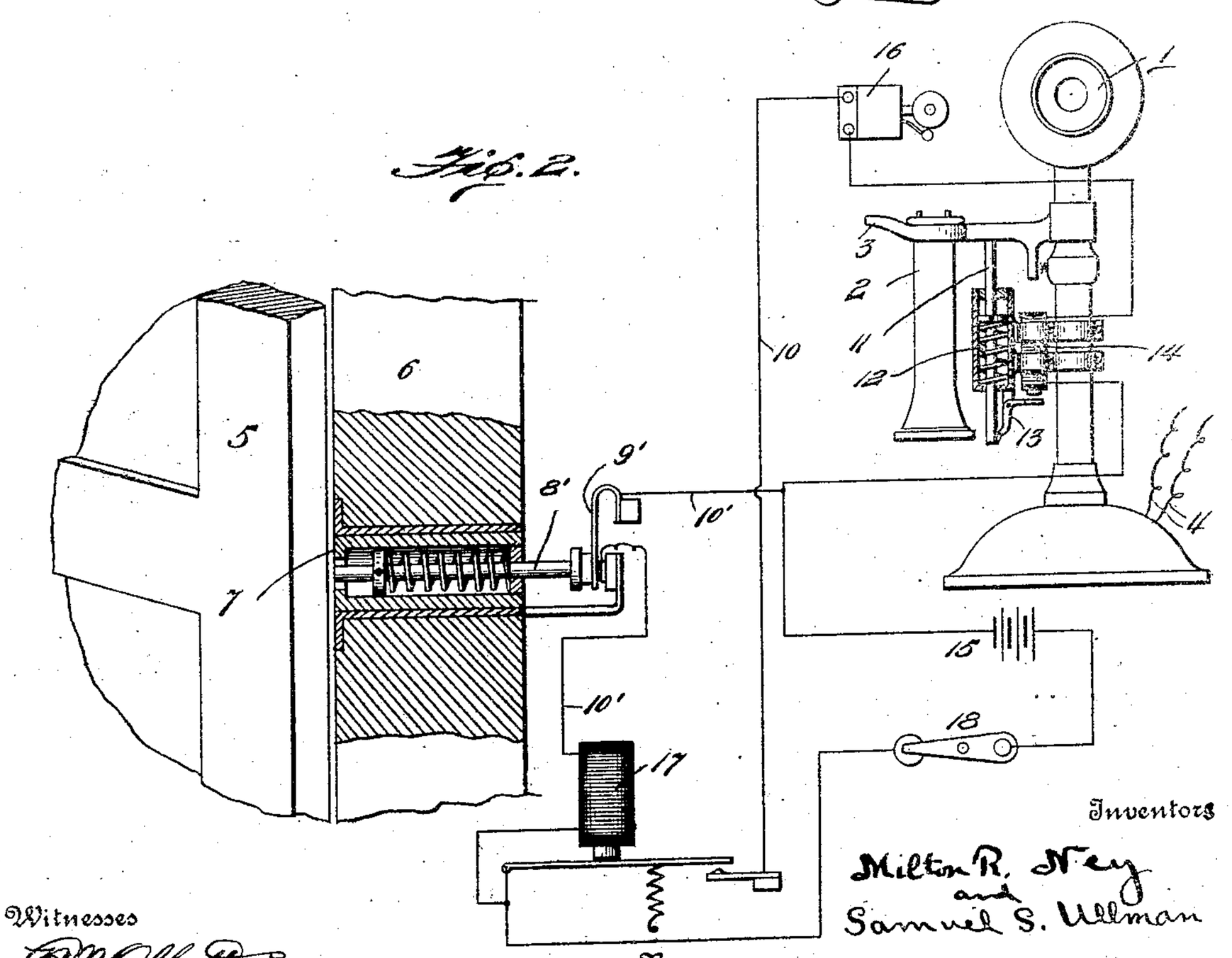


Fig. 2.



Witnesses
W. M. Offutt, Jr.
A. M. Houghton

Inventors
Milton R. Ney
and
Samuel S. Ullman

By
Marble, McElroy & Watty
Attorneys

UNITED STATES PATENT OFFICE.

MILTON R. NEY AND SAMUEL S. ULLMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

BURGLAR-ALARM SYSTEM AND APPARATUS THEREFOR.

No. 880,160. Specification of Letters Patent. Patented Feb. 25, 1908.

Application filed September 25, 1907. Serial No. 394,481.

To all whom it may concern:

Be it known that we, MILTON R. NEY, a citizen of the United States, residing in the city of Washington, in the District of Columbia, and SAMUEL S. ULLMAN, a citizen of the United States, residing in the city of Washington, in the District of Columbia, have invented certain new and useful Improvements in Burglar-Alarm Systems and Apparatus Therefor; and we hereby declare that the following is a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make, practice, and use the same.

This invention relates to burglar alarm systems and apparatus therefor, and comprises means whereby ordinary telephone circuits and apparatus are employed for sending in alarm signals.

The object of the invention is to provide simple, inexpensive and reliable means for sending in burglar alarm signals over telephone circuits.

The invention is illustrated in the accompanying drawings, in which:

Figure 1 shows diagrammatically and in elevation the said apparatus applied to an ordinary telephone set, and controlled by a normally open circuit. Fig. 2 is a similar view showing said apparatus as arranged for control by a normally closed circuit.

The apparatus, as shown in these figures, is arranged to be operated by the opening of a door; but it will be understood that any of the contact devices customarily used in burglar alarms and other similar protective circuits for closing or breaking a circuit may be used, and therefore that the apparatus may be caused to operate upon the raising of a window, or in fact upon the opening of anything which according to existing and well-known burglar alarm systems may be caused to actuate a contact device.

Referring first to Fig. 1, numeral 1 designates a telephone transmitter; 2 a telephone receiver; 3 the hook of the usual receiver-hook switch; 4, 4, wires leading from said telephone transmitter and receiver to a central station (not shown).

5 designates a door, 6 a portion of the door casing therefor, and 7 a contact device set into said door casing and comprising a spring pressed pin 8 adapted to move forward, when the door is opened, into contact with a contact piece 9, and thereby to close an electric circuit of which 10, 10 are conductors. When the door is closed this pin 8 will be held back out of contact with contact piece 9 and so will not close said circuit.

According to the present invention, means are provided whereby, when the burglar alarm is operated, a sound-producing instrument, such as an electric bell, is operated in proximity to the telephone transmitter, and whereby the hook of the receiver-hook switch is raised so as to connect said transmitter with the telephone circuit and cause the attention of the telephone operator to be attracted and to transmit the sound produced by said bell or other instrument to such operator.

For raising the hook, 3, a sliding rod 11 is provided in convenient proximity to said hook, said rod provided with a spring 12 which, when permitted to do so, will raise said rod and with it the receiver hook 3. The rod is normally held down by a detent pin 13 arranged to be retracted by a magnet 14 in circuit 10. When this circuit is completed by contact of pin 8 with contact piece 9, and said magnet 14 is energized by the current from battery 15 in circuit 10, the detent is withdrawn and rod 11 caused to rise and raise the receiver hook 3, so connecting the telephone transmitter with the telephone circuit, in the ordinary manner. At the same time a sound-producing instrument, such as a bell 16, in circuit 10 is caused to operate, the sound of this bell therefore being transmitted by the telephone to the central station operator. It is assumed that the telephone system is the customary central-energy telephone system, so that the raising of the receiver hook drops a shutter or lights a signal-lamp or operates some other calling device under the observation of the central station operator, the same as if the telephone were operated for an ordinary call; and the operator, then plugging into the circuit of that transmitter, will hear the sound of the bell and will know that the burglar-alarm mechanism has been operated and will notify the proper persons.

In some cases it is preferred that burglar alarms shall operate upon a normally closed circuit. In such case the arrangement shown in Fig. 2 may be used, in which a relay 17, controlled by the normally-closed circuit 10′ in which is included a normally-closed contact device comprising pin 8′ and contact piece 9′, controls the circuit 10 of the detent magnet and bell.

In many burglar alarm systems circuits are led through panels which a burglar is apt to cut through or break, or screens or gratings containing electric conductors which will be ruptured, brought into contact with other conductors, or short-circuited, are provided; such circuits when so operated being caused to operate a relay or other electromagnetic device. It will be obvious that any of these usual devices may be employed for operating the detent magnet 14 directly or through the relay 17. Also, it will be obvious that any other contact device in a protective circuit, such for example as a thermostat designed to indicate a fire, may be employed for operating circuit 10, detent magnet 14 and bell 16, either directly or through a relay, and therefore that the invention above described is not restricted to burglar alarms, but is equally applicable for other classes of alarms or signals.

A switch 18 is commonly provided for cutting out the alarm apparatus when its operation is not desired.

What is claimed is:

1. Signaling apparatus such as described, comprising in combination spring-actuated receiver-hook-actuating means arranged to engage and actuate a receiver hook, a detent for said actuating means, a magnet for operating said detent, electrically-controlled sound producing means and a protective circuit arranged to actuate said magnet and sound producing means.

2. Signaling apparatus such as described, comprising in combination spring-actuated receiver-hook-raising means arranged to engage and actuate a receiver hook, a detent for said actuating means, a magnet for operating said detent, electrically-controlled sound-producing means and a protective circuit arranged to actuate said magnet and sound producing means.

3. Signaling apparatus such as described, comprising in combination a telephone transmitter and hook switch, a spring-actuated hook-raising device adapted to engage and raise said hook, a detent for said hook-raising device, a magnet for operating said detent, a protective circuit therefor and means for operating said circuit comprising a contact device, and sound-producing means.

4. Signaling apparatus such as described, comprising in combination a telephone transmitter and hook switch, a spring-actuated hook-raising device adapted to engage and raise said hook, a detent for said hook-raising device, a magnet for operating said detent, and automatic means comprising a protective circuit for operating said magnet, and sound-producing means.

5. Signaling apparatus such as described, comprising in combination a telephone transmitter and hook switch, a spring-actuated hook-raising device adapted to engage and raise said hook, a detent for said hook-raising device, a magnet for operating said detent, an electric bell in transmitting proximity to said transmitter, and means for operating said detent magnet and bell comprising a protective circuit for said magnet and bell.

In testimony whereof, we affix our signatures in the presence of two witnesses.

MILTON R. NEY.
SAMUEL S. ULLMAN.

Witnesses:
SELINA ULLMAN,
J. B. ULLMAN.