A. TORCHIO.

FIRE ALARM APPARATUS.

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1,239,140.

Patented Sept. 4, 1917.

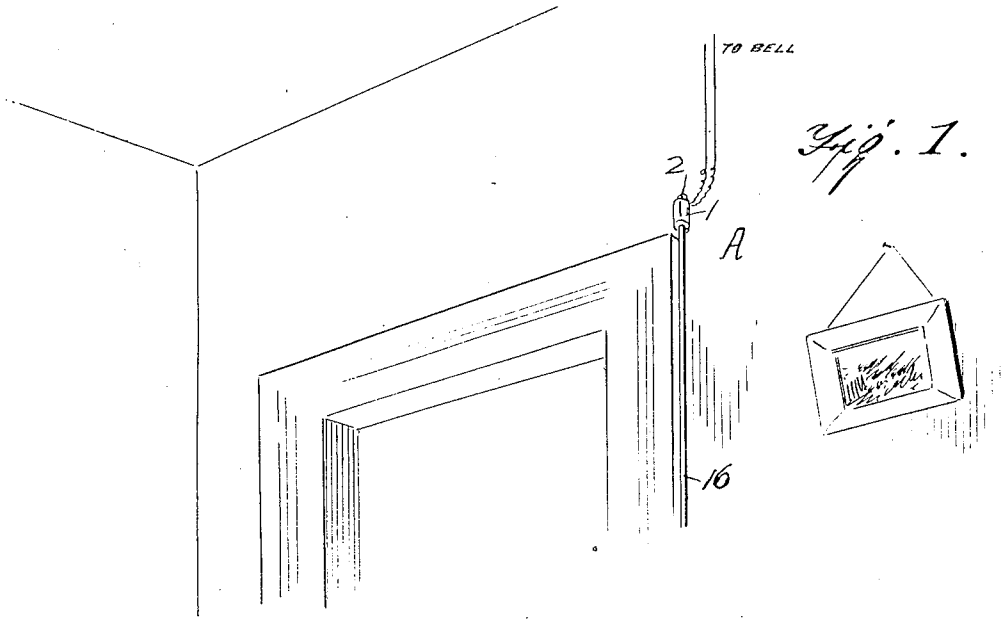


Fig. 1.

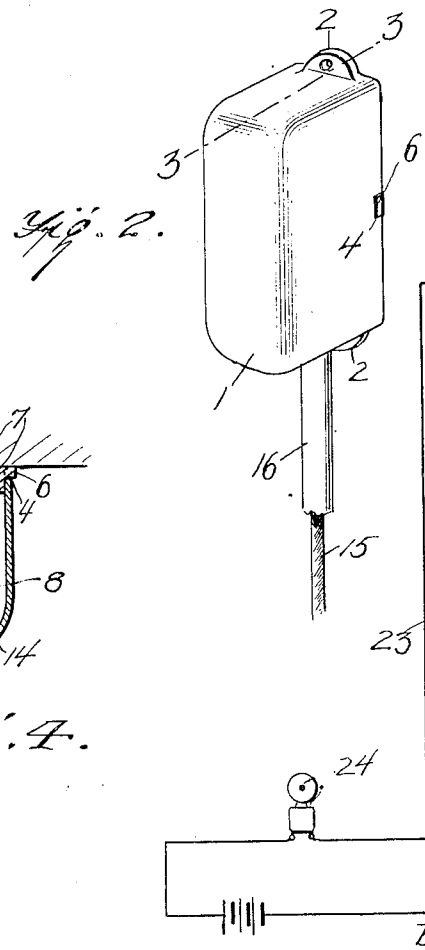


Fig. 2.

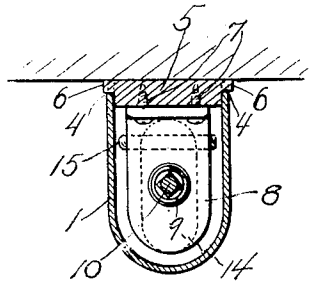


Fig. 4.

Fig. 3.

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FIRE-ALARM APPARATUS.

1,239,140. Specification of Letters Patent. Patented Sept. 4, 1917.

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To all whom it may concern:

Be it known that I, ALBERTO TORCHIO, a subject of the King of Italy, residing at Oyster Bay, in the county of Nassau and State of New York, have invented certain new and useful Improvements in Fire-Alarm Apparatus, of which the following is a specification.

This invention has reference to fire-alarm signals, and the principal object is to provide a mechanism of this character which will be simple in construction, compact in its organization, and thoroughly efficient in operation.

Other objects will appear as the specification proceeds and the nature of the invention more fully appears.

The accompanying drawing illustrates one form of embodiment of my invention capable of carrying out the underlying principles thereof. The different figures of the drawing may be briefly described as follows:

Figure 1 is a perspective view of the interior of a room in a dwelling-house, factory, or the like, with my alarm mechanism on the wall thereof;

Fig. 2 is a perspective view of the casing for the mechanism and of the fuse and its protective casing or tube, the two latter being shown broken away;

Fig. 3 is a vertical sectional view, on the line 3—3, Fig. 2; and

Fig. 4 is a horizontal sectional view, on the line 4—4, Fig. 3.

Referring, now, in detail to the drawing:

The invention includes, preferably, a protective casing or shell 1, conveniently provided with ears 2, 2, perforated, as shown, for the reception of fastening means, such as screws 3, 3, by which the casing may be quickly attached to and detached from the wall A of a building, with negligible injury thereof. The shell may, also, be advantageously provided with notches 4, 4 in the longitudinal marginal edges thereof that seat against the wall A, for a purpose presently appearing.

To prevent injury to the wall A by direct attachment thereto of certain parts of my alarm-mechanism, I have devised a supporting-member, in this instance a plate 5, of a size adapted to fit and to close the open end of the casing 1, and conveniently provided with lugs 6, 6 engaging the openings or notches 4, 4 in said casing, whereby said base-plate 5 is held against displacement, as is obvious. The base-plate 5 is preferably constructed of wood, while the casing 1 may be of metal.

Secured to the base-plate 5, as by screws 7 is a bracket 8 having a boss 9 vertically bored for the reception of a vertically-movable stem 10, preferably rectangular in cross section and the bore of the boss 9 being similarly rectangular in cross section. The stem 10 is provided with an upper extension 11, annular in cross section, and the top of said extension carries a disk 12. A coiled spring 13 encircles the extension 11, and bears, at its upper end, against the under surface of said disk 12 and, at its lower end, against the top of the boss 9, the tendency of the spring being to draw the stem 10 upward in the vertical bore of the boss. The stem 10 carries, at its lower end, a plate 14, between which and the bracket 8 the end of a combustible fuse 15 is interposed, so as normally to maintain the plate out of contact with said bracket. The fuse 15 is, preferably, flexible, and is constructed of some suitable combustible and highly and easily inflammable substance or material. The fuse projects through an opening in the shell or casing 1, as shown, and the other end thereof may be disposed at a suitable point in the room of the house containing the casing 1, and divisions or extensions of such fuse may lead to other rooms in the same house or building. Desirably, the major portion of the fuse is incased in a protective housing, such as a tube 16.

The disk 12 bears against a spring contact-member 17, suitably secured to the base-plate 5, as by screws 18. The contact-member carries an electrical contact 18′. Normally out of engagement with said contact 18′ is the contact 19 carried by a bracket 20 suitably secured to the base-plate 5, as by screws 21. The electrical wiring is designated by 22 and 23, and the terminals thereof are secured to the members 17 and 20 by appropriate binding-posts, which may, as shown, be the screws 18 and 21. In the electrical circuit is an audible signal, such as a bell 24.

In operation, ignition of the fuse 15 by flames caused by a fire in one of the rooms of the building equipped with my fire-alarm apparatus will consume the fuse, so

that the end thereof no longer separates the plate 14 and the bracket 8, whereupon the spring 13 will move the stem 10 upward in the boss 9, and the disk 12 will flex the spring contact-member 17 upward so that its contact 18 impinges the contact 19; the circuit now being closed, the bell 24 will ring, causing an audible alarm.

I am aware that various departures from the physical embodiment of my inventive ideas herein disclosed may be made without departing from the spirit of the invention, and all such modifications as come within the scope of the appended claims are within the purview of the invention.

Having now fully described my invention, what I claim as new and desire to secure by Letters-Patent of the United States is:

1. In fire-alarm apparatus, a normally-open electric circuit including an audible alarm operable upon closing of the circuit, a stationary electrical contact-carrying member, a spring contact-carrying member normally out of engagement with said stationary contact-carrying member, a movable stem engaging said spring contact-carrying member, a bracket in which said stem is guided in its movements, a base-member carrying said bracket, a plate carried at the lower end of said stem and beneath said bracket, a spring for moving said stem and for thereby flexing said spring-contact carrying member into contact with said stationary contact-carrying member, a shell inclosing said contact-carrying members, the bracket, the plate, and the spring and having an open end closed by said base-member, and a combustible fuse, one end of which is interposed between said plate and said bracket, said fuse projecting through said shell.

2. In fire-alarm apparatus, a normally-open electric circuit including an audible alarm operable upon closing of the circuit, a stationary electrical contact-carrying member, a spring contact-carrying member normally out of engagement with said stationary contact-carrying member, a movable stem engaging said spring contact-carrying member, a bracket in which said stem is guided in its movements, a base-member carrying said bracket, a plate carried at the lower end of said stem and for thereby flexing said spring-contact carrying member into contact with said stationary contact-carrying member, a shell inclosing said contact-carrying members, the bracket, the plate, and the spring, and having an open end closed by said base-member, and having notches in its longitudinal marginal edges, and said base-member having lugs engaging said notches, and a combustible fuse, one end of which is interposed between said plate and said bracket, said fuse projecting through said shell.

3. In fire-alarm apparatus, a normally-open electric circuit including an audible alarm operable upon closing of the circuit, a stationary electrical contact-carrying member, a spring contact-carrying member normally out of engagement with said stationary contact-carrying member, a movable stem engaging said spring contact-carrying member, a bracket in which said stem is guided in its movements, a base-member carrying said bracket, a plate carried at the lower end of said stem and beneath said bracket, a spring for moving said stem and for thereby flexing said spring-contact carrying member into contact with said stationary contact-carrying member, a shell inclosing said contact-carrying members, the bracket, the plate, and the spring and having an open end closed by said base-member, a combustible fuse, one end of which is interposed between said plate and said bracket, said fuse projecting through said shell, and a protective tube inclosing said fuse.

In testimony whereof, I affix my signature.

ALBERTO TORCHIO.