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FIRE ALARM

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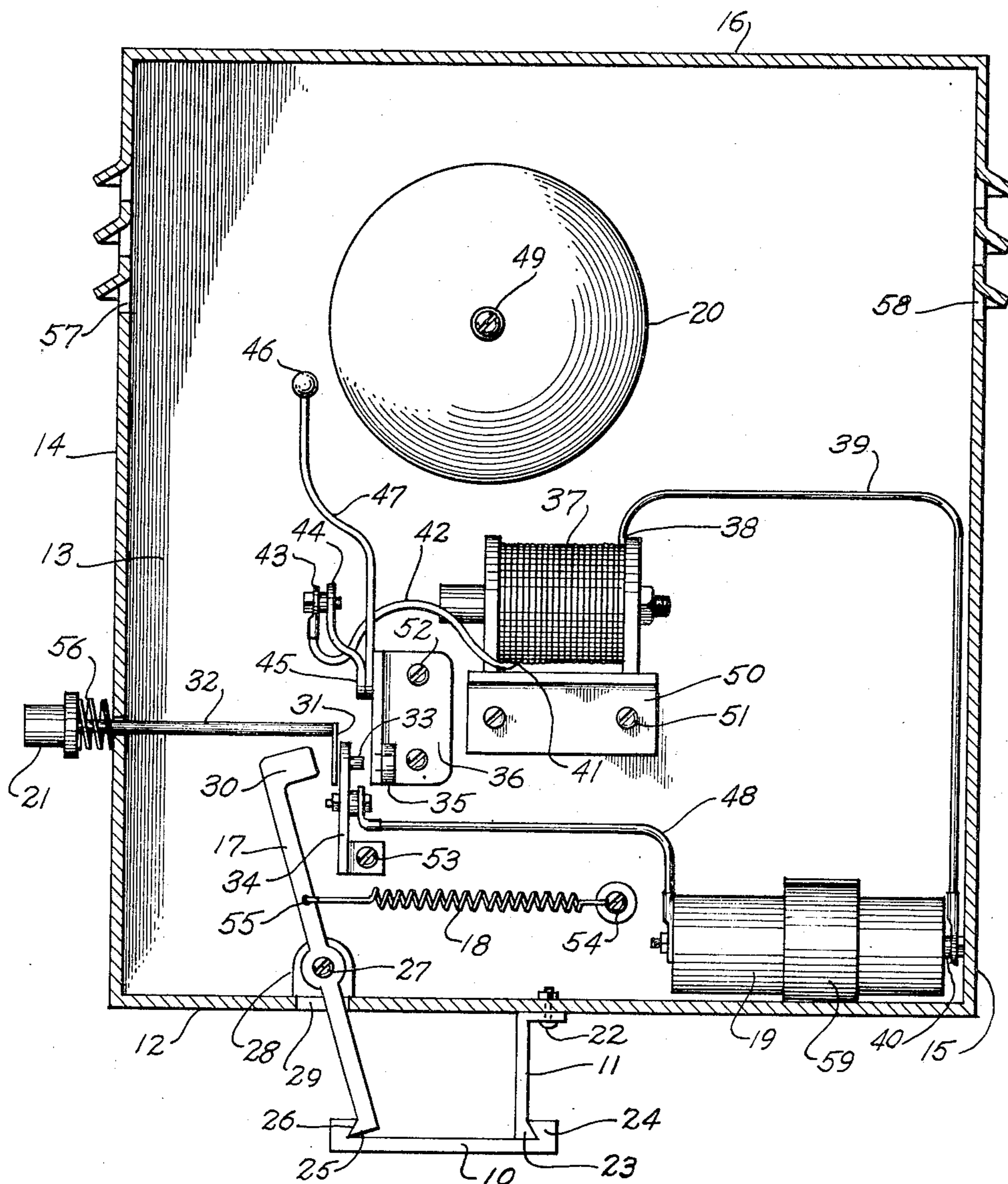


Fig. 1

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ATTORNEYS

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2,710,393

FIRE ALARM

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1 Claim. (Cl. 340—227)

This invention relates to fire alarm units in which the units operate independently, not being connected to power lines or electric circuits, and in particular an independent unit having a sound alarm, such as a bell, operated by a battery and in which a circuit is completed to the bell as a fuse or thermal unit is overheated.

The purpose of this invention is to provide an independent power line unit that is adapted to be installed and used by the average layman without making electric connections to power or other circuits.

In the conventional type of fire alarm adapted for domestic use fusible elements are connected to electric circuits and such devices are not only difficult to install but are also difficult to inspect and test. For this reason individual fire alarm units for domestic use are not used. With this thought in mind this invention contemplates a comparatively small case having a bell and a battery therein with a circuit having a fusible element therein connecting the battery to the bell and with a button whereby the unit may readily be tested without interrupting the circuit.

The object of this invention is, therefore, to provide means for forming a fire alarm unit whereby the unit is actuated by a battery and not connected to a power source.

Another object of the invention is to provide an individual fire alarm unit that is adapted to be tested without resetting the parts.

A further object of the invention is to provide an individual and independent fire alarm unit which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies a bell mounted in a comparatively small case with a battery in the case, a fusible thermal element suspended from the case, with a lever pivotally mounted in the case and actuated by a spring to close contacts in a circuit connecting the battery to the bell and in which the lever is held by the fusible element, and a button mounted on the case and positioned to close said contacts for testing the alarm.

Other features and advantages of the invention will appear from the following description taken in connection with the drawing, wherein the drawing shows a vertical section through the fire alarm unit with the bell, battery, contacts and operating elements shown in elevation.

Referring now to the drawing wherein like reference characters denote corresponding parts the improved individual alarm circuit of this invention includes a thermal unit 10 suspended by a bracket 11 from a base 12 of a case having back and front walls 13, end walls 14 and 15 and a top 16, a lever 17 pivotally mounted on the base 12 and held by the thermal unit 10, a spring 18 for actuating the lever, a battery 19, a bell 20 and a button 21.

As illustrated in the drawing the bracket 11 which is secured to the base 12 with a bolt 22 is provided with a toe 23 that extends into a recess 24 at one end of the

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unit 10 and a toe 25 on the lower end of the lever 17 extends into a similar recess 26 at the opposite end of the unit 10.

The lever 17 is pivotally mounted by a pin 27 between ears 28 extended from the base 12, the lever passing through a slot 29 in the base and extended upwardly in the case whereby a projection 30 on the upper end thereof is positioned to engage an arm 31 carried by the end of a pin 32, which extends from the button 21 whereby upon release of the lever the upper end thereof is actuated by the spring 18 to move a contact 33 of an arm 34 into engagement with a contact 35 on a clip 36 whereby a circuit is completed from the battery 19 to the solenoid 37 of the bell 20.

One terminal 38 of the solenoid is connected by a wire 39 to a terminal 40 of the battery 19 and the opposite terminal 41 of the solenoid is connected by a wire 42 to a spring contact 43 that is positioned to engage a spring contact 44 that is mounted on the clip 36, as shown at the point 45. The bell clapper 46 is carried by a spring arm 47 which extends from the spring 44 and with the contacts 33 and 35 together a circuit is completed to the solenoid 37 until the circuit is broken as a result of the solenoid drawing the spring contact 44 away from the contact 43. The battery 19 is connected to the contact arm 34 with a wire 48.

The bell 20 is mounted directly on the back 13 of the case with a screw 49 and the solenoid 37 is also mounted on the back with a bracket 50 which is secured to the back with screws 51. The clip 36 is secured to the back with screws 52 and the contact arms 34, which is also mounted on the back 13, is held by a screw 53. One end of the spring 18 is mounted on the back 13 with a screw 54 and the opposite end is held in an opening 55 in the lever 17.

The button 21 is carried by the outer end of the stem 32 and the button is resiliently urged in the outwardly extended position by a spring 56 positioned between the button and end wall 14 of the case.

The end walls 14 and 15 of the case are provided with louvers 57 and 58 to provide passage for sound waves from the bell.

With the parts arranged in this manner individual units may be positioned at different points in a residence or other building and upon fusing of the element 10 by extensive heat such as a fire, the spring 18 urges the projection 30 against the contacts whereby the contact 33 engages the contact 35 and a circuit is completed through the coils of the bell.

When it is desired to test the device it is only necessary to press the button 21 inwardly to urge the contact 33 against the contact 35 and in this manner a test may be made without disturbing the lever 17 or the thermal unit 10.

It will be understood that a battery of any suitable type may be used and, as illustrated in the drawing a battery 19 is held in position by spring clips 59.

It will be understood that modifications, within the scope of the appended claim, may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

In an independent alarm device, the combination which comprises a case, a bell mounted in the case, a bell clapper mounted in the case and positioned to engage the bell, a solenoid in the case and positioned to actuate the bell clapper, said solenoid having terminals and one of the terminals of the solenoid having circuit making and breaking elements in connection therewith, a battery in the case, one terminal of which is connected to the terminal of the solenoid opposite to the terminal to which the

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make and break elements are connected, a stationary contact mounted in the case and upon which said bell clapper with one of said make and break contacts is positioned, a spring contact mounted in the case, connected to one terminal of said battery and positioned to engage said stationary contact to complete a circuit to said solenoid, a button having a stem slidably mounted in the case and positioned whereby said spring contact is adapted to be actuated by the button to engage the stationary contact, a lever pivotally mounted in the case and positioned so that one end is adapted to actuate the spring contact whereby the spring contact engages the stationary contact and the other end of the lever extends outwardly of said casing, a bracket mounted on the casing in alignment with the said other end of the lever, a spring posi-

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tioned to urge said one end of the lever toward said spring contact, and a thermal unit positioned to engage said bracket and said other end of the lever to hold said lever against the action of the spring and whereby the end of the lever positioned to engage the spring contact is spaced from said spring contact.

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