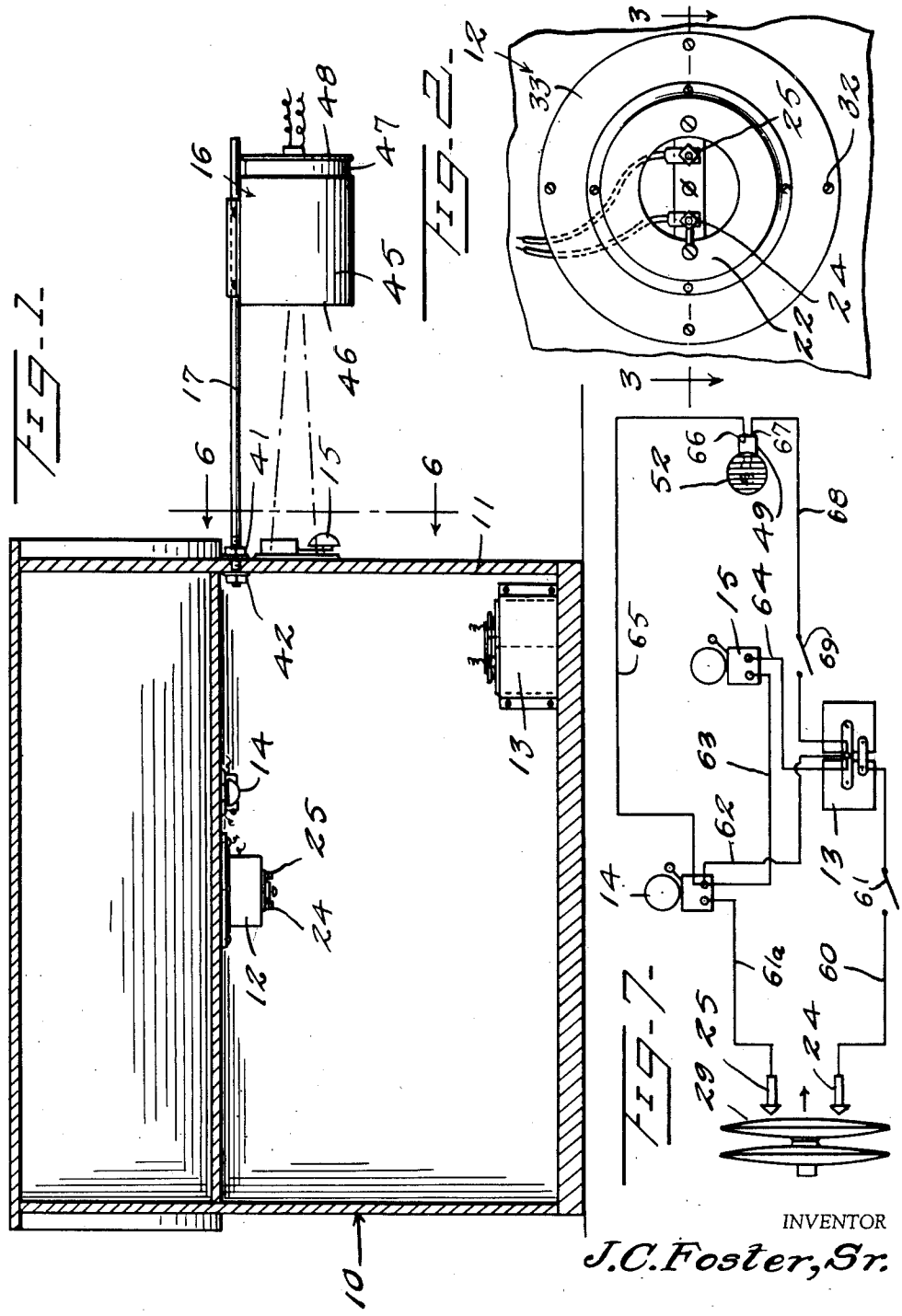
Feb. 10, 1953 J. C. FOSTER, SR 2,628,347

FIRE ALARM

Filed Dec. 11, 1950

2 SHEETS—SHEET 1



Feb. 10, 1953 J. C. FOSTER, SR 2,628,347

FIRE ALARM

Filed Dec. 11, 1950 2 SHEETS—SHEET 2

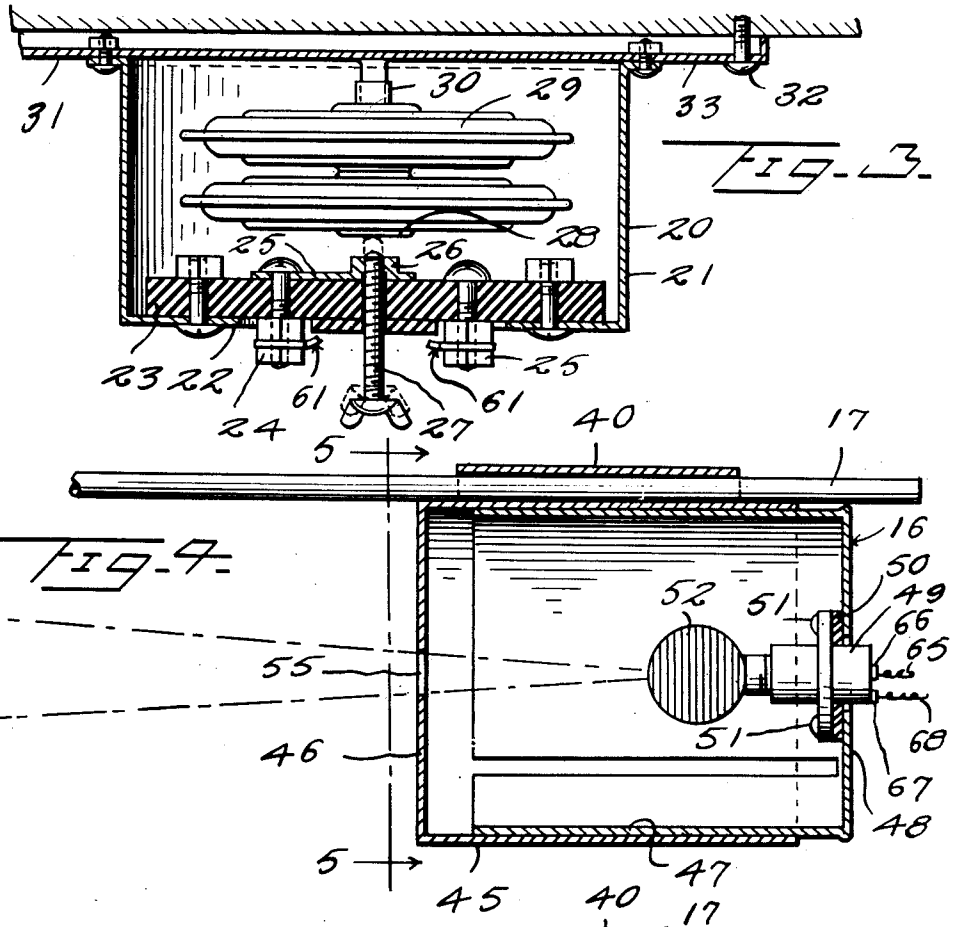


Fig. 3.

Fig. 4.

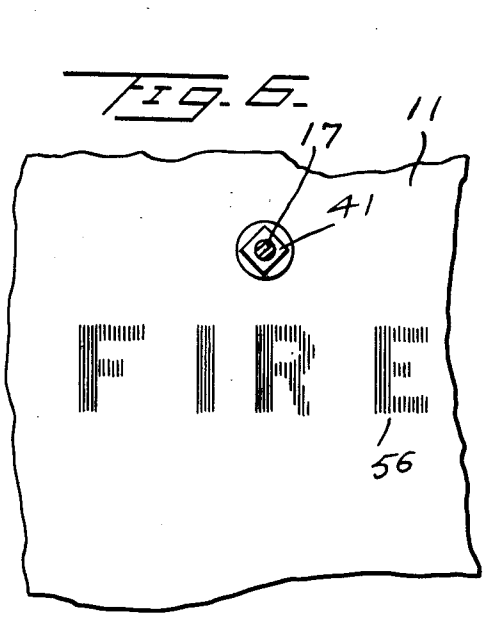


Fig. 6.

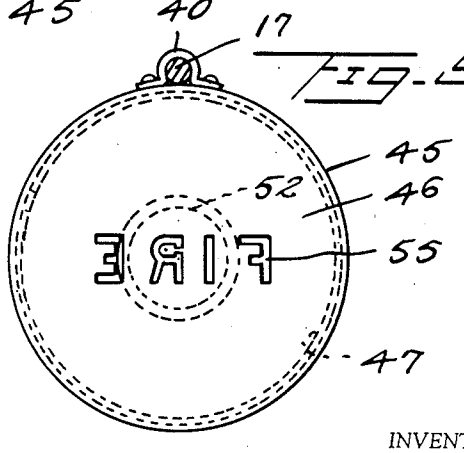


Fig. 5.

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FIRE ALARM

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4 Claims. (Cl. 340—229)

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This invention relates to a fire alarm, particularly a fire alarm for buildings, and has as its primary object the provision of an improved alarm system whereby attention is forcibly directed to the existence of a fire in the early stages of its existence.

A further object of this invention is the provision of such a device providing both visual and audible means for indicating the presence of a fire.

Still another important object of this invention is the provision of an alarm of this character which will produce a large projection of letters exteriorly of the building indicating the presence of a fire therein.

Still other objects of the invention reside in the combination of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter, and shown in the accompanying drawing wherein there is disclosed a schematic representation of one form of this inventive concept.

In the drawings:

Figure 1 shows an elevational assembled view of the alarm apparatus of the instant invention in relation to a building, the latter being shown in cross section schematically, and certain of the elements of the invention being exaggerated in size for the purpose of clarity of illustration.

Figure 2 is a bottom plan view of the thermostatic element associated with the invention.

Figure 3 is an enlarged sectional view taken substantially along the line 3—3 of Figure 2 as viewed in the direction indicated by the arrows.

Figure 4 is a transverse sectional view taken substantially along the center line of the visual indicator.

Figure 5 is a sectional view taken substantially along the line 5—5 of Figure 4 as viewed in the direction indicated by the arrows.

Figure 6 is a fragmentary representation of the projection of the word "Fire" by means of the visual apparatus of Figures 4 and 5, and

Figure 7 is a schematic wiring diagram of the apparatus.

Referring now to the drawings in detail and more particularly to Figure 1, there is diagrammatically illustrated at 10 a building of any desired conventional type provided with a front wall 11. Within the building is positioned a thermostatic element 12 preferably secured to the ceiling in a central location, it being understood that one or more of these may be provided in accordance with the size of the building and the number of rooms therein.

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The thermostat, to be more fully described hereinafter, is adapted when energized by heat to close a circuit through batteries 13 of conventional design to ring a bell 14 also of conventional design positioned interiorly of the building as well as a second alarm bell 15 positioned exteriorly of the building. Simultaneously it is adapted to illuminate a light, the container for which is generally indicated at 16, also to be more fully described hereinafter which is suspended in any desired manner as by a supporting rod exteriorly of the building and at a distance therefrom.

Referring now to the thermostat 12 in detail, it will be seen from a consideration of Figures 1 and 3 that the device includes a casing 20 having side walls 21 and a bottom wall 22, the bottom wall having secured thereto an insulating block 23 and contact terminals 24 and 25 adapted for electrical connection, in a manner to be described hereinafter for connection to a source of power, the bells previously referred to and the light.

The contact terminal 24 is secured by a metallic strip 25 to a contact plate 26 which threadedly receives a set screw member 27 for varying the distance between the uppermost point of contact, as shown in dotted lines of Figure 3, and the bottom contact point 28 of a bellows type thermostat 29 of conventional design secured in any desired manner as at 30 to the top 31 of the casing. Suitable screws 32 or the like may be utilized for securing a flanged top rim 33 of the casing to the ceiling.

It will thus be seen that when the temperature within the building rises to a predetermined point, the bellows thermostat will be caused to expand in a known manner contacting the button 26 or the tip of set screw 27 which is in electrical association with button 26, according to the adjustment of the device.

This will close a circuit actuating the bells 14 and 15, and simultaneously actuating the light 16. As previously described the light 16 is carried on a supporting rod 17 and comprises a sleeve 40 longitudinally slidable along the rod 17 for positioning the casing 16. The rod 17 may be secured in the wall 11 of the building in any desired manner as by threading the end thereof and securing the opposite sides as by means of nuts 41 and 42.

Referring back to the casing 16, it will be seen that the latter is comprised of an outer sleeve 45 having a closed end 46, and an inner tubular sleeve 47 slidable therewithin provided with a closed rear end 48. A light socket 49 of desired conventional type is insulated from rear wall 48 as by means of an insulating block 50, the socket

being secured to rear wall 48 as by means of rivets or bolts 51. The socket is adapted to contain a red bulb 52. The wall 46 which faces inwardly toward the building is provided with cut-out letters as best shown in Figure 5 indicating in reverse the word "Fire" as at 55.

Obviously when the device is illuminated the letters fire in proper relation will be flashed in enlarged form on the wall 11 facing the letters 55, but reversed relative thereto as generally indicated at 56.

Access to the light for replacement thereof may be had by removal of the inner sleeve 47 from the outer sleeve 45, and the size of the letters flashed upon the outer wall may be determined by sliding the sleeve 40 along the rod 17 to vary the relative position of the housing 16 with respect to the building.

Referring now to the schematic wiring diagram shown in Figure 7, it will be seen that closure of the circuit between the contacts 24 and 25 will cause a flow of current from batteries 13 through wire 60, which contains a cut-off switch 61 to contact 24, thence through bellows 29 to contact 25 and a wire 61a to one contact of bell 14. From the other contact of bell 14 a wire 62 leads back to the battery 13, thus obviously closing the circuit to bell 14.

Similarly from the same contact carrying the wire 62 a second wire 63 leads to one contact of bell 15 from the other contact of which a wire 64 returns to the battery 13 thus obviously energizing the second bell simultaneously.

A wire 65 also leads from the bell 14 to one terminal 66 of light socket 49 from the other terminal 67 of which a wire 68 also returns through a cut-off switch 69 to the battery 13.

From the foregoing it will now be readily understood that immediately upon a rise in temperature within the building containing thermostat 12 the bellows will be expanded to close the circuits to both bells and the light in the manner previously described whereupon audible alarms will be sounded both inside and outside the building, and simultaneously the word "Fire" will be flashed in large red letters, due to the coloration of the bulb 52, on the exterior of the side wall selected for the positioning of the alarm.

From the foregoing, it will now be seen that there is herein provided an improved fire alarm which accomplishes all the objects of this invention and others including many advantages of great practical utility.

As many embodiments may be made of this inventive concept and as many modifications may be made in the embodiments hereinbefore shown and set forth, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a fire alarm system for buildings the combination of a source of energy a thermostatic switch, an audible alarm interiorly of the building, a second audible alarm exteriorly of the building, and a visual alarm exteriorly of the building, said visual alarm comprising a closed container positioned in confronting relation to a wall of said building, having the letters "Fire" cut in reverse through the inner end thereof for the projection of the word "Fire" on the adjacent wall, and circuit connections from said source of energy to all of said alarms simultaneously operated by closure of said switch.

2. A visual fire alarm including a source of energy, a thermostatic switch, a closed container positioned in confronting relation to a wall of a building, having the letters "Fire" cut in reverse through the inner end thereof for the projection of the word "Fire" in the adjacent wall, a light source in said container and a circuit from said source of energy to said light source simultaneously operable by closure of said switch.

3. In a fire alarm system for buildings the combination of a source of energy, a thermostatic switch, an audible alarm interiorly of the building, a second audible alarm exteriorly of the building, a visual alarm exteriorly of the building, said visual alarm comprising a closed container positioned in confronting relation to a wall of said building, having the letters "Fire" cut in reverse through the inner end thereof for the projection of the word "Fire" on the adjacent wall, means for varying the distance of said container from said wall, and circuit connections from said source of energy to all of said alarms simultaneously operated by closure of said switch.

4. A visual fire alarm including a source of energy, a thermostatic switch, a closed container positioned in confronting relation to a wall of a building, having the letters "Fire" cut in reverse through the inner end thereof for the projection of the word "Fire" in the adjacent wall, means for varying the distance of said container from said wall, a light source of said container and a circuit from said source of energy to said light source simultaneously operable by closure of said switch.

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