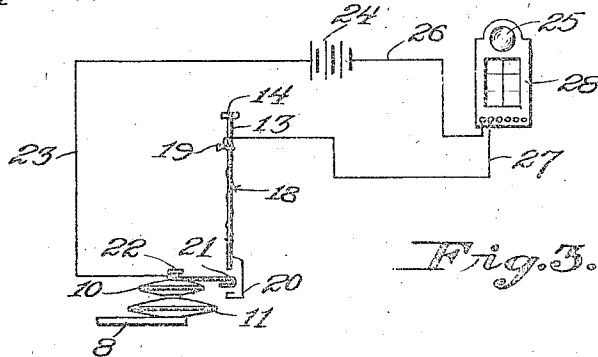
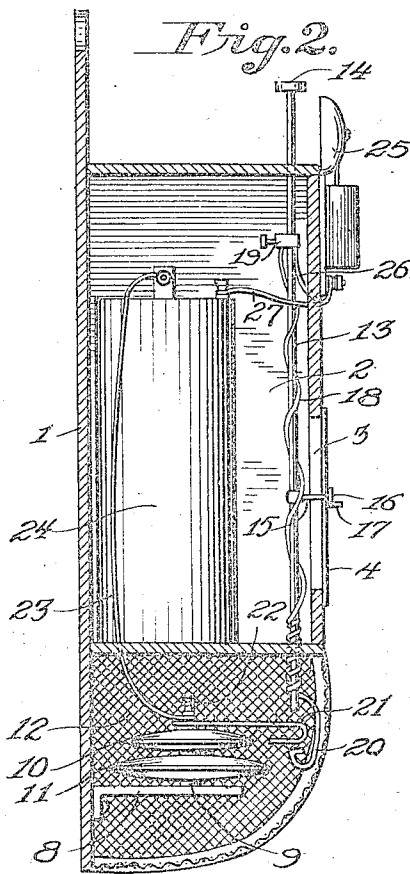
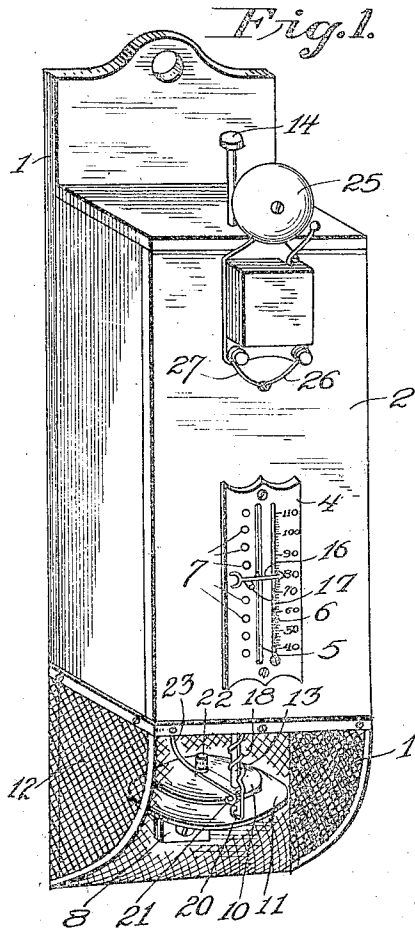


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ELECTRIC FIRE ALARM.
APPLICATION FILED NOV. 15, 1909.

991,053.

Patented May 2, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED C. FARLEY, OF SHINGLEHOUSE, PENNSYLVANIA, ASSIGNOR OF FIVE-SIXTHS TO ED J. DAVIS AND WILLIAM H. SHAW AND ONE-SIXTH TO CHARLES C. VAN DE BOE, ALL OF SHINGLEHOUSE, PENNSYLVANIA.

ELECTRIC FIRE-ALARM.

991,053.

Specification of Letters Patent.

Patented May 2, 1911.

Application filed November 15, 1909. Serial No. 528,083.

To all whom it may concern:

Be it known that I, ALFRED C. FARLEY, a citizen of the United States of America, residing at Shinglehouse, in the county of Potter and State of Pennsylvania, have invented certain new and useful Improvements in Electric Fire-Alarms, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to automatic alarms, and the principal object of the same is to provide a device of the character described which will sound an alarm when the temperature rises above or below a certain degree.

In carrying out the objects of the invention generally stated above, it is contemplated employing a casing through which a rod is slidable, the rod being provided with an indicator which may be "set" at a predetermined temperature indication mark, the rod being in circuit with a bell and a battery, with which a pair of expansible and contractible disks cooperate, the disks being in circuit with said battery and adapted to close the circuit when expanded by causing a contact arm to contact with said rod, and contracted to cause said arm to contact with a contact arm carried by said rod, thereby sounding the alarm when the disks are expanded by abnormal heat and also sounding said alarm when the disks are contracted by the temperature being below the normal.

It will be understood, of course, that in the practical application of the invention, the essential features thereof are necessarily susceptible of changes in details and structural arrangements, one preferred and simple embodiment of which is shown in the accompanying drawings, wherein—

Figure 1 is a perspective view of the improved alarm. Fig. 2 is a vertical sectional view of Fig. 1. Fig. 3 is a diagrammatic view showing the invention used in connection with an annunciator.

Referring to said drawings by numerals, 1 designates a base board which may be suspended from a wall, ceiling, or the like, said base board forming a backing for a casing 2, the front surface of which is flat and has a vertical slot 3 formed in it over which a plate 4 is fastened. Said plate is provided with a slot 5 which alines with the slot 3 of the casing. The plate 4 is also provided with a

thermometer 6 at one side of its slot 5, and on the opposite side of said slot is provided with a vertical row of openings 7. A bracket 8 projects laterally from the base board 1 beneath the casing 2, said bracket carrying an upstanding rod on which two expansible and contractible wafer disks 10—11 are mounted in superimposed relation. A wire cage 12 is provided for the lower portion of said base board 1 beneath the casing 2, said cage inclosing the bracket 8 and wafer disks 10—11.

A rod 13 is adjustable through the casing 2, the lower end of said rod projecting into the cage 12 and its upper end projecting above the top of the casing and equipped with a handhold 14 by means of which said rod may be adjusted. An arm 15 projects laterally from said rod 13 through the alined slots 3 and 5 of the casing 2 and plate 4, and has its outer end equipped with an indicator or pointer 16, the head of which points to the degree marks of the thermometer 6. A pin 17 adapted for selective engagement with any of the openings of the row 7 is employed to limit either the upward or downward movement of said pointer 16.

A circuit wire 18 is coiled about the rod 13, the upper end of said wire being connected to a binding post 19 on said rod 13, the lower end of said wire projecting below the lower end of rod 13 and bent to form a spring contact 20 which is in the path of downward movement of a spring contact 21 projecting from a post 22 carried by the upper wafer disk 10, said post having a wire connection 23 with the battery 24 within the casing 2.

A bell 25 is mounted on the exterior of the casing 2, said bell having a wire connection 27 with the battery 24, and also a wire connection 26 with the post 19 of the rod 13.

In the diagrammatic view shown in Fig. 3, the alarm actuating device has been shown in connection with an annunciator 28. This annunciator may be of any preferred type, and is used to indicate the point or room from which the alarm has been sounded.

In the example of the invention shown in Figs. 1 and 2, the indicator of the rod 13 is pointing to the 80° mark of the thermometer, which holds the lower end of said rod 13 above the upper disk 10, and the contact arm 20 of said lower end below the contact

arm 21 of said disk, a previously ascertained distance so that when the temperature rises above 80°, the disks 10—11 will expand and cause the arm 20 and the lower end of the rod 13 to contact and close the circuit through the battery, bell and rod 13 and thereby ring the bell. Should the temperature drop below 80°, the disks will contract and close the circuit through the two contact arms, battery, rod and bell.

It will, therefore, be seen that the invention provides simple means whereby variations in the temperature will be audibly indicated.

Obviously, the invention may be used in connection with various types of heating plants, hatcheries, etc., where it is desirable and necessary to keep the temperature at a uniform degree, and in the event of the device being used in connection with hotels and other large buildings, an annunciator may be used, as is suggested in Fig. 3. In the latter use of the invention, it will be understood that it is proposed to use one of the devices in each room and all to be connected with a central alarm and indicator.

The wafer disks 10—11 employed are preferably the usual hollow disks containing alcohol, mercury or other expansible liquid.

What I claim as my invention is:—

1. A device of the character described comprising a casing, a rod slidably mounted within said casing, a signal, a wire leading from said signal to said rod and wound

around the same, the free end of said wire curved beneath the end of said rod, an expansible and contractible member, a contact member secured to said expansible and contractible member and positioned between the ends of said rod and wire, a second wire secured to said contact member, a battery secured to said last mentioned wire, and a wire leading from said battery to said signal.

2. A device of the character described comprising a casing provided in its front face with a longitudinal slot, a plate mounted upon said front face and provided with a slot registering with said longitudinal slot and with a series of apertures adjacent its slot, a thermometer mounted upon said plate a rod slidably mounted within said casing and provided with a finger passing through said slots, an arrow secured to the outer end of said finger, a peg placed within one of said apertures to hold said arrow at a desired point, a signal, a wire leading from said signal to said rod and extending beneath the same, a contact member, a battery connected to said contact and signal, and a thermostat for actuating said contact.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

ALFRED C. FARLEY.

Witnesses:

N. S. HASTINGS,
A. C. SIMPSON.