Nov. 24, 1925.

1,563,279

F. P. HARTLEY

FIRE ALARM

Filed May 19, 1924

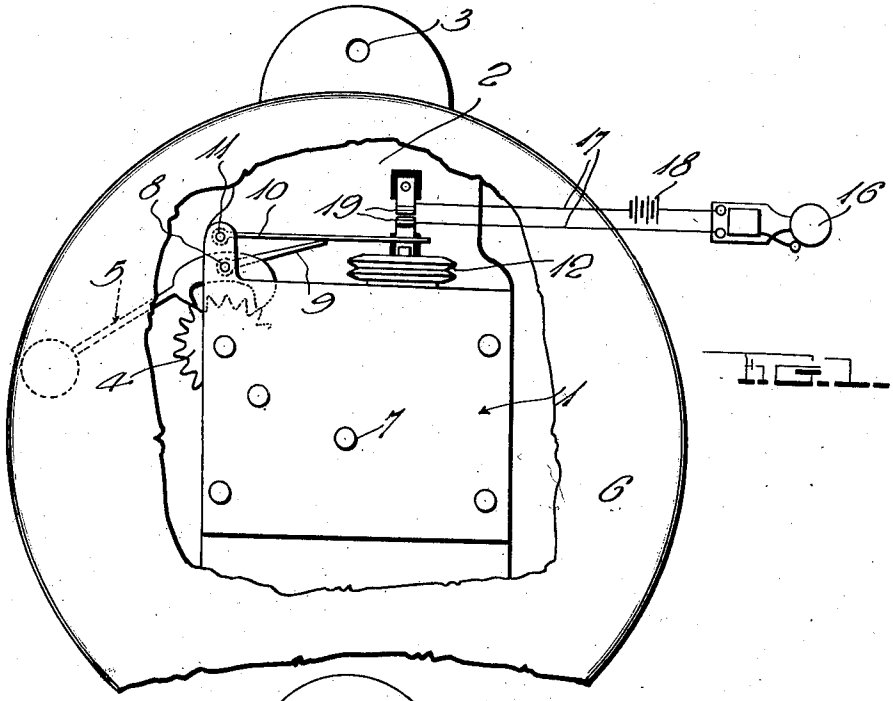


FIG. 1

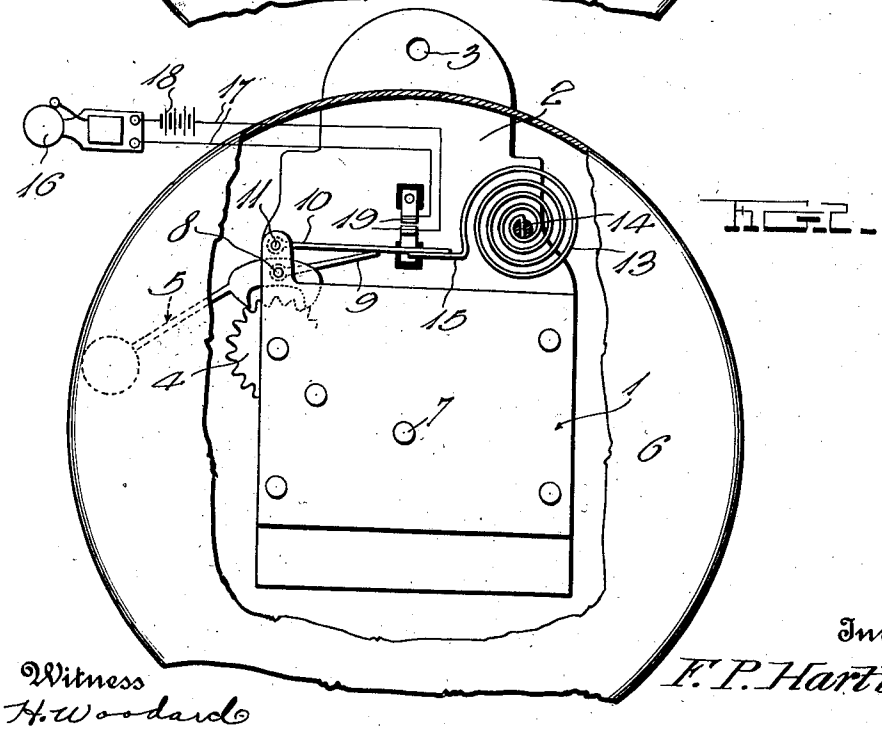


FIG. 2

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UNITED STATES PATENT OFFICE.

FRANK P. HARTLEY, OF BANGOR, MAINE.

FIRE ALARM.

Application filed May 19, 1924. Serial No. 714,435.

To all whom it may concern:

Be it known that I, FRANK P. HARTLEY, a citizen of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Fire Alarms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in thermostatically controlled fire alarms, and it is the principal object of the invention to provide an exceptionally simple and inexpensive, yet a reliable construction, in which a thermostat acts directly upon a spring arm which normally holds a spring-actuated clapper against operation, said thermostat being adapted to release the spring and permit operation of the clapper against a gong, when the temperature rises to a predetermined extent.

Another object is to provide a construction which may well be used also for completing an electric circuit to operate a visible or audible alarm at a remote point.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawing.

Figure 1 is a front elevation partly broken away, showing one form of the invention.

Figure 2 is a view similar to Fig. 1 but illustrating a different form of construction.

In the drawing above briefly described, the numeral 1 designates a spring motor having a vertical upwardly extending back plate 2 whose upper end is preferably formed with an opening 3 to receive a suspending hook or the like. The motor 1 includes a toothed wheel 4 for operating a clapper 5 to sound a gong 6, which gong preferably forms a housing for the motor 1 and may well be mounted upon the winding shaft 7 thereof, to be used in place of a key when winding the spring of the motor.

The clapper 5 is shown as mounted upon a rock shaft 8 having a lateral arm 9 which contacts normally with the lower side of a spring arm 10, said arm 10 being suitably secured at 11 to the frame structure of the spring motor 1. As long as the arm 10 is in contact with the arm 9, the clapper 5 is held against operation, but I provide a thermostat for raising said arm 10 under a predetermined rise in temperature, so that the clapper 5 immediately comes into play upon the gong 6.

In Fig. 1, a disk-like thermostat 12 is mounted directly upon the spring motor 1 under the free end of the arm 10, to thrust directly against and raise said arm at the proper time. In Fig. 2, a spiral thermostat 13 has been shown with its inner end secured to a post 14 which extends forwardly from the upwardly projecting portion of the back plate 2, the outer end of said thermostat being bent laterally outward as indicated at 15 under the arm 10. Under a predetermined degree of heat, the thermostat 13 unwinds and thus lifts the spring 10 to permit operation of the clapper 5.

In either form of construction shown, the arm 10 may be utilized for the purpose of completing an electric circuit to operate a remote alarm, whether audible or visible. Such an alarm has been illustrated in the form of a bell 16 whose circuit includes wires 17, a battery 18, and a pair of normally separated contacts 19, one of these contacts being in the upward path of the arm 10, so that the latter will move it against the other contact to complete the circuit of the alarm 16. This showing is merely illustrative of one of the many ways in which the arm 10 may be made to complete an electric circuit.

From the foregoing, it will be seen that a simple and inexpensive, yet a practical and reliable device has been provided, and as excellent results are obtainable from the details disclosed, these details are preferably followed. However, within the scope of the invention as claimed, numerous minor changes may be made.

I claim:

1. An alarm comprising a gong, a pivoted clapper co-operable with said gong and having an oscillatory arm movable as a single unit with the clapper about the pivot of the latter, a spring motor for actuating said clapper, a spring arm movable in the plane of movement of the first named arm, said spring arm exerting pressure on said first named arm to swing the latter in one direction and hold the clapper against operation, and a thermostat mounted on said spring motor and directly engaging said spring arm to automatically spring the latter away from the first named arm upon a predetermined rise in temperature.

2. An alarm comprising a gong, a pivoted clapper co-operable with said gong, a spring motor for actuating said clapper, said motor having a projecting back plate, a spring arm mounted on said motor and normally engaging said clapper to hold the latter against operation, a post extending rigidly from the projecting portion of said back plate adjacent the free end of said spring arm, and a spiral thermostat anchored at its inner end to said post, the outer end of said thermostat being bent laterally outward and engaging the free end of said spring arm, whereby to automatically release the latter upon a predetermined rise in temperature.

In testimony whereof I have hereunto affixed my signature.

FRANK P. HARTLEY.