

F. P. MOYER.
ALARM APPARATUS.
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943,440.

Patented Dec. 14, 1909.

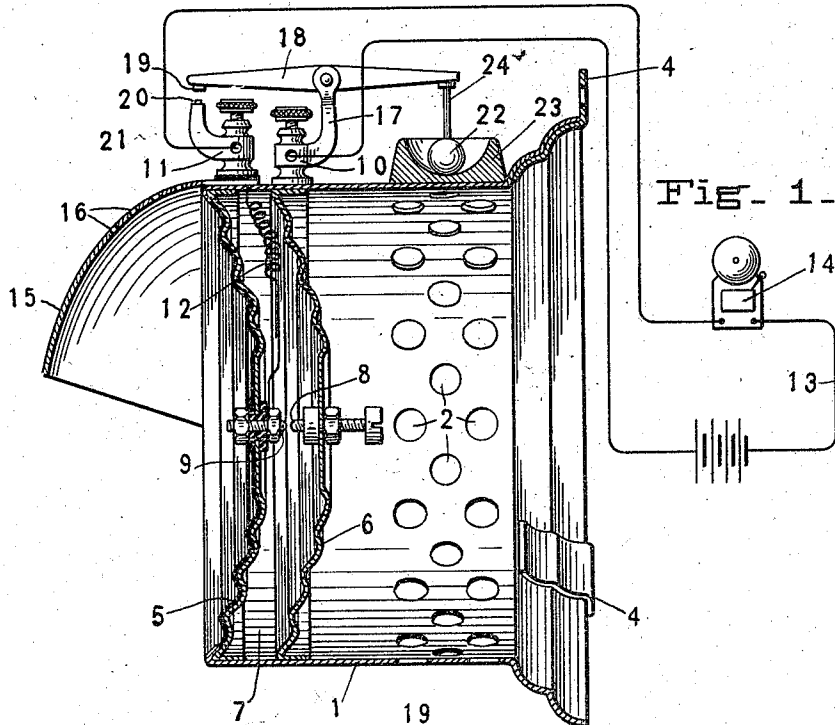


Fig. 1-

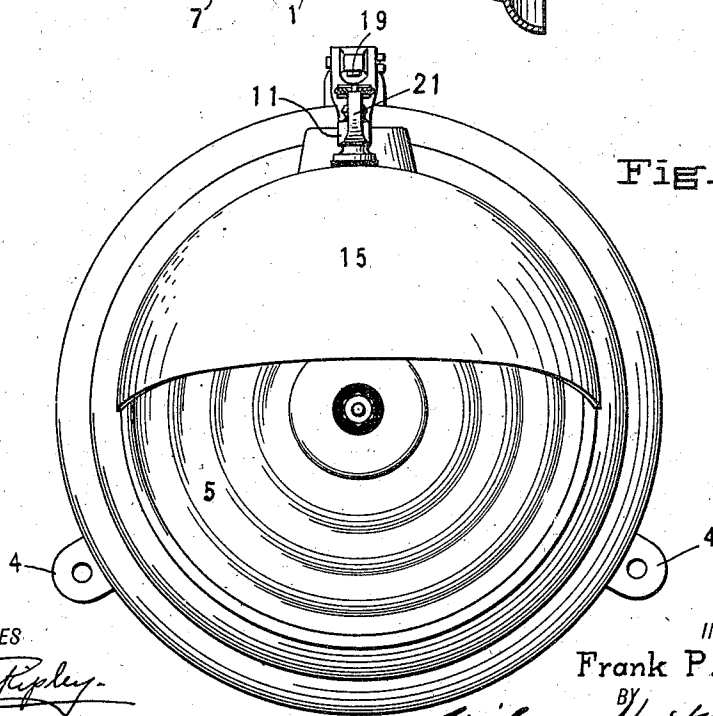


Fig. 2-

WITNESSES

J. H. DeKupley
O. de la Horieberg

INVENTOR

Frank P. Moyer.

BY *Wilson Kent Ramsey*
ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK P. MOYER, OF UTICA, NEW YORK.

ALARM APPARATUS.

943,440.

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To all whom it may concern:

Be it known that I, FRANK P. MOYER, residing at Utica, in the county of Oneida, State of New York, have invented certain new and useful Improvements in Alarm Apparatus, of which the following is a specification.

This invention relates to automatic alarms, and more particularly to apparatus adapted to sound an alarm when various unusual conditions obtain in the vicinity of the apparatus.

One of the objects of the invention is to provide a new and improved device which will be actuated by fire, smoke or other gases or water.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts, which will be exemplified in the construction hereinafter described, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing wherein is shown one of the various possible embodiments of my invention; Figure 1 is a vertical, sectional view through the device, certain of the parts being shown in elevation, Fig. 2 is a front elevation of the device.

Similar reference characters refer to similar parts in both views of the drawing.

Referring now to the drawing, 1 denotes a cylindrical casing provided with the apertures 2 and having its rear end flared, as shown, and provided with suitable ears as at 4 by means of which the device may be fastened to a wall or other support.

5 and 6 respectively, denote diaphragms which extend across cylinder 1 and are fastened to the inner walls thereof, said diaphragms being spaced as shown to provide a hermetically sealed chamber 7. Diaphragms 5 and 6 which are preferably corrugated are formed of zinc and are similarly dished, as shown, the dished portions extending toward the rear of the casing. Diaphragm 6 is provided with a contact point 8 which is grounded to the diaphragm, and diaphragm 5 is provided with a similar contact point 9 which is insulated therefrom. These contact points are arranged in opposed relation so that upon the distortion

of diaphragm 5 the contact points will be carried into engagement.

Upon the upper portion of the casing, in the present instance, are binding posts 10 and 11, post 10 being grounded to the casing and post 11 insulated therefrom. A wire 12 connects post 11 with contact point 9.

13 indicates an electric circuit which is connected with the binding posts 10 and 11, and 14 indicates a device connected in the circuit which is adapted to be actuated, said device, in the present instance, being an electric bell. It will be observed that when the contact points are engaged the circuit will be closed and the alarm sounded.

Diaphragm 5 has its outer surface coated or faced with a catalytic material, such material in the present instance being platinum black, which material has the property of absorbing and condensing certain gases, such absorption or condensation being accompanied by the production of heat. Extending downward from the upper portion of the casing is a curved apron or shield 15 which acts as a deflector for the gases and directs them against the sensitized coating of the shield. This shield, moreover, provides a temporary chamber for smoke or other gases whereby they are brought into intimate contact with the catalytic material upon the diaphragm. Apertures as at 16 are formed in the apron 15, said apertures being of such size as will permit the smoke or other gases slowly to escape to the atmosphere.

Swiveled upon an arm 17 carried by binding post 10 is a lever 18, said lever being provided with a contact point 19 which co-operates with a contact point 20 formed upon an arm 21 carried by the other binding post, such contact points, when engaged, closing the circuit through the binding posts. This lever is adapted to swing by means of a float 22 which normally rests in a cup 23 carried by the casing, said float being connected with the lever 18 as by means of a rod or link 24.

Having described the construction of this embodiment of my invention, the manner of using the same may now be understood. The device is preferably placed upon a wall or support in an upright position, and if used in a building it will preferably be placed near the ceiling. Should a fire occur

the smoke generated thereby coming in contact with the sensitive coating of diaphragm 5 causes the latter to expand owing to the absorption of the carbon-dioxid present in the smoke by the platinum black which constitutes the coating of the diaphragm. The expansion of the diaphragm will of course engage the contact points and close the circuit. In the event of leakage of water pipes 10 or other contingencies whereby water is released in the floor or apartment wherein the apparatus is located, water entering cup will lift the float and close the circuit near the binding post, thus sounding the alarm.

15 It will accordingly be seen I have provided an apparatus particularly well adapted to attain all the ends and objects above enumerated, in a simple yet efficient manner.

The device is simple and compact and 20 composed of relatively few parts. The provision of the apron insures an intimate contact between the diaphragm and the smoke or other gases and as soon as such smoke or other gases have leaked through the apertures of the apron the diaphragms will resume their normal relative positions, thus opening the circuit. It will be obvious of course that the circuit may be caused to actuate any type of alarm apparatus or such 25 other apparatus as might be instrumental in quenching a fire such as a sprinkling system.

30 As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or

shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

40 Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the class described, comprising a casing having therein a chamber, 45 the opposed walls of said chamber comprising diaphragms, a coating of catalytic substance applied exteriorly to one of said diaphragms, a shield carried by the casing and covering a portion of said coated diaphragm 50 and adapted to direct gases against the catalytic substance carried by said diaphragm and means coöperating with said diaphragms whereby an alarm mechanism is operated. 55

2. A device of the class described, comprising a casing, a pair of opposed diaphragms carried by said casing, one of said diaphragms having a coating of catalytic material thereon, a shield carried by the casing covering a portion of said coated diaphragm in such manner as to direct gases 60 against the catalytic substance carried by said diaphragm, said shield having small perforations in the upper portion thereof 65 and means coöperating with the diaphragms whereby an alarm mechanism is operated.

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

FRANK P. MOYER.

Witnesses:

JOSEPH A. O'CONNOR,
PETER KARL.