

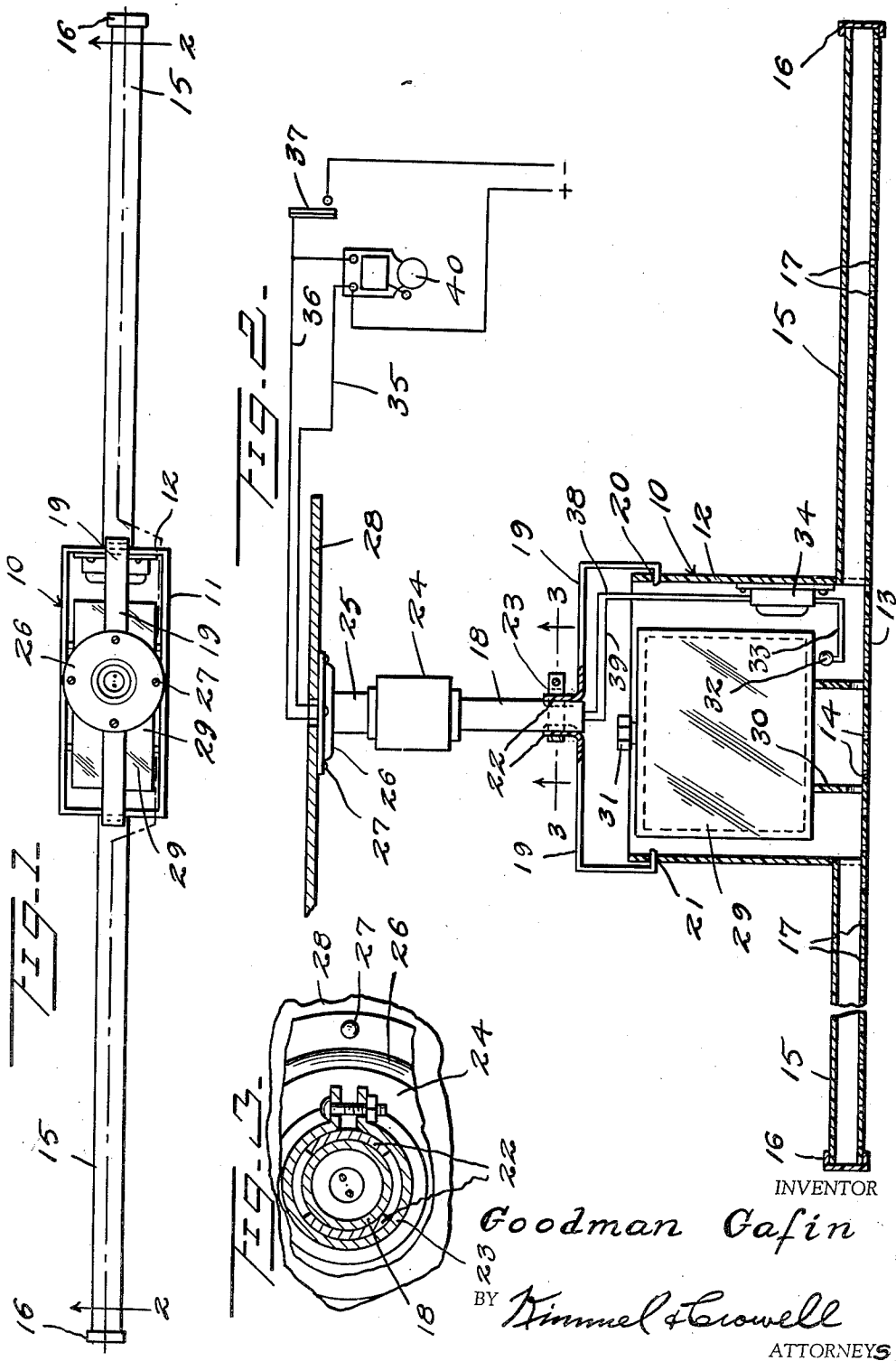
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FIRE ALARM AND EXTINGUISHER

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## UNITED STATES PATENT OFFICE

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## FIRE ALARM AND EXTINGUISHER

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3 Claims. (Cl. 169—29)

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This invention relates to a combined fire alarm and fire extinguisher.

An object of this invention is to provide an improved fire extinguisher adapted to be suspendingly mounted, as from a ceiling or the like, which includes a chemical receptacle with means rendered active under excessive heat for discharging the chemical over a relatively wide area.

Another object of this invention is to provide in combination with a thermostat and an alarm circuit connected with the thermostat, a fire extinguisher adapted to be rendered active at the same time the alarm is activated.

A further object of this invention is to provide an automatically operable fire extinguisher embodying a rotatable broadcasting means for spreading a fire extinguishing chemical over a relatively wide area.

A further object of this invention is to provide an improved fire extinguisher which includes a frangible receptacle associated with a rotatable broadcasting means and means for breaking the receptacle.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a plan view of a fire extinguisher constructed according to an embodiment of this invention.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1 showing diagrammatically the alarm circuit associated with the device.

Figure 3 is a fragmentary sectional view taken on the line 3—3 of Figure 2.

Referring to the drawing the numeral 10 designates generally a receptacle which in the present instance is rectangular in plan and is open at the upper end thereof. The receptacle 10 is formed of opposite side walls 11, end walls 12, and a bottom wall 13. The bottom wall 13 is formed with a plurality of openings 14, the purpose for which will be hereinafter described.

The receptacle 10 has projecting from the opposite end walls thereof elongated tubular liquid distributing members 15. Each tubular member 15 has a cap 16 on the outer end thereof, and each tubular member 15 is provided with a plurality of openings 17 disposed in spaced relation along the length thereof and on the lower side thereof. A vertically disposed tubular member 18 extends upwardly from the receptacle 10 and is connected to the receptacle 10 by means of

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a pair of oppositely extending L-shaped supporting arms 19 having right angularly disposed lower extensions 20 which engage in openings 21 formed in the end walls 12.

The supporting members 19 are also provided with upturned transversely arcuate clamping members 22 which engage the outer side of the supporting member 18, and a split clamping bar 23 engages about the jaws 22 and holds these jaws 22 tightly against the supporting member 18. The supporting member 18 rotatably engages within the lower end of a motor housing 24 which is dependingly secured to an upwardly extending member 25.

The supporting member 25 has secured to the upper end thereof a base plate 26 which is secured by fastening members 27 to the lower side of a ceiling 28 or other suitable horizontal support. The motor 24 is adapted to be energized as will be hereinafter described, and as the armature and motor shaft rotate tubular member 18 which is fixed relative to the armature and motor shaft will rotate therewith.

A frangible container 29 comprised of any suitable material such as glass is disposed within the receptacle 10 being supported upwardly from the bottom wall 13 by means of a pair of apertured supporting plates 30 carried by the bottom wall 13. The container 29 contains any suitable conventional chemical fire extinguishing liquid and is provided with a filler cap 31, and the container 29 is adapted to be broken by means of a striker 32. The striker 32 is carried by a vibratory arm 33 which is operated by means of an electromagnetic operator 34 secured to the inner side of one end wall 12 of the receptacle 10.

The motor 24 is connected in an electric circuit formed of wires 35 and 36 which are connected to a source of electric current supply, and a thermostatic switch 37 is interposed in the conductor 36. The electromagnetic member 34 is also connected through the motor 24 to the electric circuit formed by the conductors 35 and 36 by means of conductors 38 and 39.

An audible or visible alarm member 40 is connected across the conductors 35 and 36 and is adapted to be disposed preferably in a remote position with respect to the switch 37 so that an alarm will be audibly or visibly given at the same time that the motor 24 is energized and the receptacle 10 with the distributing arms 15 is rotated about the vertical axis of the supporting member 25.

As soon as the thermostatic switch 37 is closed under a pre-determined heated condition the

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motor 24 will be energized, and alarm 40 will also be energized while at the same time the electric circuit through the wires 38 and 39 will be closed, thereby energizing the electric magnetic striker operator 34. When operator 34 is energized 5 striker 32 will strike the bottom of the container 29, thereby breaking this container so that the chemical therein will flow into the receptacle 10.

Some of the liquid will be discharged downwardly through the openings 14 in the bottom wall 13; whereas, other liquid will be centrifugally moved outwardly through the arms 15 and will be discharged through the openings 17 in the arms 15.

What is claimed is:

1. In combination a fire alarm and fire extinguisher comprising a source of electrical energy, a thermostatic switch, an audible alarm circuit electrically connected with said source through said switch, a receptacle, means rotatably suspending said receptacle, electric motor means connected with said receptacle and operable by said switch for rotating said receptacle when said switch is closed, a frangible container in said receptacle, means in said receptacle electrically connected with said switch and engageable with said container for breaking said container, and a pair of oppositely disposed apertured liquid distributing members carried by said receptacle.

2. A fire extinguisher comprising a receptacle, means rotatably suspending said receptacle, means rotating said receptacle about a vertical

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axis, a pair of oppositely extending apertured tubular distributing members carried by said receptacle, a frangible container in said receptacle, means supporting said container above the bottom of said receptacle, a source of electric energy electrically operated container breaking means carried by said receptacle, and thermostat means for connecting said container breaking means with said source of electric energy to energize said container breaking means.

3. A fire extinguishing means comprising a receptacle, means rotatably suspending said receptacle, a source of electrical energy, an electric operator for rotating said receptacle electrically connected to said source of electric energy, apertured distributing means projecting from said receptacle, a frangible container in said receptacle, means electrically connected with said operator for breaking said container when said operator is activated, and a thermostatic switch electrically connected with said operator for activating said operator.

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