Sept. 10, 1940. W. J. MOUNTFORD 2,214,307

FIRE DETECTOR AND EXTINGUISHER

Filed Aug. 14, 1939 2 Sheets-Sheet 1

Fig. 1.

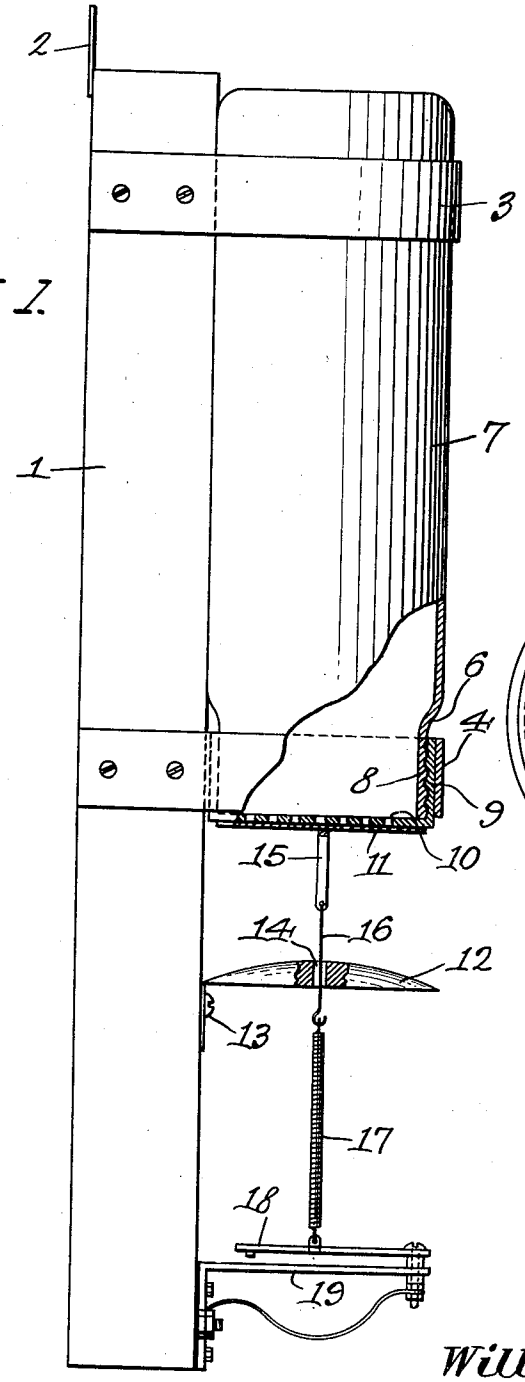
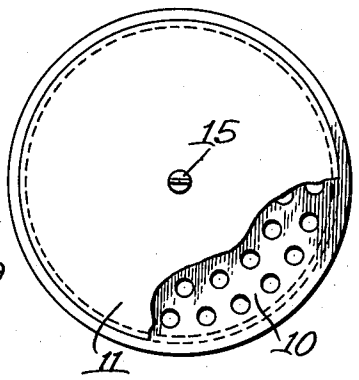


Fig. 2.



Inventor

William J. Mountford

By Donald L. Mayson

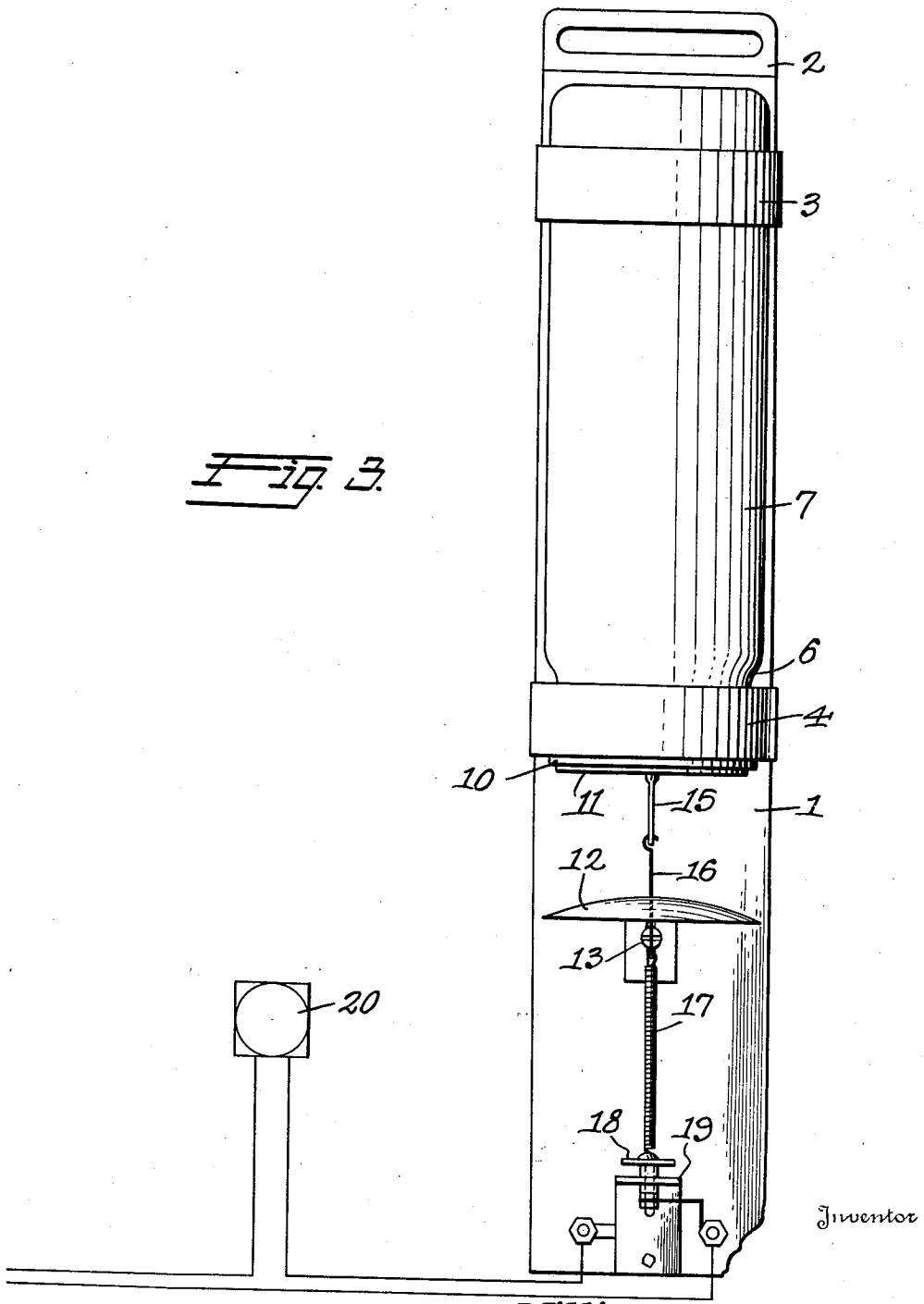
Attorney

Sept. 10, 1940. W. J. MOUNTFORD 2,214,307

FIRE DETECTOR AND EXTINGUISHER

Filed Aug. 14, 1939 2 Sheets-Sheet 2

Fig. 3.



Inventor

William J. Mountford

By Donald L. Maxson Attorney

Patented Sept. 10, 1940 2,214,307

UNITED STATES PATENT OFFICE

2,214,307

FIRE DETECTOR AND EXTINGUISHER

William J. Mountford, Houston, Tex.

Application August 14, 1939, Serial No. 290,006

2 Claims. (Cl. 169—26)

This invention relates to improvements in automatic fire extinguishing apparatus and alarms, and more particularly to a device of this type which may be supported in any desired location, and which when a fire is started adjacent to it, will automatically cause an alarm to sound and spread the stored fire extinguishing fluid stored in the device, over a predetermined area.

An object of my invention is to provide an improved fire extinguisher in combination with an electrically operated alarm mechanism, both of said devices being normally held inoperative by means of suitable fusible means, but when the heat from a fire melts the fusible means, the alarm will automatically sound, and the fire extinguishing fluid stored in the extinguisher will be released upon an adjustable convex splash or spreading disk, to be discharged over a predetermined area.

Another object of my invention is to provide an improved fire extinguishing unit and associated fire alarm system, which will be positive in action, and which will be so arranged that the fire extinguishing fluid may be spread out over any desired area, by previously setting the fluid spreading disk nearer to, or further away from the fire extinguishing fluid container.

A further object of my invention is to provide an improved fire extinguisher and alarm, which will be highly efficient in operation, and which will be quite inexpensive to manufacture and keep in operation.

Other objects will appear as the description appears.

In the accompanying drawings which form a part of my application,

Figure 1 is a side elevation partly in section of my improved fire extinguisher and associated alarm switch mechanism;

Figure 2 is a plan view partly broken away of the fire extinguisher fluid container showing the perforated screw closure and fusibly supported sealing or lid member;

Figure 3 is a front elevation of my improved fire extinguisher showing the associated switch mechanism and alarm electrically connected therewith.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

In carrying out my invention, I provide an elongated base or support 1 upon which my improved fire extinguisher will be mounted. A supporting or hanging strap 2 will be affixed to the upper end of the base 1, whereby the device may be hung in a vertical manner in any desired location, as for example, on a wall near any fire hazard.

A pair of spaced supporting straps 3 and 4 will be secured to the base 1, in such a manner that the glass fire extinguishing fluid container 7 may be easily and quickly slid into position on the base. It will be noted that the strap 4 is slightly smaller in diameter than the strap 3, so as to afford a seat for the shoulder 6 formed by reducing the open end of the container 7. The reduced open end of the container will be externally threaded as at 8, and is adapted to receive a threaded closure cap 9, which is provided with a perforated head 10.

A sealing disk 11, preferably formed of metal, will be fused to the head 10 of the closure cap 9 in any desired manner, in such a manner that the fluid in the container 7 will be sealed in the said container until a temperature of approximately 158 degrees F. caused by a fire near the extinguisher will melt the fusible material and release the sealing disk from the perforated discharge head on the container.

A convex fluid spreading disk 12 is supported by means of an adjustable support 13 on the base 1, in such a manner that it may be moved towards or away from the discharge end of the container 7 to previously determine the area of spread of the fire extinguishing fluid when the fusibly sealed sealing disk 11 is released. A central opening 14 is formed in the spreading disk 12, for purposes hereinafter described.

A shank 15 is formed on the sealing disk 11 and is connected to a wire and hook 16 which extends through the central opening 14 in the spreading head or disk 12, which in turn is connected to a coil spring 17, to a normally opened electrical contact carrying arm 18 on a switch standard 19, supported upon the lower end of the base 1. The movable switch or contact carrying arm 18 is tensioned to close or contact the switch standard 19 when a temperature of approximately 158 degrees F. is reached, due to the melting to the fusible material which holds the sealing disk on the perforated head of the container 7, thus relieving the tension on the coil spring 17. In this manner an electrical circuit from a suitable source of electrical energy, for example, the electric light circuit, is closed to a suitable electrically operated bell or alarm 20, which is connected in series with the switch mechanism and with the source of electric current supply.

From the foregoing description, it will be apparent that a filled container may be readily substituted for an exhausted container after a fire, and when a fire occurs, the fusible material melts, releasing the sealing disk, which permits the fire extinguishing material to be discharged through the perforated head and on to the spreading disk, where it is spread out over the predetermined area. It is obvious that the nearer the spreader head is to the discharge head, the greater area will be covered by the discharged fluid, and likewise, the further away the spreader disk is away from the discharge head, the smaller the area covered by the discharged fluid.

Many minor changes in detail of construction may be resorted to without departure from the spirit of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A fire extinguisher including a supporting base, a fire extinguishing fluid container detachably supported thereon, an anchoring member mounted on said base, a perforated fluid spreading head adjustably mounted on said base between said container and anchoring member, a closure disk fusibly mounted on said container, and a resiliently tensioned member connected between said closure disk and anchoring member extending through said perforated fluid spreading head, whereby upon the melting of the fusible material supporting the closure disk on the container, the fluid will be spread over a predetermined area.

2. A fire extinguisher including a supporting base, a fire extinguishing fluid container detachably supported thereon, an anchoring member mounted on said base, a perforated fluid spreading head adapted to be mounted on said base having a slotted supporting arm formed thereon and positioned between said container and anchoring member, means extending through said slot for adjusting said head towards and away from said container, a closure disk fusibly mounted on said container, and a resiliently tensioned member connected between the closure disk and the anchoring member extending through said perforated fluid spreading head, whereby upon the melting of the fusible material supporting the closure disk on the container, the fluid will be spread over a predetermined area.

WILLIAM J. MOUNTFORD.