

**Nov. 21, 1933.**

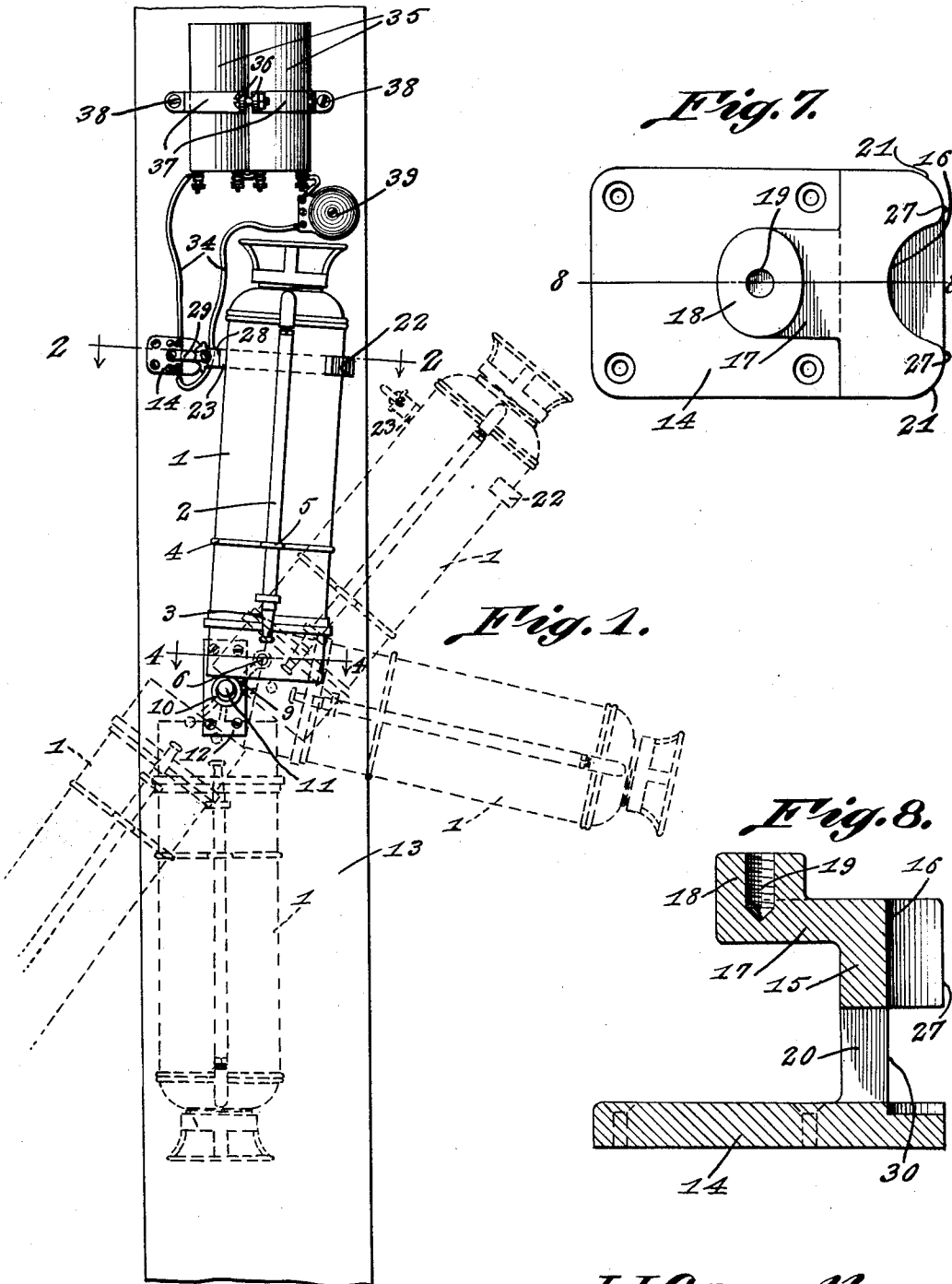
**J. J. CARROLL**

**1,936,007**

## AUTOMATIC ATTACHMENT OR HOLDER FOR FIRE EXTINGUISHERS

Filed Dec. 19, 1930

3 Sheets-Sheet 1



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*Fig. 2.*

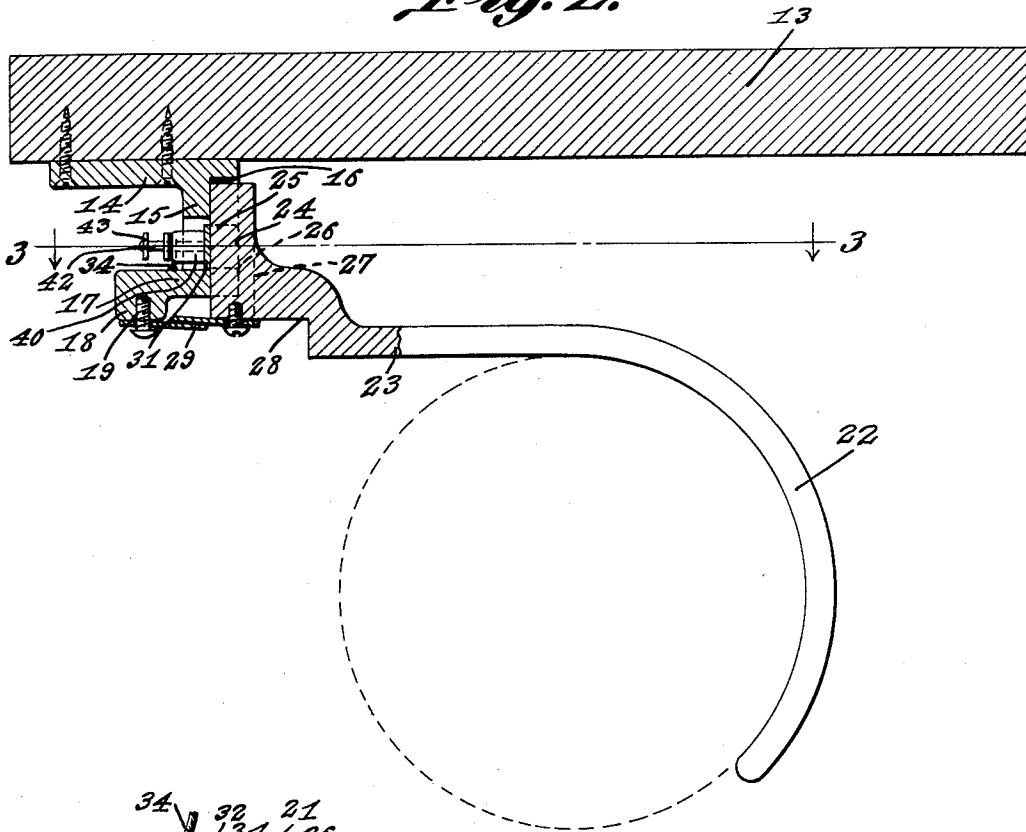


*Fig. 3.*

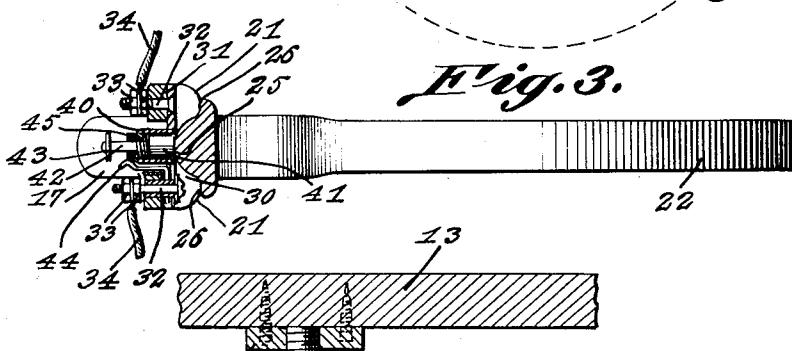


*Fig. 6.*

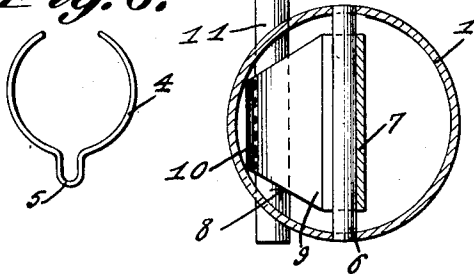
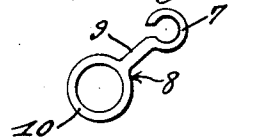


*Fig. 4.*

*Fig. 5.*



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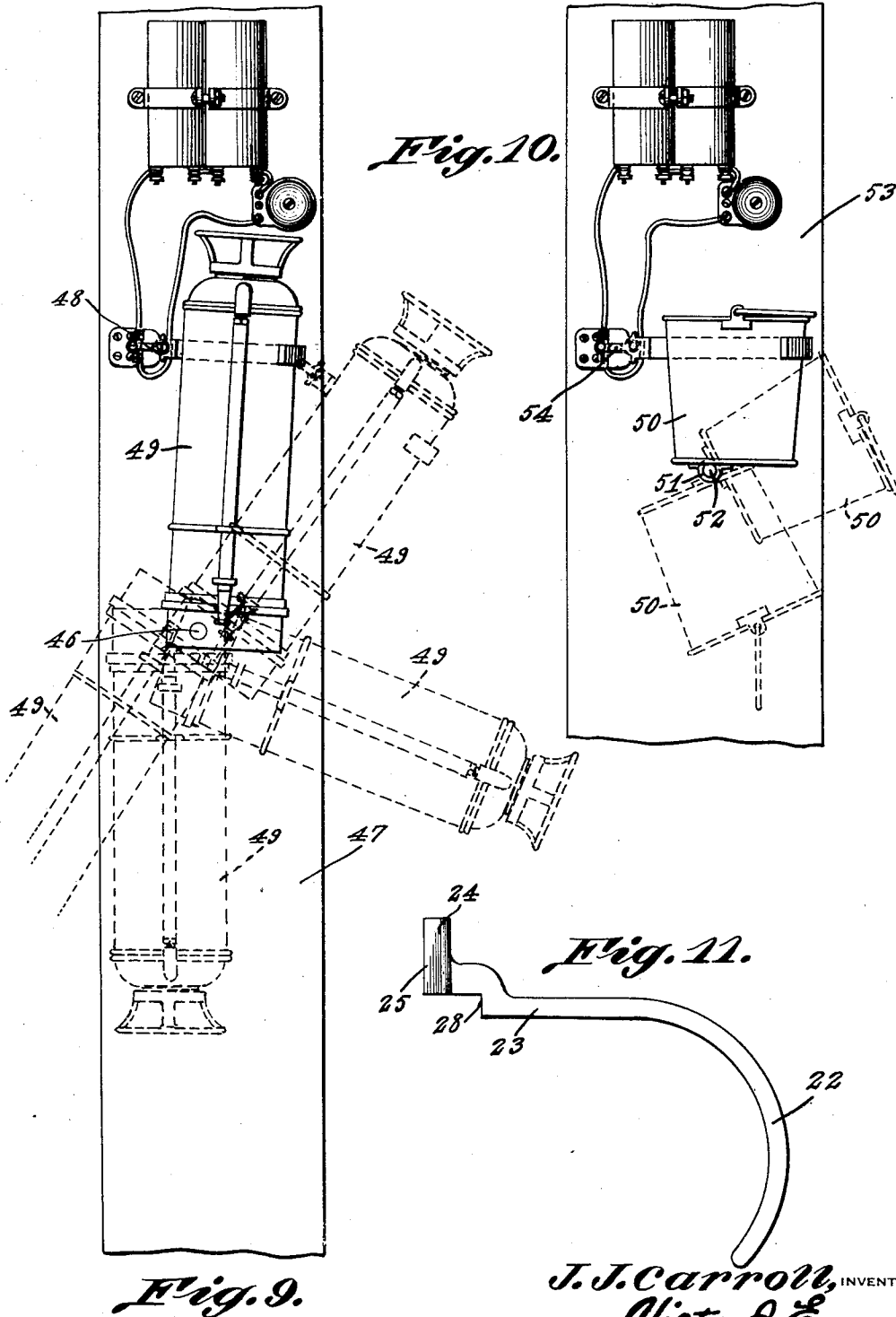
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3 Sheets-Sheet 3



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## UNITED STATES PATENT OFFICE

1,936,007

AUTOMATIC ATTACHMENT OR HOLDER  
FOR FIRE EXTINGUISHERS

John J. Carroll, Norfolk, Va.

Application December 19, 1930  
Serial No. 503,598

2 Claims. (Cl. 169—26)

My present invention has reference to an attachment for fire extinguishers of the cylinder type as well as fire extinguishing buckets, the primary object being the provision of a thermostatic means for holding the extinguisher in its normally supported upright position, and which in the event of fire in the vicinity and the rise of temperature to a certain degree, the extinguisher will be released and dropped to an inverted or suspended position and through the momentum the extinguisher will be oscillated a number of times to spray the fluid upwardly and to permit of the same from thence falling downwardly to cover a large area within the vicinity of the extinguisher and thereby automatically extinguish the flames.

A further object is to simplify and improve the construction of the automatic attachment for fire extinguishers upon which I have applied for U. S. patent on Apr. 9, 1930, and which application bears Serial No. 442,932.

For a full and comprehensive understanding reference is to be had to the drawings which are to be read in connection with this description and wherein there is illustrated satisfactory embodiments of the invention as it now appears to me, it being understood that the showing is merely illustrative and that I hold myself entitled to make such changes therefrom as fairly fall within the scope of what I claim.

In the drawings:

Figure 1 is an elevation illustrating an embodiment of the improvement, the dotted lines disclosing the various positions which the extinguisher will assume when released for downward swinging or to suspended position.

Figure 2 is an enlarged sectional view on the line 2—2 of Figure 1.

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

Figure 4 is a sectional view approximately on the line 4—4 of Figure 1.

Figure 5 is an end view of the swingable element of the support between the body of the extinguisher and the fixed support for the bottom of the said extinguisher.

Figure 6 is a plan view of the split spring ring employed for holding the nozzle carrying hose along the side of the extinguisher.

Figure 7 is a plan view of the casting that comprises the fixed element for the upper support of the extinguisher.

Figure 8 is a sectional view approximately on the line 8—8 of Figure 7.

Figure 9 is a view similar to Figure 1 but illustrating a slight modification.

Figure 10 is a similar view but showing the manner in which a bucket containing a fire extinguishing fluid may be supported by the apparatus.

Figure 11 is a plan view of the curved arm that engages the extinguisher.

In one of the embodiments of the invention the extinguisher 1 is of the tank type and carries the usual hose 2 provided at its outer end with a nozzle 3. The hose is held against the side of the extinguisher 1 through the medium of an ordinary wire ring 4 that is centrally bent upon itself to provide the same with a U-shaped extension 5 that receives the hose therein, the arms of the wire ring embracing the opposite sides of the extinguisher 1 and exerting a friction thereagainst. The tank 1 is of the ordinary cylindrical type and the body thereof has its lower portion extended a suitable distance beyond the bottom of the tank. The portion of the body extending beyond the bottom is provided with the usual handle 6 for holding the receptacle when the same is upset, or in active use and this handle 6, in the present instance, is engaged by a split eye 7 on the revoluble or turnable element 8 of the support for the lower portion of the tank. The split eye 7 exerts a friction against the pin 6, and from the eye the member 8 is formed with a web 9 that terminates in a hollow rounded portion or eye 10 which is larger than the eye 7. The eye 10 of the support 8 freely receives therein a rod member 11 which has one end screwed in a plate 12 which is connected to the support 13 for the extinguisher by screws or analogous means.

The upper supporting means for the tank which holds the said tank at a slight inclined position (to prevent the same being accidentally overturned and which also permits said extinguisher dropping to inverted position so that the same can oscillate on the rod 11) embodies a casting. The casting includes a base plate 14 which is screwed or otherwise secured to the supporting plate or wall 13. The end of the base 14, next to the extinguisher 1 is formed with an angle extension 15 and this extension, from a point below the base is formed with a central concaved or arcuate depression 16. The upper end of the extension 15 is centrally formed with a horizontal plate 17 that extends over the base 14 and which merges into an outwardly extending boss 18 which is centrally formed with a threaded aperture 19. The part 15 of the supporting bracket

in a line with the base, is provided with an opening 20 that communicates with the depression 16, and the outer corner walls of the extension 15 are rounded, as at 21, to obviate sharp edges and the concaved edge provided by the depressions is rounded to the outer face of the projection 15. Arranged to partly surround the body of the extinguisher and, if desired, to be secured thereto there is the curved end 22 of an arm 23. The inner end of the arm is extended laterally in a direction away from the curved end 21. This end of the arm is for distinction indicated by the numeral 24 and the outer face of the extension 24 is centrally bulged and formed with a convex enlargement 25 that merges into straight faces or shoulders 26 which are preferably formed by laterally extending the end 24 of the arm 23. The convexed bulged portion 25 is rounded at its juncture with the shoulder 26 and the bulged portion 25 is designed to be received in the concaved recess 16 and the shoulders 26 are designed to contact with the faces of the fixed member of the support outward of the said recess or depression 16, the said faces for distinction being indicated by the numeral 27. The outer face of the extension 24 thus provides a fulcrum for the arm and the arm, at its juncture with its fulcrum extension is notched, as at 28. On the outer wall provided by this notched portion there is secured by a screw or the like the thermostatic connecting means between the arm 23 and the fixed member of the support. The thermostatic means is in the nature of a fusible plate 29. It will be obvious that should the element 29 melt or break because of a rise of temperature in the room in which the extinguisher is installed, the extinguisher will be released from its upper support and swing downwardly to the dotted line position in Figure 1 of the drawings. The loose bearing between the rod 11 and the eye 10 of the member 8 will permit of the free rocking of the extinguisher so that the extinguisher, when the same drops to an inverted or suspended position will oscillate a comparatively large number of times. The liquid in the extinguisher, being released in the usual manner when the said extinguisher is inverted, will forcibly flow through the nozzle 3 of the pipe 2 and thereby spray the walls and ceiling of a room to extinguish fire in close proximity to the extinguisher. The extinguishing fluid will descend onto the floor of the room so that fire occurring in the floor will be likewise extinguished.

It should have been stated that the second securing element for the fusible link 29 is screwed into the opening 19 of the fixed member of the upper support for the extinguisher and the walls 27 of the said upper support, in a line with the opening 20, are notched transversely, as at 30. This notched portion is designed to receive there-through the base plate 31 of a switch member. The base is secured on the inner walls provided by the notch by bolts 32. The plate 31 is insulated from the member 14 as are the screws 32. The screws are really in the nature of binding posts, the same being engaged by nuts 33 that bind thereon the clip on the ends of insulated wires 34 that are connected to a suitable source of energy which may be the house current, as disclosed by Figure 1 of the drawings, or may be in the nature of storage batteries 35 secured on the support 13 by a bolt and nut that passes through the ear ends 36 of a split clip or clamp 37, the ends of the members 37 being offset and

flattened and secured by means 38 to the support 13. One of the battery wires is connected to binding posts on the base of an audible alarm such as a bell 39 which is fixed on the support 13.

The body of the switch is in the nature of a tubular member 40 that passes through the opening 20, the said tubular body having movable therethrough a plunger 41 whose outer end extends through the tube and is in contact with the part 25 of the arm 23. The plunger is provided with a stem 42 that extends through the closed end of the cylinder 40, and on the outer end of the said stem 42 is a contact finger 43 to engage with the spring contact 44 that is connected to one of the screws 32 and which, of course, is insulated from the fixed support 14. The plunger is influenced against the rounded fulcrum or nose end 25 of the arm 23 by a spring 45. When the extinguisher is held in its normal upright position the contact 43 is forced away from the contact 44, but when the fusible link melts and releases the extinguisher the concaved or nose portion 25 of the arm will be brought away from the plunger 41 so that the spring 45 will bring the contact 43 against the spring contact 44 and thus complete the electric circuit to the bell or like alarm 39 and whereby persons in close proximity to the building in which the fire occurs will have knowledge of such fire and assist in the extinguishing thereof or obtain assistance by sounding a fire alarm.

In Figure 9 the construction is substantially similar to that above described, except the body of the extinguisher below the bottom thereof is provided with alining openings through which pass the low supporting means which is in the nature of a rod 46 fixed on the support 47. Of course, the openings in the extinguisher through which the rods pass are arranged beyond the center of the said extinguisher so that the same will swing freely downwardly and will freely oscillate when the thermostatic holding means, in the nature of the fusible link 48, is burned or melted. In other respects the operation is similar to that previously described, the downward swinging of the extinguisher 49 permitting the closing of the electric circuit to the alarm and whereby the alarm is sounded.

In Figure 10 an ordinary fire extinguishing bucket is employed and is held in upright position by the means previously described. The bottom of the bucket has fixed thereon, beyond the center thereof, an eye member 51 that loosely receives therein a rod 52 which is fixed on the wall or support 53 for the apparatus. Obviously when the fusible element 54 is melted by the rise of temperature to a certain degree the bucket will swing to the dotted line position disclosed by Figure 10 of the drawings and the liquid extinguisher therein will be splashed against the walls and against the floor of the building.

An important feature of the invention resides in the manner in which the fire extinguisher can be readily removed from its support without interfering with any of the elements constituting the said support. To accomplish this it is merely necessary to swing the extinguisher 1 on its pivot to bring the same out of the rounded or hooked end 22 of the arm 23, and thereafter move the extinguisher laterally to bring the same out of engagement with the pivot rod 11. Thus the fire extinguisher may be used by hand in the usual manner and also thus it will be noted that the extinguisher is continuously on duty, that is, the same may be employed by an occupant of a build-

ing in the usual manner during office hours and when replaced on its support and the building vacated by employees the same will operate automatically in the manner as heretofore described.

5 I have heretofore stated that the opening in the extinguisher through which the pivot rod passes is arranged to one side of the center of the extinguisher. This is not an absolute requirement as the pivot rod can pass through the center or very close to the center below the bottom of the  
10 extinguisher, and by having the hole for the pivot rod in the center the automatic attachments can be used on either a right or left hand without any alterations. The fire extinguishing agent  
15 used with either the cylinder or the bucket is not necessarily liquid but may be in the nature of a chemical powder or may be sand, or may comprise a mixture of such powder and sand.

I desire it distinctly understood that I may use  
20 the holder without the alarm bell or switch if desired.

The fire extinguisher as now used is hung on the wall by the side handle at the upper end of the extinguisher on a hook nailed to the wall, or  
25 placed on a shelf to be taken down when used, and if a fire starts near the extinguisher the heat or smoke prevents anyone from using them.

Or if a fire starts when a place is closed and there is no one around to use them, they are of  
30 no use as a protection to a fire, but will be burnt up with the building, or when the extinguisher is taken down to be used to extinguish a fire when there is only one person in the room, no one in the building knows there is a fire in the building  
35 only the person using the extinguisher until they see the smoke or flames. Then it is sometimes too late to save the building and lives in the building. Whereas, with my automatic attachment or holder when a fire starts near the extinguisher  
40 and the heat or smoke prevents a person from using the extinguisher, the heat will melt the fuse and the extinguisher will turn upside down and the fluid will spray on the ceiling, walls, and floor around the extinguisher, and also ring the bell  
45 to call help.

When a fire starts after the building has been closed up for the day and the fire extinguishers are equipped with my automatic holder the heat in the room will melt the fuse and the extinguisher  
50 will turn upside down and spray the extinguishing fluid on the ceilings, walls, and floors, and at the same time ring the fire bell, letting the people know that there is a fire in the unoccupied

building. And whereas the extinguisher as now used is only on duty 10 hours per day (or while there is someone around to use it by hand) an extinguisher equipped with my automatic holder is on duty 24 hours per day, ready to be used by  
80 hand or work automatically and call help by the ringing of the bell.

Having described the invention, I claim:

1. In combination a container having a pivotal mounting on a wall surface below the center of gravity of the container to limit the pivotal movement of the container to a plane parallel with the wall surface, a base plate attached to the wall surface above the center of gravity of the container and formed with a forwardly directed extension,  
85 a curved arm for disposition in partial embracing relation to the container above the center of gravity and formed with a laterally extending terminal portion disposed in a direction away from the curve of said arm, the terminal portion of said  
90 arm seating laterally against the face of the extension of said bracket, and a fusible element securing the arm to the bracket extension and being disposed substantially in the vertical plane of the juncture of the arm with its terminal portion.  
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2. In combination a container having a pivotal mounting on a wall surface below the center of gravity of the container to limit the pivotal movement of the container to a plane parallel with the wall surface, a base plate attached to the wall surface above the center of gravity of the container and formed with a forwardly directed extension, a curved arm for disposition in partial embracing relation to the container above the center of gravity and formed with a laterally extending terminal portion disposed in a direction away from the curve of said arm, the terminal portion of said arm seating laterally against the face of the extension of said bracket, and a fusible element securing the arm to the bracket  
100 extension and being disposed substantially in the vertical plane of the juncture of the arm with its terminal portion, the terminal portion of the arm and the extension of said bracket being formed with a cross-sectionally arcuate bulged portion and a cross-sectionally arcuate depression respectively, the bulge on said terminal portion seating in said depression and the terminal portion having flat shoulders adjacent said bulged portion seating against the adjacent flat  
105 surfaces of the bracket extension.  
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