

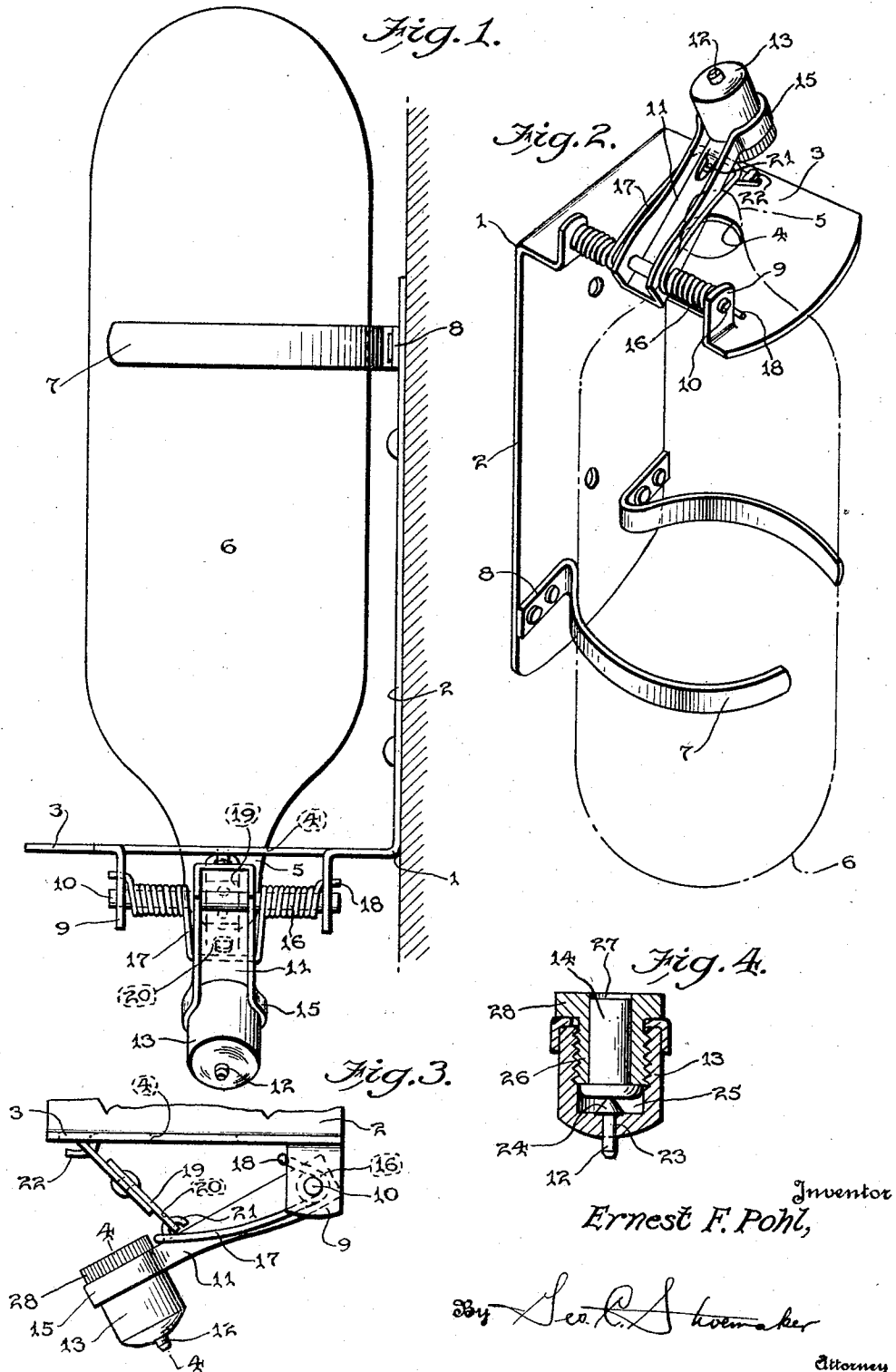
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COMBINED AUTOMATIC FIRE EXTINGUISHER AND ALARM

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UNITED STATES PATENT OFFICE

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COMBINED AUTOMATIC FIRE EXTINGUISHER AND ALARM

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The invention relates to a combined automatic fire extinguisher and alarm.

The object of the present invention is to improve the construction of combined automatic fire extinguishers and alarms and to provide a simple, practical and efficient automatic fire extinguisher and alarm of comparatively inexpensive construction adapted also for use as a burglar alarm and tear gas bomb, and possessing great strength, durability and power and adapted to be readily installed in homes, factories, automobiles, motor boats, airplanes, and in any other place where a fire is liable to occur.

A further object of the invention is to provide a combined automatic fire extinguisher and alarm equipped with a fusible member normally holding a spring actuated hammer in a retracted position and adapted in the event of a fire to be fused by the heat thereof for releasing the spring actuated hammer, which carries a cartridge or other concussion fired explosive, and which when released will violently strike a frangible container, thereby exploding the cartridge or other explosive to sound an alarm and simultaneously breaking the said receptacle and scattering the liquid contained therein for a considerable distance.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter described, illustrated in the accompanying drawing, and set forth in the claims hereto appended, it being understood that various changes in the form, proportion and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawing:

Figure 1 is a side elevation of a combined automatic fire extinguisher and alarm constructed in accordance with this invention.

Fig. 2 is a perspective view of the same, the combined automatic fire extinguisher and alarm being shown in another position.

Fig. 3 is a front elevation of the lower end of the combined automatic fire extinguisher

and alarm, the device being arranged as shown in Fig. 1.

Fig. 4 is an enlarged detail sectional view on the line 4-4 of Fig. 3.

In the accompanying drawing, in which is illustrated the preferred embodiment of the invention, the combined automatic fire extinguisher and alarm, which is adapted to be arranged in any desired position, either vertically with either end at the top, or in any other position, comprises in its construction a substantially L-shaped bracket 1, constructed of heavy sheet metal or other suitable material stamped or otherwise formed.

The blank or piece which forms the L-shaped bracket is bent at right angles intermediate of its ends to form a back 2 and an end wall 3 which is provided with a central circular opening 4 to receive a reduced tapered end 5 of a frangible container 6. The frangible container, which is constructed of glass or other suitable material, is designed primarily for containing carbon tetrachloride or other suitable fire extinguishing fluid which is adapted to be converted into a gas by the heat of the fire to smother or extinguish the flame in the usual manner, but the frangible receptacle may contain tear gas and be used as a burglar alarm, as hereinafter more fully explained. The container 6 is preferably rounded at the other end, as shown, and is provided with a cylindrical body portion which is firmly gripped and securely held by curved spring arms 7 having attaching portions 8 riveted or otherwise secured to the front face of the back of the bracket, as clearly illustrated in Fig. 2 of the drawing, and preferably spaced apart as shown, and partially embracing the cylindrical body portion of the container at opposite sides thereof with sufficient pressure to hold the container firmly in the position shown in Fig. 2 or in any other position in which it may be desired to arrange the combined automatic fire extinguisher and alarm, or the device when used as a burglar alarm.

The end wall 3, which constitutes an abutment for one end of the container and provides a seat for such end, is provided at one of its side edges with spaced ears 9, preferably

formed integral with the end wall 3 and bend outwardly at right angles to the exterior face of the end wall and provided with aligned perforations for supporting a pin 10 which constitutes a pivot for a swinging hammer 11 which when set is arranged at the exterior face of the end wall 3. The hammer when tripped or released is adapted to swing around the edge of the end wall towards the inner face of the same to carry a firing pin 12 and a hammer head 13 into violent contact with the adjacent side of the frangible container to explode a cartridge 14 to sound an alarm and to break the container and scatter the liquid contents thereof for a considerable distance.

The hammer 11 is of channel formation and the longitudinal side flanges are carried around the outer end of the hammer at 15 to form a seat for the hammer head, which may be secured to the hammer in any desired manner. The hammer is actuated in its swinging movement to fire the cartridge and shatter the container by a spring consisting of spaced coils 16 and the connecting loop 17. The pivot 10 passes through the longitudinal side flanges of the hammer and the coils 16 of the spring are arranged on the pivot between the ears 9 and the sides of the hammer, and the terminals 18 of the spring bear against the ears 9 which form stops for holding the terminals of the spring to enable the loop 17, in which the hammer is arranged, to tension the spring when the hammer is swung outwardly and rearwardly to the position illustrated in the accompanying drawing. The hammer is held in such position by a fusible link 19, and when released by the heat from a fire is swung forwardly and inwardly by the loop of the spring, which extends along the sides of the hammer and across the same adjacent the head. The fusible link, which may be of any desired construction and of any suitable material, is provided at its ends with openings 20 which are engaged by hooks or lugs 21 and 22 of the hammer and end wall respectively. The hooks or lugs 21 and 22 are preferably formed integral with the hammer and the end wall 3 by partially severing the metal of such parts and bending the partially severed metal into the forms shown in Fig. 3 of the drawing.

When it is desired to use the device as a burglar alarm, any suitable means may be provided for enabling the link to be disengaged from one of the lugs or hooks, for instance the approximately L-shaped lug or hook 22. In such use the frangible receptacle will contain tear gas material and the device may be located within a bank or other financial institution, business houses, and the like, and the operating means for releasing the hammer will of course extend to a convenient position to be operated by a teller or other person.

The head of the hammer is provided with a central opening 23 in which is arranged the firing pin 12 provided at its inner end with a conical head 24 arranged within a socket 25 of the hammer head. The socket 25 is interiorly threaded to receive a threaded cartridge-carrying sleeve 26 having a bore 27 for the reception of the cartridge 14. The cartridge 14, which is preferably a center fire cartridge, has its head arranged at the inner end of the sleeve, which is screwed inwardly sufficiently to carry the cartridge into contact with the apex of the conical head of the firing pin. The cartridge carrying sleeve is provided at its outer end with the flange 28 which is milled or checkered to enable it to be readily grasped and rotated to screw into and out of the socket of the hammer.

What is claimed is:

1. A combined automatic fire extinguisher and alarm comprising a supporting bracket having a back and end wall, the end wall being provided adjacent the edge with spaced ears extending outwardly from the exterior face of the end wall, means carried by the bracket for holding a frangible liquid receiving container with a portion adjacent the said end wall, a pivot supported by the said ears, a hammer of channel formation having longitudinal flanges extending around one end to form a seat for a hammer head, the other end of the hammer being mounted on the said pivot, a spring mounted on the pivot and engaging the hammer and adapted to throw the same violently into contact with the container, fusible means connecting the hammer with the bracket for holding the hammer against the action of the spring, a hammer head mounted in the said seat of the hammer, and means carried by the hammer head for holding an explosive and for exploding the same by concussion when the hammer strikes the container.

2. A device of the class described comprising a one-piece L-shaped bracket consisting of a back and an end wall extending from the back and having the metal of the end wall at one of its edges partially severed and bent outwardly from the exterior face of the end wall to form ears, a pin secured in the said ears, a hammer pivoted to the bracket by the said pin and arranged to swing around the edge of the end wall from the exterior face thereof towards the inside of the same, a spring engaging the hammer and having coils disposed on the said pivot, lugs carried by the hammer and the end wall, a releasable link engaged with the lugs for holding the hammer in a retracted position against the action of the spring, and means for supporting a liquid receiving container on the bracket with a portion in the path of the hammer, whereby the frangible container will be violently struck by the hammer and its liquid contents scattered a considerable distance.

3. A device of the class described comprising a one-piece L-shaped bracket consisting of a back and an end wall extending from the back and having the metal of the end wall at one of its edges partially severed and bent outwardly from the exterior face of the end wall to form ears, a pin secured in the said ears, a hammer of channel formation having longitudinal flanges pivoted adjacent one end at its flanged portion to the bracket intermediate of the said ears by the said pin and arranged to swing around the edge of the end wall from the exterior face thereof towards the inside of the same, a spring engaging the longitudinal flanges of the hammer and having coils disposed on the said pivot, lugs carried by the hammer and the end wall, a releasable link engaged with the lugs for holding the hammer in a retracted position against the action of the spring, and means for supporting a frangible liquid receiving container on the bracket with a portion thereof in the path of the hammer, whereby the frangible container upon releasing of the hammer by means of the link, will be violently struck by the hammer and its liquid contents scattered a considerable distance.

In testimony whereof I have hereunto set my hand this 17th day of June, 1931.
ERNEST F. POHL.

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