March 11, 1952 P. R. ZELL 2,588,788

AUTOMATICALLY ACTUATED FIRE EXTINGUISHER

Filed Nov. 12, 1949

Fig. 1

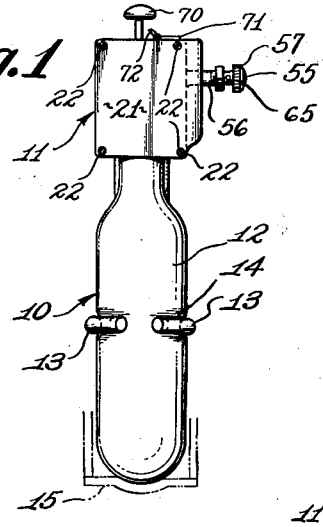


Fig. 2

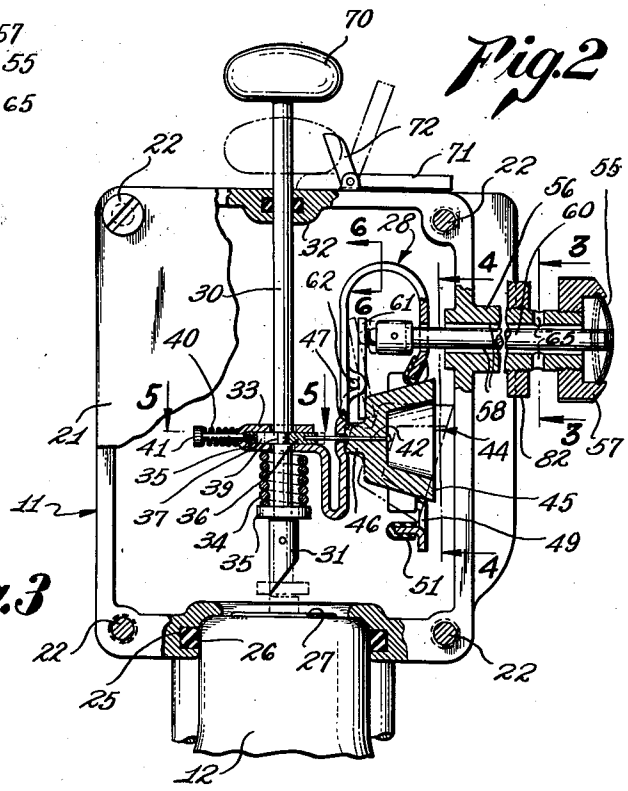


Fig. 3

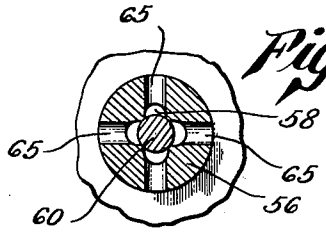


Fig. 4

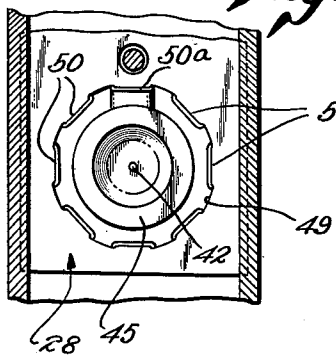


Fig. 6

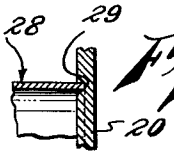


Fig. 7

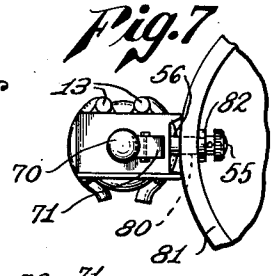


Fig. 8

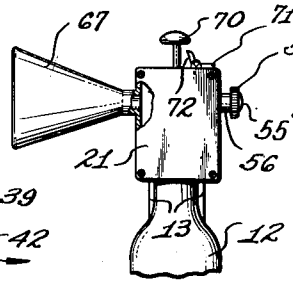
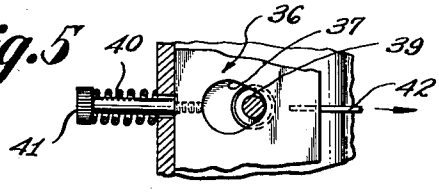


Fig. 5



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AUTOMATICALLY ACTUATED FIRE EXTINGUISHER

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Application November 12, 1949, Serial No. 126,805

19 Claims. (Cl. 169—26)

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My invention relates generally to fire extinguishers, and more particularly, to such devices which are automatically actuated upon the inception of a fire or upon the occurrence of other events which give rise to the probability of fire.

It is a major object of the present invention to provide a fire extinguisher which is adapted to be actuated to release pressurized fire-extinguishing medium in any one of several ways, to wit; by manual operation; by operation due to rise in temperature above a certain predetermined point; or by impact acceleration or deceleration such as occurs, for example, in the collision of a motor vehicle or aircraft.

It is another object of the present invention to provide a fire extinguisher of the class described which is adapted to be secured in position to eject the fire-extinguishing medium into the throat of a carburetor, the fill spout of a gasoline tank, or other conduit containing flammable medium which may under circumstances of a collision or other emergency present a fire hazard.

A further object of the invention is to provide an inertia-operated fire extinguisher of the class above described which is readily adjustable to be sensitive only to impact from a given direction.

A still further object of the invention is to provide a fire extinguisher of the class described which employs as an extinguishing medium a compressed fluid and which is constructed to receive such fluid enclosed in disposable and replaceable cartridges.

Yet another object of the invention is to provide a fire extinguisher of the type above described which is inexpensive to manufacture and operate, yet rugged enough to withstand severe usage.

The foregoing and additional objects and advantages of the invention will be apparent from a consideration of the following detailed description thereof, consideration being given likewise to the attached drawings, in which:

Figure 1 is a front elevational view of the presently preferred embodiment of the invention;

Figure 2 is an enlarged fragmentary and partially sectioned view of the device shown in Figure 1;

Figure 3 is a further enlarged elevational section taken on the line 3—3 in Figure 2;

Figure 4 is a further enlarged elevational section taken on the line 4—4 in Figure 2;

Figure 5 is a further enlarged horizontal section taken on the line 5—5 in Figure 2;

Figure 6 is a further enlarged elevational section taken on the line 6—6 in Figure 2;

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Figure 7 is a fragmentary plan view illustrating the device shown in Figure 1 attached to the carburetor of an internal combustion engine; and

Figure 8 is a fragmentary partially sectioned elevational view showing a modified form of the fire extinguisher illustrated in Figure 1.

In the drawings, I have indicated the fire extinguisher generally by the reference character 10, and in Figure 1, it will be seen to comprise a release mechanism 11, to which is attached a CO_2 cartridge 12, secured to the mechanism 11 by means of a pair of opposed spring wire clamps 13—13. The particular embodiment 10 illustrated in Figure 1 is designed to extinguish relatively small fires immediately at their inception, and hence employs a relatively small CO_2 cartridge 12 of the type commonly used to charge sparkling water. Such cartridges are usually formed with a necked-down recess 14 intermediate the ends of the cartridge body, and in the present form of the invention, this recess 14 receives the carrying clamps 13—13. In this and in other forms of the invention, larger cartridges may be employed which are held in place by modified clamping means, such for example, as a depending spring clamp secured to the release mechanism 11 and engaging the bottom of the cartridge, as indicated by the phantom line 15 in Figure 1.

For a detailed description of the mechanism 11 by which the CO_2 is released from the cartridge 12, reference should now be had to Figure 2. Here it will be seen that the mechanism 11 is enclosed in a box-like mount or container consisting of a body portion 20 having a cover 21 secured thereto by screws 22, passing through the cover 21 and threaded into the body 20. The body 20 and the cover 21 may be conveniently constructed as a die casting.

In the lower wall of the housing body 20 is formed a circular aperture 25 recessed to receive an O-ring sealing gasket 26, and of sufficient diameter to receive the neck of the cartridge 12. The cartridge 12 is of a conventional type having a thin terminal seal 27 which is adapted to be perforated to release compressed CO_2 within the cartridge 12.

Within the housing 20—21 and supported between the body 20 and the cover 21 is a one-piece frame member 28 which serves various purposes, as will hereinafter be described in detail. The frame member 28 is held securely in place against movement in any direction by being received in a groove 29 formed in the interior surfaces of the housing body 20 and the lid 21, as shown in Fig-

ure 6. When the mechanism is assembled, the member 28 is dropped in place and secured therein when the lid or cover 21 is attached to the body 20.

In order, when desired, to pierce the seal 27 and release the compressed CO_2 from the cartridge 12, a piercing member, comprising a plunger 30 carrying a beveled cutter 31 at the lower end thereof, is coaxially mounted for vertical sliding movement in the housing 20—21, the upper end being carried in a sealed bearing aperture 32 in the upper end of the body 20, and the lower end of the plunger 30 being slidably supported by bearings 33 in the frame member 28. A relatively strong compression spring 34 is positioned between the frame member 28 and an abutment 35 formed on the lower end of the plunger 30. The bias of the spring 34 is sufficient to thrust the plunger 30 and the cutter 31 downwardly with sufficient force to cut through the seal 27.

The plunger 30 and the cutter 31 thereon are normally held in the uppermost position thereof against the urging of the spring 34 by a sear 36, the nature of which is best seen in Figure 5. The sear 36 is formed with a tapered, oval aperture 37 therein, through which the plunger 30 passes. Immediately above the point where the plunger 30 first passes through the frame member 28, it is necked down to form a peripheral groove 39 which groove is normally engaged by the sear 36.

A relatively light compression spring 40, surrounding a bolt member 41 fixed to the sear 36, serves to hold the latter normally in its left-hand position (in Figure 5), wherein the narrow end of the aperture 37 engages the groove 39 and the plunger 30 thus holding the latter in its uppermost position against the urging of the spring 34. It will be seen, however, that if the sear 36 is moved to the right, the larger end of the aperture 37 will pass over the plunger 30, permitting the same to move downwardly under the pressure of the spring 34. Thus, the release of the plunger 30 and the consequent release of CO_2 from the cartridge 12 is achieved by pulling the sear 36 to the right. Adjustment of tension on the spring 40 by means of the bolt 41 serves to raise or lower the general force required to actuate the triggered device.

A triggering mechanism 44 adapted to be actuated in various ways is connected by relatively flexible tension wire 42 to the sear 36. The tension wire 42 is secured at its left end to the sear 36 and at its right end to a generally cup-shaped and eccentrically mounted inertia member 45, having a stem-like portion 46 formed thereon, which stem portion 46 is received loosely in a recessed socket 47 formed in the frame member 28.

Thus, if the inertia member 45 is rocked in any direction in a vertical plane perpendicular to the plane of Figure 2, as for example, downwardly (see phantom line in Figure 2), it fulcrums about the stem member 46 in the socket 47, pulling to the right on the tension wire 42 and releasing the sear 36.

The right-hand, or open end of the inertia member 45 is positioned within a limiting aperture 49 (see Figure 4) which aperture is formed with inturned peripheral tabs 50, any one or several of which may be bent inwardly to limit the motion of the inertia member 45 in such direction. By way of illustration, the uppermost tag 50a is bent downwardly into light contact with the inertia member 45 so that any tendency of the inertia member 45 to move upwardly with respect to the housing 20 is either prevented, or the force necessary to actuate the device in this direction increased, depending on the extent to which the tab is bent. Thus, by bending one or several of the tabs 50 into a position lightly contacting the inertia member 45, the sensitivity of the device can be regulated so that movement of the inertia member 45 occurs only upon acceleration of the housing 20—21 in a given direction. The tabs 50 may each be covered by a protective layer 51 of rubber as shown in Figure 2.

As has been previously stated, it is desired that the seal-piercing mechanism including the plunger 30 and the cutter 31 be actuated in the event of a sudden rise in temperature. To this end, a bi-metallic, snap-action, thermostatic disc 55 is mounted to the housing body 20 at the outer end of a threaded nipple 56 formed therein, the disc 55 being held in place by a threaded collar mounting 57. The thermostatic disc 55 is of the well-known type which assumes the convex shape shown in Figure 2 in full line, so long as the ambient temperature remains below a given point. Upon a rise in temperature above such point, however, the disc gradually flattens until it eventually snaps into a reverse convex condition, as shown in phantom line in Figure 2.

Such snap action of the disc 55 is transmitted through an actuating plunger 60 and a fulcrumed lever 61 to the inertia member 45. The lever 61 is supported on a hinge 62 from the frame member 28, and it will be seen that the action of the lever 61 is such that the when the upper end is pressed to the left (in Figure 2), the lower end moves to the right, tipping the inertia member 45 into the position shown in phantom line in Figure 2, and actuating the release mechanism as above set forth.

When the CO_2 is released from the cartridge 12 into the interior of the housing 20—21, it escapes from the interior of the housing through an axial bore 58 in the threaded nipple 56 and a number of discharge orifices 65 therein. In order that the discharging extinguishing medium can escape through the bore 58 of the nipple 56, the same is made with a fluted interior as shown in Figure 3, so that the actuating plunger 60 is centrally supported therein yet does not prevent the escape of fluid.

The nature and disposition of the bi-metallic thermostatic disc 55 is such that in the event manual operation is desired, the disc 55 may serve as a pushbutton, being depressed by digital pressure to release the fluid as aforesaid. In the form of the device shown in Figure 8, the discharge orifices 65 are omitted, and a horn-shaped nozzle 67 is formed in the housing body 20 so that upon actuation of the release mechanism, the extinguishing medium discharges through the horn 67.

After the device has been operated to empty the cartridge 12, the mechanism may be reset by pulling upwardly on a setting or cocking handle 70, secured to the upper end of the plunger 30, the compression spring 40 serving to reset the sear 36 to hold the plunger 30 in its raised position.

In order to give notice of the fact that the extinguisher has been discharged, as for example, by thermostatic action, a flag member 71 is pivotally secured to the top of the housing body 20, having a rearwardly extending arm 72, positioned and adapted to be engaged by the handle 70 to raise the flag member 71 into the position shown in phantom line in Figure 2. If desired, suitable indicia may be added to the flag member which will be displayed upon discharge of the extin-

guisher, notifying the user to replace the discharged cartridge **12**.

In Figure 7, the extinguisher shown in Figure 1 is shown secured to a tubular duct **81**, such for example, as the throat of a carburetor. Such mounting is accomplished by drilling a small hole **80** through the wall of the duct **81**, removing the disc-supporting collar **57** and a mounting nut **82** from the nipple **56**, inserting the nipple through the aperture **80**, and replacing the nut **82** and the collar **57**.

The device may be similarly mounted in the pour spout of the gasoline tank of an ordinary motor vehicle. When so mounted, the thermostatic disc **55** is in position to respond to a rise in temperature such as would be occasioned by a small fire in the carburetor throat or pour spout, or alternatively, is in the mechanism **11** position to be discharged in the event that the vehicle should be subjected to a sudden impact. When so mounted and discharged, the CO_2 has the effect not only of immediately extinguishing an incipient conflagration but of preventing ignition of vapor in the duct **81**. The CO_2 is harmless to the carburetor and will not prevent starting of the engine a short time after the discharge.

The extinguisher just described may be mounted in other ways than that shown in Figure 7. For example, the extinguisher may be held in a wall rack of more or less conventional construction, being thus in position for ready use by manual operation and also serving as an automatic extinguisher in the compartments of boats, aircraft, automobiles, etc., thereby giving more general automatic protection. Additionally, the extinguisher may be suspended by a fusible link or combustible support, such for example, as a Wood's metal wire, above a stationary installation having a high fire hazard. In the event that the installation should catch fire, the resultant heat will either actuate the extinguisher by the operation of the thermostatic disc **55**, or will destroy the fusible or flammable support, permitting the extinguisher to fall onto or into the burning installation, the impact of such fall actuating the mechanism through the operation of the inertia member **45**.

It will also be realized that while the illustrative embodiment shown herein employs a relatively small cartridge, that other cartridges of greater capacity may be used where desired.

While the forms of the device illustrated and described herein are fully capable of achieving the objects and providing the advantages hereinbefore stated, it will be realized by those skilled in the art that they are capable of some modification without departure from the spirit of the invention. For this reason I do not mean to be limited to the forms shown and described, but rather to the scope of the appended claims.

I claim:

1. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein and a rupturable seal to retain said fluid; a cutter member supported adjacent said seal for movement toward said container to rupture said seal and release said fluid; and actuating means for said cutter member including an inertia member having an annular fulcrum portion, being rockably mounted on said annular fulcrum for impact responsive movement in any direction in the plane of said fulcrum, and operatively connected at a point substantially at the center of said fulcrum to said cutter member to effect movement thereof upon an impact of a predetermined force in said plane to rupture said seal as aforesaid.

2. In a fire extinguisher, the combination of: a sealed container having pressurized combustion inhibiting fluid therein; a cutter member supported adjacent said container for movement toward the same to pierce a wall thereof and release said fluid therefrom; spring means connected to said cutter member and urging the same toward said container; a movable member engaged with said cutter member to hold the same against the urging of said spring; and triggering mechanism including an inertia member having a universal fulcrum portion, being supported on said fulcrum portion for rocking movement in any direction in a given plane, and operatively connected to said movable member so as when acted on by an impact force in said plane to move said movable member to disengage said cutter member and permit said spring to move the same to pierce said container.

3. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein and a rupturable seal to retain said fluid; a mount secured to said container adjacent said seal; a cutter member supported on said mount for movement toward said container to rupture said seal and release said fluid; actuating means supported on said mount, said actuating means including a thermostat operatively connected to said cutter to effect movement thereof to rupture said seal as aforesaid; and impact responsive means including an inertia member having a universal fulcrum portion, being supported on said fulcrum portion for rocking movement in any direction in a given plane, and operatively connected to said actuating means for movement independent of said thermostat and in response to an impact force in said plane to effect movement of said cutter to rupture said seal as aforesaid.

4. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein and a rupturable seal to retain said fluid; a mount secured to said container adjacent said seal; a cutter member supported on said mount for movement toward said container to rupture said seal and release said fluid; a spring anchored to said mount, connected to said cutter member, and urging the same toward said container; a sear movably supported on said mount and normally engaged with said cutter member to hold the same against the urging of said spring; and triggering mechanism including an inertia member having a base of relatively restricted area rockably supported on said mount for impact-responsive movement of said inertia member in any direction in a given plane and operatively connected to said sear to move the same upon an impact force acting on said mount in any direction in said plane to disengage said cutter member and permit said spring to move the same to pierce said container.

5. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein and a rupturable seal to retain said fluid; a mount secured to said container adjacent said seal; a cutter member supported on said mount for movement toward said container to rupture said seal and release said fluid; a spring anchored to said mount, connected to said cutter member, and urging the same toward said container; a sear movably supported on said mount and normally engaged with said cutter member to hold the same

against the urging of said spring; triggering mechanism including an inertia member having universal supporting means supporting said inertia member for impact-responsive movement in any direction in a given plane and operatively connected to said sear to move the same upon impact force acting on said mount in any direction in said plane to disengage said cutter member and permit said spring to move the same to pierce said container; and a thermostat supported on said mount and operatively connected to said inertia member to move the same to release said sear upon exposure of said thermostat to a temperature above a predetermined point.

6. The construction of claim 5 further characterized in that said thermostat is externally positioned on said mount and adapted to receive digital pressure to actuate the same.

7. A fire extinguisher comprising: a container having pressurized combustion inhibiting fluid therein, said container having an extended neck with an opening therein and a rupturable seal secured in said opening to retain said fluid; a mount including a substantially fluid-tight enclosure having an aperture to receive said neck therein whereby to discharge fluid from said container into said enclosure when said seal is ruptured, said enclosure having formed thereon a discharge nozzle and a clamp removably engaging said container to hold the same with said neck in said aperture; a frame secured in said enclosure adjacent said aperture; a cutter member including a plunger having a peripheral groove intermediate the ends thereof and a piercing element on an end thereof, said plunger being disposed with said piercing member directed toward said seal and being slidably supported for axial movement in said frame to pierce said seal and release said fluid into said enclosure, an end of said plunger opposite said piercing end being extended through a wall of said enclosure and having a handle thereon to pull said plunger in a direction away from said seal to re-set said plunger; a compression spring anchored against said frame and engaged with said plunger to urge the same toward said seal; a sear supported on said frame for sliding movement thereon transverse to said plunger, said sear being normally positioned to engage said groove to hold said plunger against the urging of said spring and away from said seal; a second spring connected between said frame and sear to urge the latter toward said engaged position; and trigger means including a thermostat secured in said mount and thrust-transmitting mechanism disposed between said thermostat and sear to move the latter against the urging of said second spring and release said plunger upon exposure of said thermostat to a temperature above a predetermined point.

8. The construction of claim 7 further characterized in that said thermostat is positioned adjacent said nozzle whereby said fluid is discharged adjacent said thermostat to extinguish a fire causing said thermostat to operate.

9. The construction of claim 7 further characterized in that said thermostat includes a convex relatively flexible bi-metallic sheet secured by its edges to said mount and having a normally convex surface thereof outwardly disposed, said bi-metallic sheet being adapted to reverse its convexity selectively upon exposure to heat or the application of digital pressure to move said sear as aforesaid.

10. The construction of claim 7 further characterized by having an impact-responsive inertia member operatively connected in said thrust-transmitting mechanism, said inertia member being movably and eccentrically mounted to move in response to impact of said mount to move said sear and release said plunger as aforesaid.

11. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein, a discharge orifice, and a rupturable seal in said orifice to retain said fluid; a mount secured to said container, said mount having an enclosed chamber formed therein in communication with said orifice whereby to receive said fluid when said seal is ruptured; an outwardly extending conduit connected to said mount and communicated with said chamber to discharge said fluid therefrom, said conduit having at least one discharge orifice adjacent the outer end thereof; a cutter member supported in said enclosure for movement toward said container to rupture said seal and release said fluid into said chamber; and actuating means supported on said mount and including a thermostat mounted on said conduit adjacent said discharge orifice, said thermostat being operatively connected to said cutter member to effect movement thereof upon exposure of said thermostat to temperatures above a predetermined point to rupture said seal as aforesaid.

12. The construction of claim 11 further characterized by having attachment means formed on said conduit and a complemental securing member cooperating therewith to secure said mount to one side of a wall with said conduit extending through said wall and said thermostat and discharge orifice positioned on the other side of said wall.

13. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein, a discharge orifice, and a rupturable seal in said orifice to retain said fluid; a mount secured to said container, said mount having an enclosed chamber formed therein in communication with said orifice whereby to receive said fluid when said seal is ruptured; an outwardly extending conduit connected to said mount and communicated with said chamber to discharge said fluid therefrom, said conduit having at least one discharge orifice adjacent the outer end thereof; a cutter member supported in said enclosure for movement toward said container to rupture said seal and release said fluid into said chamber; and actuating means supported on said mount and including a thermostat mounted on said conduit adjacent said discharge orifice, and a force transmitting member disposed in said conduit and loosely fitting therein whereby not to block the same, said force transmitting member being operatively interposed between said thermostat and cutter member to effect movement of the latter upon exposure of said themostat to temperatures above a predetermined point to rupture said seal as aforesaid.

14. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein, a discharge orifice, and a rupturable seal in said orifice to retain said fluid; a mount secured to said container, said mount having an enclosed chamber formed therein in communication with said orifice whereby to receive said fluid when said seal is ruptured; an outwardly extending conduit connected to said mount and communicated with

said chamber to discharge said fluid therefrom, said conduit having at least one discharge orifice adjacent the outer end thereof; a cutter member supported in said enclosure for movement toward said container to rupture said seal and release said fluid into said chamber; a spring anchored to said mount and connected to said cutter member to urge the same toward said container; a sear movably supported on said mount and normally engaged with said cutter member to hold the same against the urging of said spring; and triggering mechanism supported on said mount and including a thermostat mounted on said conduit adjacent said discharge orifice, said thermostat being operatively connected to said sear to effect movement thereof upon exposure of said thermostat to temperatures above a predetermined point to release said cutter and permit said spring to move the same to rupture said seal.

15. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein, a discharge orifice, and a rupturable seal in said orifice to retain said fluid; a mount secured to said container, said mount having an enclosed chamber formed therein in communication with said orifice whereby to receive said fluid when said seal is ruptured; an outwardly extending conduit connected to said mount and communicated with said chamber to discharge said fluid therefrom, said conduit having at least one discharge orifice adjacent the outer end thereof; a cutter member supported in said enclosure for movement toward said container to rupture said seal and release said fluid into said chamber; a spring anchored to said mount and connected to said cutter member to urge the same toward said container; a sear movably supported on said mount and normally engaged with said cutter member to hold the same against the urging of said spring; and triggering mechanism supported on said mount and including a thermostat mounted on said conduit adjacent said discharge orifice, and a force transmitting member disposed in said conduit and loosely fitting therein whereby not to block the same, said force transmitting member being operatively interposed between said thermostat and sear to move said sear upon exposure of said thermostat to temperatures above a predetermined point to release said cutter member and permit said spring to move the same and rupture said seal.

16. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein, a discharge orifice, and a rupturable seal in said orifice to retain said fluid; a mount secured to said container, said mount having an enclosed chamber formed therein in communication with said orifice whereby to receive said fluid when said seal is ruptured; an outwardly extending conduit connected to said mount and communicated with said chamber to discharge said fluid therefrom, said conduit having at least one discharge orifice adjacent the outer end thereof; a cutter member supported in said enclosure for movement toward said container to rupture said seal and release said fluid into said chamber; and actuating means for said cutter including a thrust rod disposed in said conduit and loosely fitting therein whereby not to block the same, and a convex relatively flexible bimetallic sheet secured by its edges to the outer end of said conduit and having a normally convex surface thereof outwardly disposed, said bimetallic sheet being adapted to reverse its convexity selectively upon exposure to heat or the application of digital pressure to move said thrust rod to actuate said cutter member and rupture said seal.

17. In a fire extinguisher, the combination of: a disposable container having pressurized combustion inhibiting fluid therein, a discharge orifice, and a rupturable seal in said orifice to retain said fluid; a mount secured to said container, said mount having an enclosed chamber formed therein in communication with said orifice whereby to receive said fluid when said seal is ruptured; an outwardly extending conduit connected to said mount and communicated with said chamber to discharge said fluid therefrom, said conduit having at least one discharge orifice adjacent the outer end thereof; a cutter member supported in said enclosure for movement toward said container to rupture said seal and release said fluid into said chamber; actuating means supported on said mount and including a thermostat mounted on said conduit adjacent said discharge orifice, and a force transmitting member disposed in said conduit and loosely fitting therein whereby not to block the same, said force transmitting member being operatively interposed between said thermostat and cutter member to effect movement of the latter upon exposure of said thermostat to temperatures above a predetermined point to rupture said seal as aforesaid; and impact responsive means including an inertia member operatively connected to said actuating means and supported on said mount for movement independent of said thermostat to effect movement of said cutter to rupture said seal.

18. A fire extinguisher comprising: a container having pressurized combustion inhibiting fluid therein, said container having an extended neck with an opening therein and a rupturable seal secured in said opening to retain said fluid; a mount including a substantially fluid-tight enclosure having an aperture to receive said neck therein whereby to discharge fluid from said container into said enclosure when said seal is ruptured, said enclosure having formed thereon a discharge nozzle and a clamp removably engaging said container to hold the same with said neck in said aperture; a frame secured in said enclosure adjacent said aperture; a cutter member directed toward said seal and slidably supported for axial movement in said frame to pierce said seal and release said fluid into said enclosure, the end of said cutter member opposite said seal being extended through a wall of said enclosure and having a handle thereon to pull said cutter member in a direction away from said seal whereby to reset said cutter member; a spring anchored against said frame and engaged with said cutter member to urge the same toward said seal; a sear supported on said frame for sliding movement thereon transverse to said cutter member, said sear being normally positioned to engage said cutter member and hold the same against the urging of said spring and away from said seal; a second spring connected between said frame and sear to urge the latter toward said engaged position; and trigger means including a thermostat secured to said mount and thrust transmitting mechanism disposed between said thermostat and sear to move the latter against the urging of said second spring and release said cutter member upon exposure of said

thermostat to a temperature above a predetermined point.

19. A fire extinguisher comprising: a container having pressurized combustion inhibiting fluid therein, said container having an extended neck with an opening therein and a rupturable seal secured in said opening to retain said fluid; a mount including a substantially fluid-tight enclosure having an aperture to receive said neck therein whereby to discharge fluid from said container into said enclosure when said seal is ruptured, said enclosure having formed thereon a discharge nozzle and a clamp removably engaging said container to hold the same with said neck in said aperture; slide bearing means in said enclosure aligned with said aperture; a cutter member slidably supported for axial movement in said bearing means to pierce said seal and release said fluid into said enclosure, an end of said cutter member opposite said seal being extended through a wall of said enclosure and having a handle thereon to pull said cutter member in a direction away from said seal to reset said plunger; a compression spring anchored in said enclosure and engaged with said cutter member to urge the same toward said seal; a sear supported in said enclosure for sliding movement transverse to said cutter member, said sear being normally positioned to engage said cutter member to hold the same against the urging of said spring and away from said seal; a second spring connected between said enclosure and sear to urge the latter towards said engaged position; and trigger means including a thermostat secured in said mount and thrust transmitting mechanism disposed between said thermostat and sear to move the latter against the urging of said second spring and release said cutter member upon exposure to said thermostat to a temperature above a predetermined point.

PARKER R. ZELL.

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