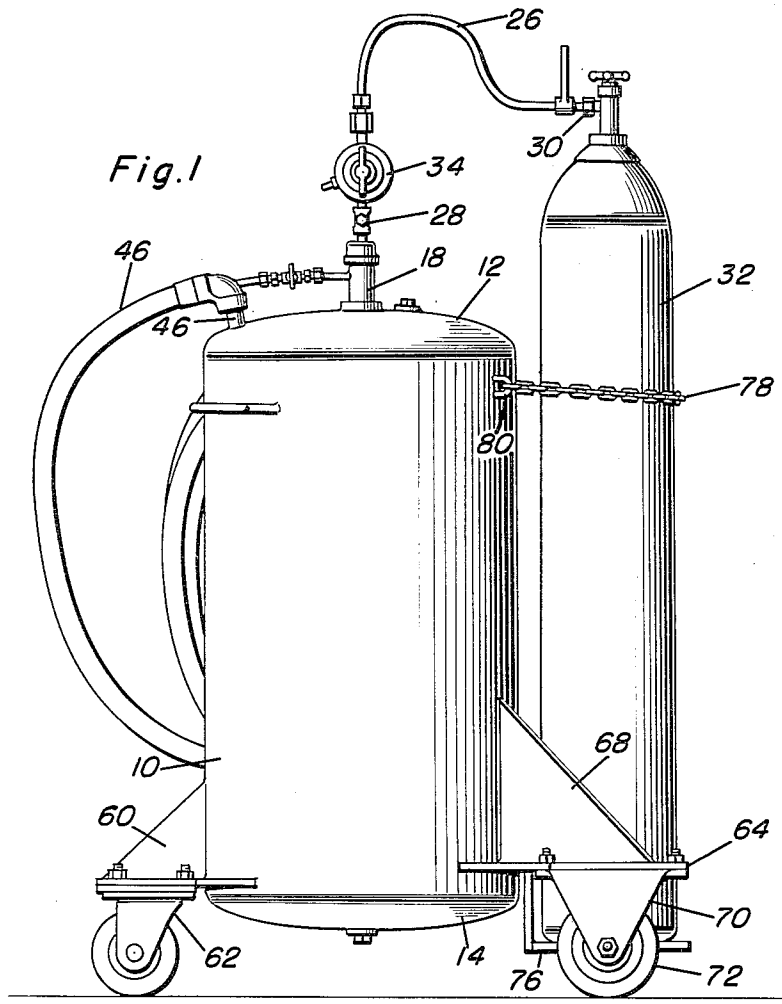
May 15, 1956 J. L. PHALEN 2,745,700

FIRE EXTINGUISHER

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Fig. 1



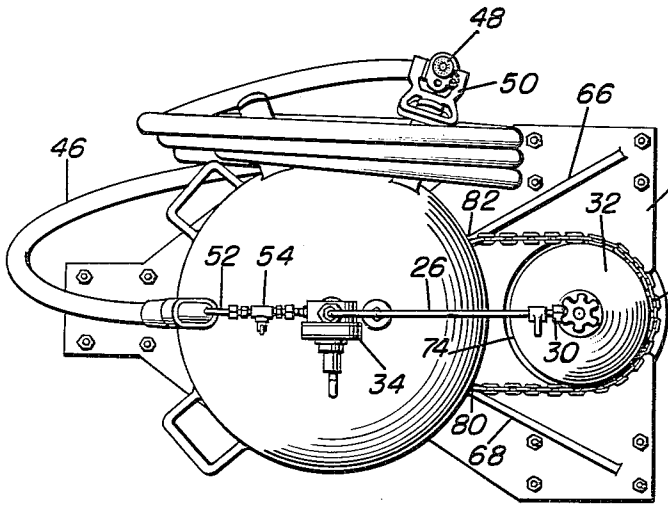


Fig. 2

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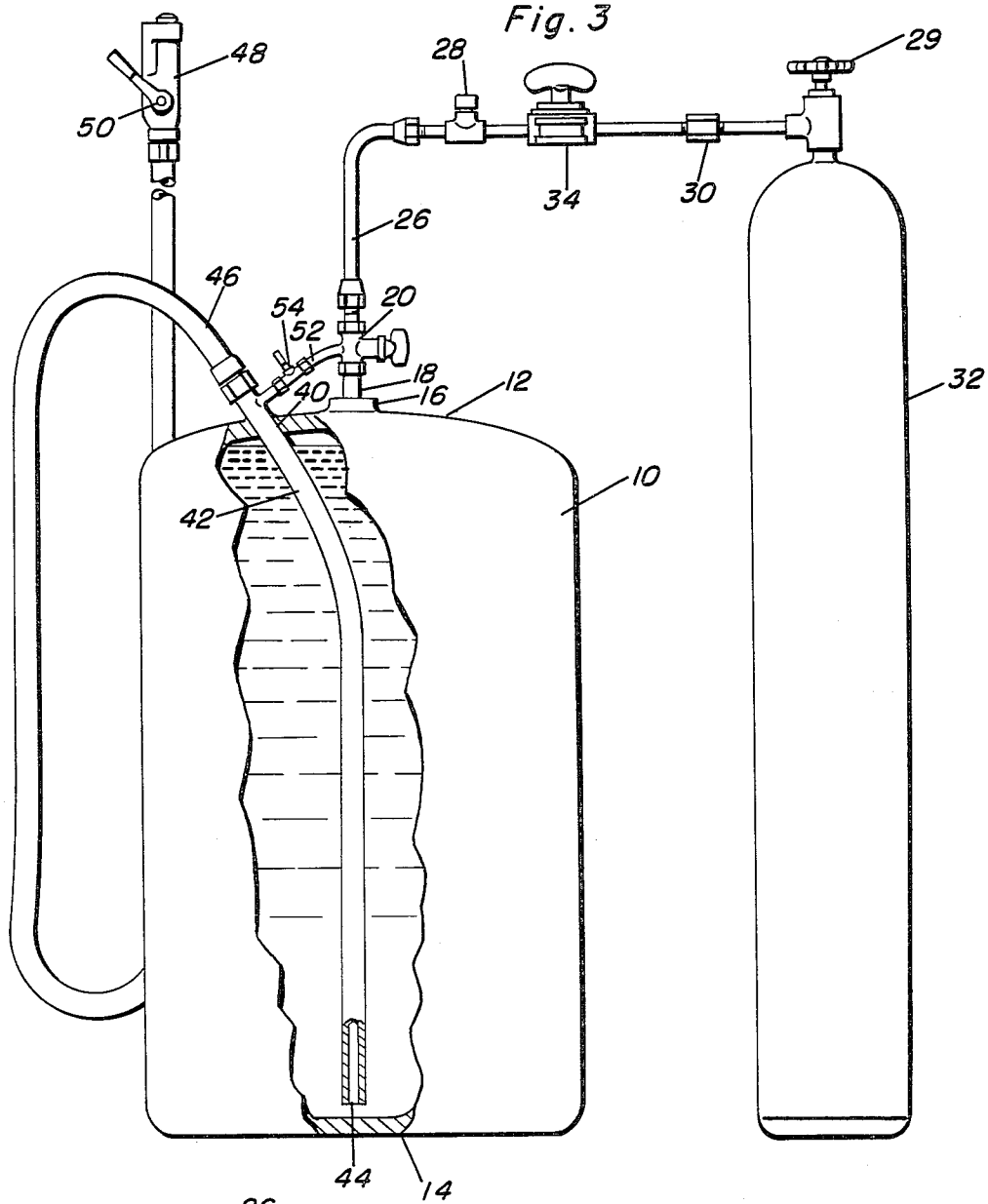
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FIRE EXTINGUISHER

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Fig. 3



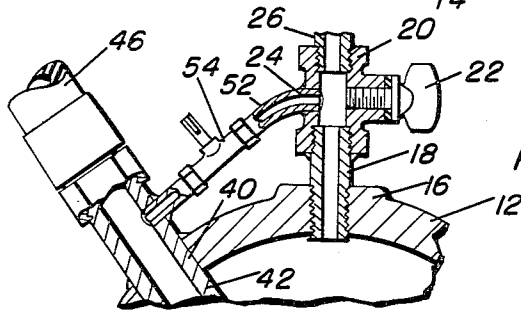


Fig. 4

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FIRE EXTINGUISHER

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3 Claims. (Cl. 299—95)

This invention relates to a fire extinguisher and particularly to a fire extinguisher having the pressure applied by a tank of nitrogen or other inert gas without the use of pumps or other pressure producing devices and utilizing a fog nozzle with or without the utilization of pressure gas to produce a high fog fire fighting blanket.

In fighting fires, it is not only necessary to be able to reach the fire to cover the fire with a blanket of smothering materials such as water or fog but it is also necessary to dissipate the heat so that the firemen can approach the fire.

The present invention produces a fire fighting equipment utilizing a tank of water or other fire extinguishing fluid placed under pressure by means of bottled gas, such as nitrogen and fed to a fog nozzle by any suitable length of flexible tubing and if desired, also, the fluid fed to the nozzle may be reinforced by a filling of pressure gas. Preferably a fog nozzle is attached to the fire fighting tubular conduit so that the spray is dissipated as a fine fog which not only smothers and extinguishes the fire but also absorbs the heat therefrom so that the firemen may approach readily to the place of the fire.

It is accordingly an object of the invention to provide an improved fire extinguisher.

It is a further object of the invention to provide a fire extinguisher without any moving parts.

It is a further object of the invention to provide a fire extinguisher utilizing a compressed gas for forcing the liquid into the fire.

It is a further object of the invention to provide a fire fighting equipment producing a fogging material including a non-inflammable gas.

It is a further object of the invention to provide a fog producing fire fighting equipment.

Other objects and many of the attendant advantages of the present invention will be apparent from the following detailed description taken in conjunction with the accompanying drawing in which:

Figure 1 is a side elevation of the fog fire extinguisher;

Figure 2 is a top plan view of the fire extinguisher;

Figure 3 is a schematic view with parts broken away and in section; and

Figure 4 is an enlarged sectional elevation of the fog control.

In the exemplary embodiment according to the invention, a fluid container 10 is provided in a substantially cylindrical form having a dome top 12 and a substantially flat bottom portion 14. The dome top 12 is provided with a boss 16 in which is an aperture into which is connected a conduit 18. A combination fitting 20 is applied to the top of the conduit 18 and is provided with a suitable plug connection 22 which is adapted to be sealed or loosened to produce a vent in the fitting 20. A T-connection 24 is likewise provided in the fitting 20 for a purpose presently to be described.

A pressure conduit 26 is connected into the fitting 20 and is provided with a control valve 28. The opposite end of the conduit 26 is provided with a fitting 30 adapted to be connected to the control terminal of a compressed gas bottle 32. A pressure regulating valve 34 is connected in series with the conduit 26 so that the pressure in the bottle 32 is properly distributed and controlled through the conduit 26.

The dome 12 is provided with a second aperture 40 into which is sealed a conduit 42 which extends substantially adjacent the bottom 14 of the container 10 and has an inlet opening 44 therein. A flexible conduit 46 is connected to the conduit 42 and extends to a nozzle 48, preferably of the fog producing type and having a shut-off valve 50 therein. A mixer tube 52 is connected into the T-connection 24 and is provided with a valve 54 for controlling the passage therethrough. The tube 52 is connected into the discharge tube 42 so that gas may be conducted through the T-fitting 24 into the discharge conduit 42.

In order to make the fire fighting equipment readily portable, a bracket 60 is connected to one side of the container 10 and a castor 62 is rotatably mounted thereon and extends below the bottom of the container 10. A shelf-like platform 64 is connected to the opposite side of the tank 10 and reinforced by means of suitable braces 66 and 68. Wheel supporting brackets 70 are mounted on the platform 64 and support a pair of wheels 72 in spaced relation to each other so that the wheels 72 with the castor 62 provide a three-point support for the container and the associated bottle 32.

In order to properly support the bottle 32, a recess 74 is provided in the platform 64 and a skeleton framework 76 is mounted therebelow to receive the bottom end of the pressure bottle 32. A flexible support member 78 is connected to eyes 80 and 82 secured to the side of the container 10, adjacent the top thereof so that the bottle 32 may be fastened within the loop 78 and the recess 74 rigidly supported adjacent the side of the container 10 so that it may be readily connected to the conduit 26.

Obviously any suitable support may be placed under the container and the associated bottle or bottles 32 and a particularly portable type of device would supply a motor tricycle device for supporting the tank 10 and the bottle or bottles 32 so that they may be readily moved about the place.

In the operation of the device according to the invention, the plug 22 is open to allow gas to escape from the container 10 while the valve 28 is tightly closed and liquid is introduced through the discharge tube 42 either through the conduit 46 or in a special conduit which may be connected to the conduit 42. The opening of the plug 22 allows the gas or air in the container 10 to escape so that fluid such as water or other fire fighting fluid may be readily filled into the container 10. After the container 10 is filled, the valve 50 will be closed, preferably with the conduit 46 full of fluid so that it will be ready to operate on a moment's notice. The plug 22 will then be closed so that the vent is closed into the T-member 20 and the valve 28 and the release valve 29 of the cylinder 32 will be open so that a regulated pressure from the high pressure cylinder 32 will be delivered into the top of the container 10 to place the fluid therein under pressure.

In the event of fire, the entire equipment may be readily taken to the fire or an exceedingly long conduit 46 may be used with a substantially stationary container 10. In either event, the fire fighter will control the valve 50 to produce a spray through the fog nozzle 48. Obviously, the size of the conduit 48 and the conduit 26, as well as the mixer tube 52 will depend upon the capacity of the container and the purpose for which the fire fighter is intended. It has been found that conduits 46, up to two and one-half inches in diameter have been readily

utilized with certain types of fog nozzles 48 to produce a very effective fire fighting fog.

When a particularly dense fog is required, the valve 54 may be opened allowing the pressure gas to be discharged directly into the conduit 42 and discharged along with the fluid through the pressure fog nozzle 48 so that a high intensity fog of very fine droplets may be produced. The amount of fog produced by the nozzle 48 not only blankets the fire but absorbs the heat generated thereby so that a fireman handling the nozzle 48 may readily advance behind the screen of fog into the immediate vicinity of the fire without being unduly heated.

It will thus be seen that the present device provides a completely self-contained unit with no moving parts for producing a high intensity fog that is extremely effective in fighting fires.

This invention is useful for a general spraying device in the fumigation of buildings infested by termites and other insect pests, as well as for spraying buildings and parts of buildings being erected in order to render them more fire proof, and also may be used for a general spraying of trees, grasses, growing crops, and other plant life and for the fertilization of soil and bringing nitrogen to grasses, trees, and other growing crops.

This extinguisher spraying device will make its own fog which can be created without the use of any fog nozzle and the reason for using a fog nozzle is to cover a wider area. The fog created by this extinguisher spraying device will put out any fire it comes in contact with by smothering and cooling it.

Compressed air may be used effectively to mix with the water and used as a substitute for nitrogen, or any other inert gas or any fluid chemical compound used or to be used for the extinguishing of fires.

This fire extinguisher spraying device can be applied to the outlet of any pump or gravity pressure tank by increasing the pressure 100 per cent or less on the pump or gravity pressure. By the outlet to any pump or gravity pressure tank is meant the connection of a fitting of the required or desired size between the pump or gravity tank outlet and the hose of the fire extinguisher or spraying device, so that the nitrogen, compressed air, or other inert gas may move into the water line and create the desired fog.

For the purpose of exemplification, a particular embodiment of the invention has been shown and described according to the best present understanding thereof. However, it will be apparent to those skilled in the art that changes and modifications in the construction and arrangement of the parts thereof may be readily resorted to without departing from the true spirit and scope of the invention.

What is claimed as new is as follows:

1. A fire extinguisher comprising a fluid container, said container having an opening adjacent the top thereof, a pressure conduit connected in communication with said opening, a fitting on said pressure conduit adapted to be connected to a compressed gas container, a gas pressure regulator in said pressure conduit, a valve in said pressure conduit, a discharge conduit communicating with said fluid container adjacent the bottom thereof, a fog producing nozzle on said discharge conduit, a tube communicating said pressure conduit with said discharge conduit, a bracket mounted on and secured to one side of fluid container, a caster wheel mounted on and secured to said bracket, a platform mounted on the opposite side of said fluid container, a pair of wheel supporting brackets depending from said platform, spaced apart wheels journaled on said brackets, a recess in said platform adapted to receive the end of a compressed gas bottle, and a flexible loop secured to said tank and adapted to support a gas bottle seated in said recess.

2. In a fire extinguisher which includes a fluid container with a fitting therein adapted to connect with a pressure source from a compressed gas container, a discharge conduit operatively connected with said fluid container and having a nozzle thereon, a bracket secured to one side of said fluid container in spaced relationship to the top and bottom of said container, a wheel carried by said bracket, a platform secured to the opposite side of said fluid container and spaced from the top and bottom of said fluid container, depending wheel supporting brackets secured to said platform and depending therefrom, wheels carried by each of said wheel supporting brackets, supporting means secured rigidly to said platform and to the side of said fluid container, said platform having an opening therein between said supporting means and adapted to accommodate a compressed gas container, and a framework located below and spaced from said platform but secured to and carried by said platform in order to support the bottom of the compressed gas container.

3. The fire extinguisher of claim 2 wherein said fluid tank has a pair of brackets affixed thereto intermediate the top and bottom ends thereof, and a flexible loop secured to said pair of brackets and extending around the gas container to hold said gas container assembled with the fluid tank and on said framework.

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