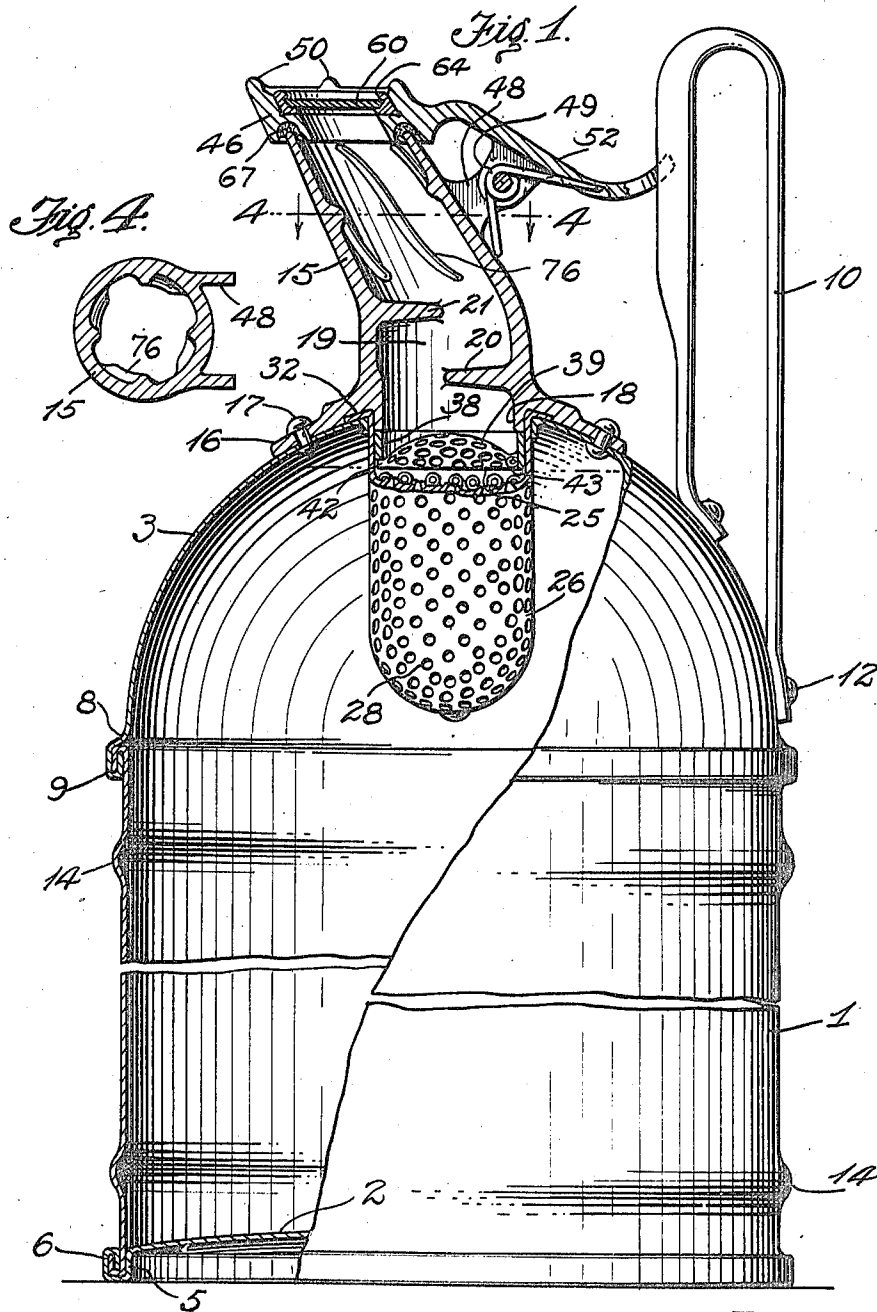


S. S. WEIL.
 APPARATUS FOR PROTECTING VOLATILE LIQUIDS.
 APPLICATION FILED AUG. 17, 1914.

1,283,384.

Patented Oct. 29, 1918.

3 SHEETS—SHEET 1.



Witnesses:

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 Mattie Sinclair.

Inventor.
 Sydney S. Weil.
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 Atty.

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3 SHEETS—SHEET 2.

Fig. 2.

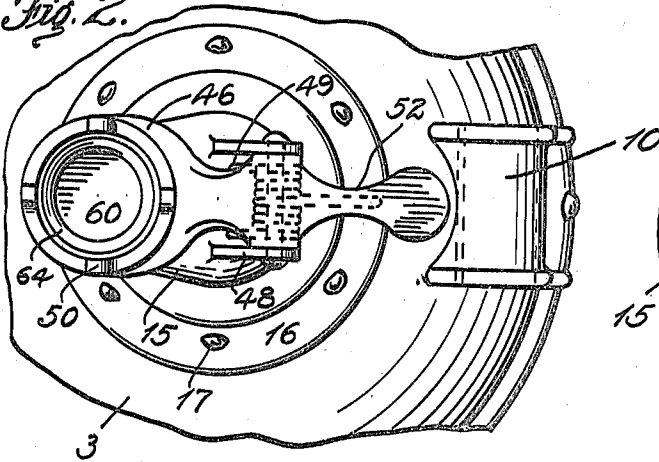


Fig. 5.

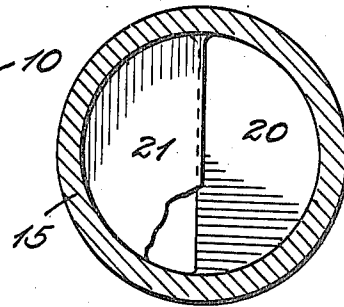


Fig. 6.

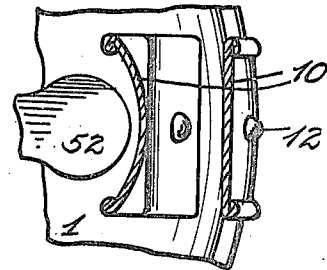


Fig. 3.

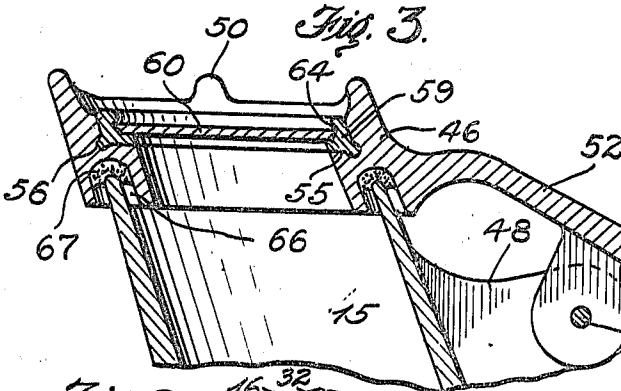


Fig. 8.

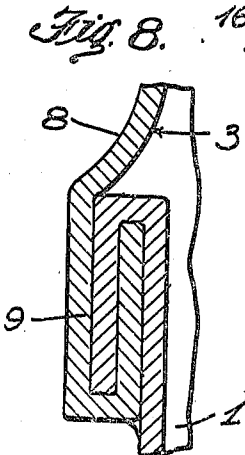


Fig. 9.

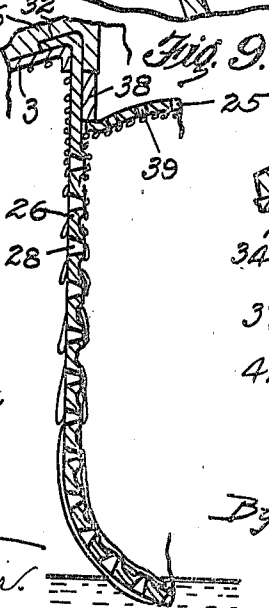
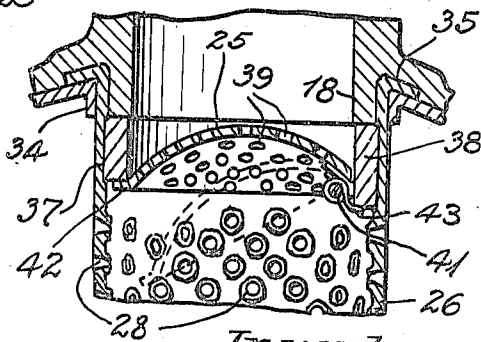


Fig. 7.



Witnesses:

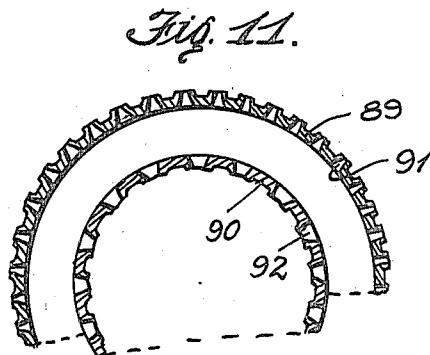
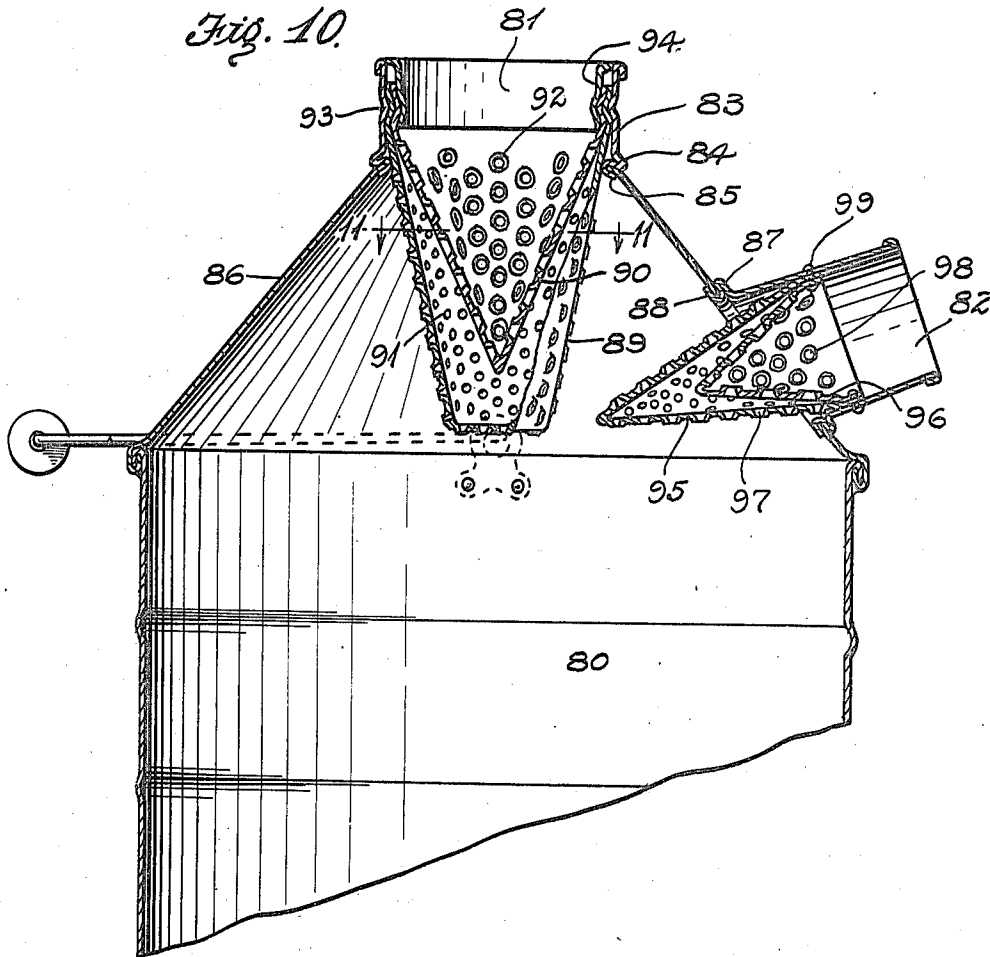
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 3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

SYDNEY S. WEIL, OF LOS ANGELES, CALIFORNIA.

APPARATUS FOR PROTECTING VOLATILE LIQUIDS.

Specification of Letters Patent.

Patented Oct. 29, 1918.

1,283,384.

Application filed August 17, 1914. Serial No. 857,192.

To all whom it may concern:

Be it known that I, SYDNEY S. WEIL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Apparatus for Protecting Volatile Liquids, of which the following is a specification.

This invention relates to an apparatus for protecting volatile liquids, and more particularly to a container therefor having an improved spout, or closure means, through which said liquid can be supplied to said container, and through which said liquid can be discharged from said container. Among the principal objects of this invention are to provide improved means for preventing evaporation of the liquid in the container; to provide means for controlling the escape of gas from said receptacle, when it is subjected to high temperature, as in the case of fire, whereby to avoid explosion; to provide means for conveniently and securely supporting and using said receptacle with one hand; to provide means for preventing the contents from being accidentally spilled in case said container is overturned; and, in general, to provide a simple, practical and comparatively inexpensive device of the character referred to.

In order to fully explain the invention, I have illustrated the same on the accompanying sheets of drawings, which I will now describe.

Figure 1 is a view partially in central vertical section and partially in side elevation of a safety device or can constructed in accordance with the present invention.

Fig. 2 is a fragmentary view of the top of the can, parts being shown in plan.

Fig. 3 is a detail fragmentary view upon an enlarged scale of the outlet portion of the distributor or spout, the protection cap therefor being also shown.

Fig. 4 is a transverse sectional view through the distributor upon the line 4-4 of Fig. 1.

Fig. 5 is a detail transverse sectional view through the said distributor showing the baffle plates therein, the edge of one being somewhat broken away to show the other baffle plate beneath it more clearly.

Fig. 6 is a fragmentary detail view showing a portion of the can and showing the handle in section.

Fig. 7 is a fragmentary detail sectional

view, showing on an enlarged scale, the upper portion of a partition in the lower end of the discharge spout.

Fig. 8 is a detail sectional view on an enlarged scale of the double seam joint between the dome and the body portion of the can or receptacle.

Fig. 9 is a fragmentary sectional view through a portion of the partition and a part of the valve, illustrating the collection of the fluids on the said partition.

Fig. 10 is a central vertical sectional view through the upper portions of a can or receptacle of a modified form and illustrating the use of double partitions in the inlet and outlet openings of the receptacle.

Fig. 11 is a fragmentary horizontal sectional view taken upon the line 11-11 of Fig. 10.

Referring to the drawings by reference numerals, 1 designates a cylindrical body with an arched bottom 2 and a dome top 3, all made of any suitable acid proof and non-corrosive material. The bottom 2 is secured to the lower end of the body 1 as shown at 6, the joint being fused with hard solder, to hermetically seal the joint as an extra precaution against any possible leakage. The dome top 3 is similarly connected to the body 1, by an outwardly flaring flange 8, and a convoluted double seam joint 9, fused with hard solder for hermetically sealing said members. An inverted U-shaped handle 10 is secured to the dome top 3, by rivets 12, which are, after being riveted, fused with hard solder on the inside. Rounded beads 14 serve to increase the strength of the body 1.

A spout 15 is provided and preferably curved or bent intermediate its length so as not to have the discharge orifice presented directly toward the perforations or capillary passages 39 of a diaphragm or intermediate valve 25. Said spout has a decreasing diameter toward its outlet but is made sufficiently large to take care of gas flow due to any high pressure of gas, caused by fire. Said spout is formed with a base flange 16, by which it is secured to the top of the dome 3, by means of rivets 17. Below the flange 16 and forming the lower extremity of the conduit 15, is a depending flange 18, which projects into the receptacle a short distance. The adjacent vertical portion 19 of the conduit 15 is provided with inwardly projecting baffle plates 20 and 21 which extend in-

wardly from opposite sides of the conduit a sufficient distance to act as barriers, and are so spaced as not to obstruct the flow of liquids under normal conditions or decrease the area of the conduit in proportion to that of the outlet orifice. Provision is thus made against any priming of fluid when the receptacle is subjected to intense external heat and intercepting and collecting any moisture or fine drops of liquid which may be carried upward by a current of gas passing through the diaphragm 25, for said baffles deflect the fluid or heavier matter and turn it back into the fluid reservoir, with the force of its momentum, augmented by the action of gravity, so that the matter will descend into the receptacle despite any upward current of gas, thus gas only is allowed to escape through the passageway of the conduit 15. The baffle plates 20 and 21 are so located as to prevent access to the lower part of the conduit and render it impossible to insert any implement for rupturing or destroying the diaphragm 25, or the member 26.

Suspended below the conduit and extending downwardly from the neck 18 is a cylindrical member 26, forming a tubular guard, its walls having a multiplicity of comparatively fine apertures therein which are preferably cone shaped and provided with serrated edges, the apertures forming capillary passages 28.

The upper portion of the member 26 is not perforated for a short distance, and at the lower end thereof an outwardly flaring seating flange 32 is formed and adapted to rest upon the outer surface of the dome 3. The material of the can is preferably turned inwardly around said opening to form a depending lip 34 which fits closely upon the cylindrical member 26, immediately beneath the flange 32. The base flange 16 is formed with a recess 35 which receives and covers the said seating flange 32, and the adjacent parts of the said member 26 are thus held tightly in place between the neck 18 and the lip 34 making a very tight joint between the parts.

The apertures or passages 28 are preferably spaced in staggered relation and a predetermined distance apart. They are preferably of such a size and of such a number to the square inch, that their combined area is substantially greater than the area of the duct in the spout, and they are so proportioned as not to restrict the ingress and egress of the fluid under normal conditions, nor the egress of gas under abnormal conditions.

In the upper part of the tube 26 is located a diaphragm or valve member 25 which is provided with apertures 39, preferably like the apertures or passages 28 of the member 26 and act in a similar way to assist in forming a partition between the atmosphere and the gas within the receptacle, increasing

the density of gas and thereby preventing evaporation. The aggregate area of the said apertures approximately corresponds to or equals the area of the outlet opening or orifice of the conduit 15, but of course may be varied in accordance with the volume of the reservoir or receptacle. The said diaphragm or valve 25 is preferably carried by a ring 38, which fits closely in the upper end of the tube 26, and may be pressed or sprung into a slight annular depression 37. The said diaphragm or valve is preferably of upwardly convex shape as clearly shown in Fig. 7. The said valve is hinged at 41 to the lower portion of the ring 38. A spring 43 normally closes said valve member. A projection or tongue 42, limits its upward movement. As indicated by dotted lines, the valve 25 will be depressed when liquids are poured in the can, the partial movement of the said valve in this way facilitating the inflow of the liquids. The valve 25 and the ring 38 will normally stand above the liquid level indicated in dotted lines in the upper part of the can or receptacle.

In forms of the device that employ a spout or distributor as 15, it is preferable to provide a cap 46, adapted to fit upon and close the outlet of the distributor under ordinary conditions. The said cap 46 is carried by an arm 52, which is provided at its outer end with an operating portion by which said arm may be depressed for raising the cap. A pivot pin 47 secures the arm to lugs 48 on the spout 15. Said cap is normally closed by a spring 49. Extending from the upper surface of the cap 46, are lugs or studs 50, of equal length and adapted to always maintain a space above the central portion of the cap for the escape of gas under certain conditions no matter what may engage the cap.

The cap is also provided with relief valve, comprising a disk 60, seated in a recess formed in the said cap 46, for closing the passage formed through the said cap 46. At the angle between the said walls of the recess 55, a groove is formed at 56 which assists in holding a seating band or breakable ring 59, which is located in the said recess and holds the relief valve or disk 60 in place. Said band or ring 59 is fitted into the recess 55 and is compressed around the edges of the disk 60 whereby an overhanging holding edge is formed about the said disk 60, and the material of the said band is also compressed so as to fill the groove 56, whereby it will be held more or less firmly in the recess 55. The disk 60 is formed with a slightly beveled edge whereby the outer corner is capable of cutting or shearing the material of the band 59, when the pressure upon the inner surface of the disk, exceeds the shearing resistance offered by the metal of which said band or ring 59 is composed. The cap or closing member 46 is preferably

provided on its under side with a recess or groove 66, which is of a proper depth and width to fit upon the outer edge of the conduit outlet or orifice, and to receive a gasket 67, preferably of material which will not be detrimentally affected by chemical action. Said gasket insures a tightness of joint around the edge of the orifice of the conduit 15 that positively cuts off any flow of gas or liquids even if the can is tipped over or turned upside down. While the gasket or packing 67 is very desirable it can be dispensed with and the contacting surfaces of the orifice and the groove 66 machined or rendered smooth and close fitting for forming a serviceable joint. The flanges depending upon each side of the groove 66, overlap and protect the smooth edges of the conduit orifice against injury and damage through possible rough handling. It will be noted that the upper surface of the cap 46 recedes outwardly from the securing band or ring 59, affording an ample vaporizing space around the edge of the disk when it is blown off by excessive internal pressure permitting the escaping substances to admix with the oxygen of the atmosphere. This rarefied mixture is then deflected by the lugs 50 and conducted away through the spaces between them, particularly if anything is resting upon the cap.

The interior of the conduit 15 is preferably provided with spirally disposed ribs 76 in the outer portions thereof, providing air exhaust channels around the stem of a funnel or like device which may be inserted for pouring liquids into the receptacle, the escape of air from the receptacle as it is displaced by the liquids, being thus amply provided for.

The operating end of the cap lever 52 preferably extends quite close to the handle 10 of the can, and the inner leg of the said handle is preferably rounded so as to approximately fit partially around the end of said handle as clearly shown in Figs. 1, 2 and 6 of the drawing, the structure being such that the thumb when pressing upon said handle to lift the cap, will not squeeze between the handle and the cap lever or be pinched. By forming the handle 10 with a narrow flat loop as shown in Fig. 1, the can may be easily manipulated with one hand, the fingers of the hand, being thrust through the said flat loop of the handle, and the thumb engaging the end of the lever 52.

The space above the dotted line in the upper part of the receptacle 1 forms a dead air space in which a very small amount of air will be confined and probably some non-reactive gas, which because of its buoyancy and tendency to rise forces out any traces of oxygen that may have entered the receptacle.

When the receptacle is filled with liquid the automatic self closing cap or valve 46

will be closed by its spring hinge, practically hermetically sealing the receptacle. When it is desired to discharge the contents of the receptacle it is only necessary to tilt the same to the required angle and press upon the lever 52 so as to raise the cap 46. The apertures in the diaphragm or valve permit the liquid to flow out of the receptacle, but resist the return therethrough of any oxygen formed in the conduit. After withdrawing the liquid the cap 46 will close under the action of the spring 49, and the conduit 15 will not only be closed thereby but the pressure of the cap upon the edges of the orifice of said conduit will prevent any dripping from the said orifice.

The form and location of the conduit 15 and the orifice thereof is such as to prevent the liquid from running down upon the exterior of the receptacle and being wasted as frequently occurs when attempting to pour liquids from full receptacles. The shape of the structure is such also that the oil or other liquids will be concentrated and leave the outlet or orifice in a solid stream whereby spattering will be prevented.

A small quantity of air in the receptacle at any time, only serves to produce with whatever gas escapes from the liquid, a denser gas or mixture which is inert and non-explosive. This inert body of gas within the receptacle is prevented from escape by reason of the fact that it is heavier than the air and is retarded in any movement toward the discharge outlet by friction in the apertures or capillary passages formed in the perforated partition 26 and also those in the diaphragm or valve 25. For the same reason atmospheric air or oxygen therefrom cannot make its way into the receptacle in any appreciable quantities or in anything like sufficient amount to produce an explosive mixture within the receptacle.

If the temperature is sufficiently high gas will be generated in the receptacle and will rise through passages 39 of the valve 25 whereby the gas will be separated into small bubbles or jets during its upward passage through the partition and valve and be thus somewhat cooled. Any globules or finely divided drops of liquid due to the cooling will strike against the baffles 20 and 21 and being arrested thereby will induce a return flow into the unvaporized portion of liquid. Should the gas pass out with great rapidity, the abrupt turn in the conduit 15 will further aid in the collection of the drops of fluid thrown out by the gas current and in conjunction with the baffle plates return the same within the receptacle.

In the event of the generation of excessive pressure in the receptacle, as in the case of a conflagration, the gas confined will pass the diaphragm and the pressure will overcome the resistance of the spring 49 so as to raise

the automatic valve 46 or cap. The escape of the gas through the conduit with its decreasing area, increases the velocity of the gas, and the ribs 76 give a spiral direction to the gas whereby it is whirled and spread out thinly permitting the oxygen of the air to readily commingle therewith and facilitate its rapid combustion and consumption in the surrounding fire, whereby the serious danger of the presence of such vapors in the atmosphere is avoided. Any tendency of the flame to enter the conduit 15 is obviated by the structure of the device since the volume of gas escaping is under greater pressure than the atmosphere and occupies the full area of the contracted orifice of the conduit, making it impossible for any oxygen to enter. Upon the decrease of the internal pressure, the automatic valve 46 will be moved to its seat under the action of the spring 49, gradually checking and finally shutting off the flow of the gas to the air and smothering flame by the exclusion of oxygen. Of course further escape of gas from the receptacle will be cut off if the fire is extinguished and the temperature reduced.

The construction of the collapsible emergency exhaust relief valve carried by the cap is an important feature of the invention and prevents a possible rupturing of the receptacle from overpressure. Particularly is this structure useful if any article be left upon the cap, the can can be left in a position which prevents the relief action of the cap and an explosion of the can which might be caused. By the construction of the said cap however, the collapsible ring, being weaker than the remaining portions of the structure, will give way first, releasing the disk 60 thus automatically relieving the expansive force within the receptacle and any consequent danger. It is, of course, necessary that the said disk be so held that it will resist less pressure than the receptacle and will therefore be ruptured or blown out before the safety point in the strength of the can or receptacle itself has been reached. In other words, the emergency exhaust valve and its holding means is weaker than the weakest part of the receptacle.

If the self-closing cap is maintained in an open position, the atmosphere is still prevented from having access to the interior of the receptacle as the perforations of the diaphragm or apertured intermediate valve offer their resistance to the flow thereof and increase its density and thus tend to seal the passages against the flow of gas, the movement of air or gas the one way or the other being prevented the densities of the atmosphere and gas consequently equalize on either side of the perforated partition thereby preventing evaporation thus minimizing under normal conditions waste from

this source and danger of explosion while at the same time the free discharge of air under abnormal conditions and excessive pressure can be had at all times. In actual use it has been demonstrated that with the self closing cap broken off or accidentally held open, the apertured diaphragm 25 effectually shuts off the flow of the products of combustion from the chamber in the perforated partition under normal atmospheric conditions and an open flame may be safely applied to the orifice of the conduit without danger of ignition and explosion as there is nothing present in the conduit that will ignite. The partition 26 with its apertures formed with roughened edges operates as a collecting means for any liquids that are carried by the gas and which collect upon the surface of the partition. Small globules of condensed materials collect as shown in Fig. 9, and as they gradually run together as globules are added to them, form drops as clearly shown in said Fig. 9, and finally small streams that run down the walls of the partition and drop into the receptacle. The collection of the globules still further impedes the inflow of oxygen or the outflow of gases.

While the form of the device illustrated in Fig. 1 is adaptable to all sizes of cans, it is especially well adapted for cans of medium and small sizes. In using quite large cans, as for instance cans of five gallons or more capacity, and cans for experimental purposes, the form of the device illustrated in Figs. 10 and 11 are especially well suited to the purpose. As shown in Fig. 10, the can 80 is provided with a large inlet opening 81 at the top and in the side wall of the dome with an outlet opening or spout 82. A neck or collar 83 is fitted into the opening in the top of the can and bent so as to form a double outer flange 84 and a single inner flange 85 adapted to receive between them the slightly inturned edges of the top of the can dome 86. When these flanges are rolled tightly upon the edge of the dome, a tight joint is formed between the parts, which is not affected by heat. The spout 82 is secured in its opening in the dome, in the same way, being provided with an outer double flange 87 and an inner single flange 88.

The inlet opening is provided with a perforated inner partition 89 and a perforated outer partition 90. The partition 89 is somewhat larger than the partition 90, and has smaller perforations or capillary passages than said partition 90. The perforations or passages 91 of the partition 89 are tapered and provided with sharp or serrated edges usually on the inner surface of said partition. The perforations 92 in the outer partition 90 are made larger than the perforations 91 and may be tapered in the opposite

direction, and have their sharp or serrated edges upon the outer surface of said partition as shown in the drawings. The upper edges of the two partitions are applied together and rolled or crimped in the neck 83 as at 93. A mouth piece or collar 94 is also rolled or crimped upon the said upper edges of the partition and its upper edge is turned outwardly against the mouth of the neck to make a smooth protected entrance for the can.

The spout at the outlet opening has inner and outer partitions 95 and 96, one arranged within the other and having perforations 97 and 98 similar to the perforations 91 and 92. The said partitions are similar to the partitions 89 and 90, and their outer edges are applied together within the spout 82 and secured thereto by rivets 99. It will be evident that the shapes of the double partitions may be greatly varied without departing from the spirit of the invention and that they may be conical, frusto-conical, or cylindrical with rounded or flattered ends as found most desirable. The outer partitions 90 and 96 are in effect perforated diaphragm similar to the diaphragm 25, with the exception that they are not pivoted or hinged, but are fixed in place. The functions of the double partitions are the same as the functions heretofore described with respect to the partition 26 and the diaphragm 25. They operate to interpose a dead gas or air space between the contents of the can or receptacle and the exterior atmosphere, whereby the gases within the receptacle under normal conditions cannot pass out, and the oxygen from the atmosphere cannot enter in sufficient quantities to form inflammable and explosive mixtures. With a can of the type shown in Fig. 10, caps, or other outer safety valves are not usually employed, though of course, they can be used if desired.

With the method of this invention, it is possible to keep igniferous liquid, even in the presence of a fire without the explosion of the contents of the receptacle used and in this way loss of life and property is effectively prevented.

It should be understood that the means shown and described as an embodiment of the invention is capable of considerable modification within the spirit of the invention so long as the salient features of the invention are retained, the drawings being merely illustrative and not limiting in any sense. As the process and apparatus may be used in various ways and environs, it is intended in the present application to cover all modifications of the invention which do not involve a departure from the spirit and scope thereof.

What is claimed is:

1. An apparatus for protecting volatile liquids comprising a container therefor, a

discharge spout thereon, an inwardly projecting extension of said discharge spout formed of perforated material, a cover like member of perforated material in said extension near its juncture to said container, 70 and baffle members arranged in staggered relationship in said discharge spout, substantially as and for the purpose described.

2. An apparatus for protecting volatile liquids comprising a container therefor, a 75 discharge spout thereon, an inwardly projecting extension of said discharge spout formed of perforated material, a plurality of projecting funnel-holding members formed on the inside wall of said spout, and 80 baffle members arranged in staggered relationship in said discharge spout, substantially as and for the purpose described.

3. An apparatus for protecting volatile liquids comprising a container therefor, a 85 discharge spout thereon, an inwardly projecting extension of said discharge spout formed of perforated material, a plurality of spirally disposed funnel-holding members formed on the inside wall of said spout, and 90 baffle members arranged in staggered relationship in said discharge spout, substantially as and for the purpose described.

4. An apparatus for protecting volatile liquids comprising a container therefor, a 95 discharge spout thereon, an inwardly projecting extension of said discharge spout formed of perforated material, a plurality of spirally disposed funnel-holding members formed on the inside of said spout, and 100 a cover-like member of perforated material in said extension near its juncture to said container, substantially as described.

5. An apparatus for protecting volatile liquids comprising a container, a discharge 105 spout therefor, an inwardly projecting extension of said discharge spout made of perforated material, and a hinged cover member of perforated material mounted on said extension, and adapted to be moved inwardly 110 when liquid is poured into said container through said spout and said extension, substantially as described.

6. An apparatus for protecting volatile liquids comprising a container, a discharge 115 spout therefor, and spirally disposed ribs on the inner wall of said spout, for the purpose referred to.

7. An apparatus for protecting volatile liquids comprising a container, a discharge 120 spout therefor, spirally disposed ribs on the inner wall of said spout, and a cover member hingedly secured to said spout and adapted to close the same, said cover member being provided with means adapted to 125 yield to excessive internal pressure, substantially as described.

8. An apparatus for the safe holding of volatile liquids comprising a containing receptacle having an outlet opening, and a 130

partition comprising an inwardly extending tubular member at said opening having a perforated wall, a perforated valve member mounted in said partition, and means for normally keeping said valve member in closed position, said perforations being of tapering form.

9. An apparatus for the safe holding of volatile liquids comprising a containing receptacle having an opening therein and a partition in said opening having tapering apertures in its walls, whereby gases which seek to pass the said partition are subjected to retarding friction.

10. An apparatus for the safe holding of volatile liquids comprising a liquid containing receptacle having an outlet opening and a wall having tapered apertures with roughened edges interposed in said opening between the liquids and the atmosphere.

11. An apparatus for the safe holding of volatile liquids comprising a can having an opening at the top, a perforated tubular partition adapted to fit into said opening and having an out-turned flange for resting upon the can, a spout adapted to be secured over said opening and having a recess for receiving said out-turned flange, and having a depending flange fitting within the said partition, whereby the flange is locked in place and means for securing the said spout to the can.

12. A device of the class described comprising a receptacle having an opening in the top, a perforated, tubular partition adapted to fit into said opening, an outlet member forming a distributing conduit, said member being offset so that its discharge orifice is not directly over the opening in the receptacle, and baffle projections in said outlet member for protecting the said partition.

13. A device of the class described comprising a can having its component parts joined together by convoluted double seam joints, whereby internal pressure will tend to make them tighter, said can having an opening in the top, an outlet member forming a distributing spout, a perforated member interposed between the said outlet member and the interior of the can, whereby the flow of gases out of or into said can is retarded, baffle projections in the said outlet member projecting inwardly from opposite walls, whereby the perforated member cannot be tampered with and the collections due to condensation are caused to run back into the can, the said outlet member also having spirally disposed ribs for permitting the escape of air and carbonic gases from the can when it is being filled with liquid, and means for controlling the flow of liquids from the said outlet member.

14. A device of the class described comprising a receptacle having an outlet open-

ing at the top, a tubular partition mounted in said opening and extending into the receptacle, the lower portion of the partition being perforated, while the upper portion thereof is imperforate for a distance below the opening in the receptacle to maintain a dead air and gas space in the top of the receptacle, an outwardly convexed diaphragm hinged in the said tubular partition in the lower part of the imperforate portion thereof, and adapted to swing inwardly when liquids are poured into the receptacle, a spring normally holding said perforated diaphragm in its elevated position, and a distributing spout guarding the said partition and diaphragm.

15. A device of the class described comprising a receptacle having an opening in its walls, a distributor mounted at said opening, an evaporation controlling member at the inner end of said distributor, a cap mounted upon the distributor and having an annular groove adapted to fit closely on the outlet orifice of the distributor, and a safety member carried by said cap and capable of releasing excessive internal pressures in the event of the cap being obstructed.

16. A device of the class described comprising a receptacle having an opening in the top, a distributor covering said opening, an evaporation controlling member at the inner end of the distributor, a spring controlled cap at the outer end of the distributor having a valve seat formed therein, and a safety valve element in said cap.

17. A device of the class described comprising a receptacle having an outlet distributor, an evaporation controlling member connected with said distributor, a spring actuated obturator normally closing the said distributor and having a central recess, a disk mounted in said recess, breakable material forced between the edges of the disk and the walls of the recess, said disk having a sharp edge adapted to shear the breakable material away under excessive pressure, said recess also having a groove in which the breakable material is forced for firmly holding it in the obturator, and a handle for lifting the obturator from its seat when liquids are to be poured from the receptacle.

18. A device of the class described comprising a receptacle for volatile liquids, a distributor forming an inlet and outlet conduit therefor, a cap pivotally mounted on said distributor, and adapted to fit snugly upon the orifice thereof, said cap having a central opening, a safety disk held in said opening, friable material holding said safety disk in place, the seat cap having a series of separated projections with escape passages between them, whereby the obstructing of the cap by anything will not prevent the blowing out of the disk under excess-

sive pressure in the receptacle, the spaces between the said projections permitting of the escape of gases irrespective of said obstruction.

- 5 19. A device of the class described comprising a receptacle, having a distributor spout forming an outlet conduit, a safety cap controlling the outlet orifice of the spout, a lever carrying said cap, a spring
10 engaging the lever for normally closing the cap, and a handle projecting from the re-

ceptacle and having a curved guarding portion partially inclosing the end of said lever, whereby the lever is protected from injury and from causing the accidental opening of 15 the said cap.

In testimony whereof, I have hereunto set my hand in the presence of two witnesses.

SYDNEY S. WEIL.

Witnesses:

CASELL SEVERANCE,
EARLE R. POLLARD.