

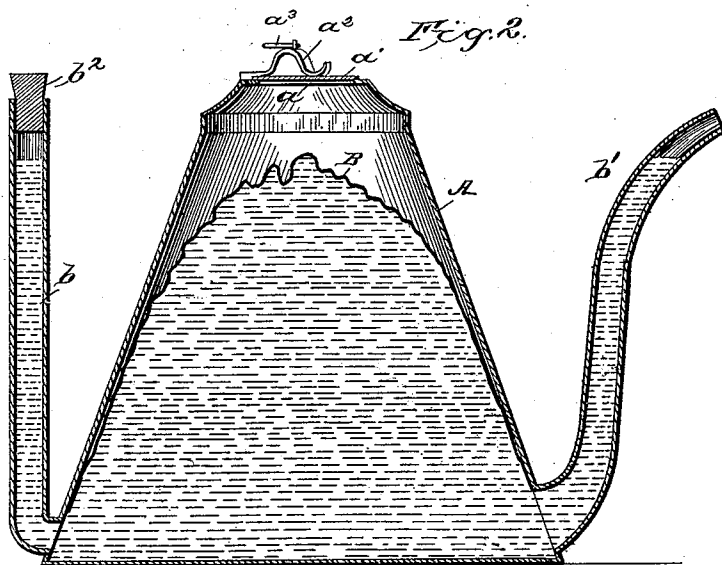
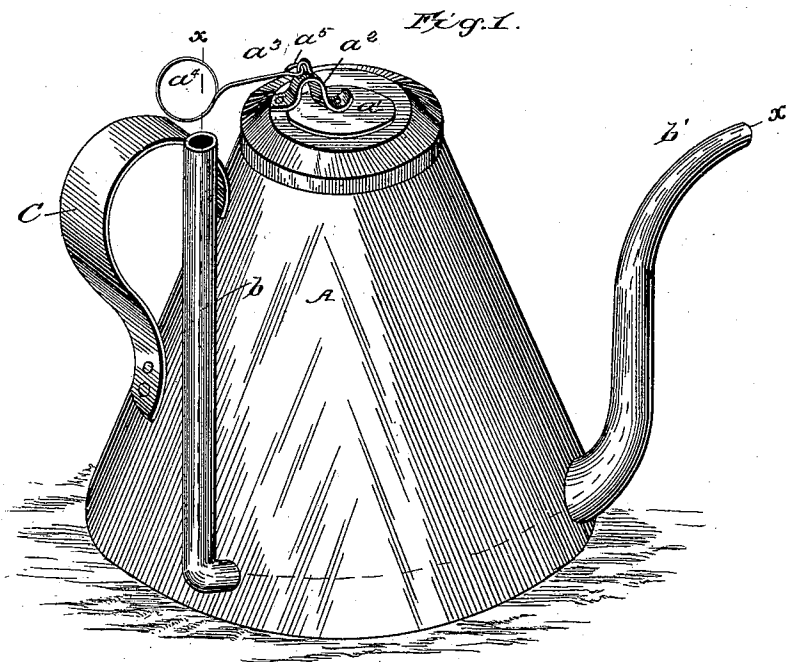
(No Model.)

4 Sheets—Sheet 1.

D. STEENEKEN.  
SAFETY OIL CAN.

No. 336,826.

Patented Feb. 23, 1886.



WITNESSES

*Jos. A. Ryan*  
*Wm. J. King*

INVENTOR

*D. Steeneken*  
By *his Attorney*  
*Chas. E. Barber*

(No Model.)

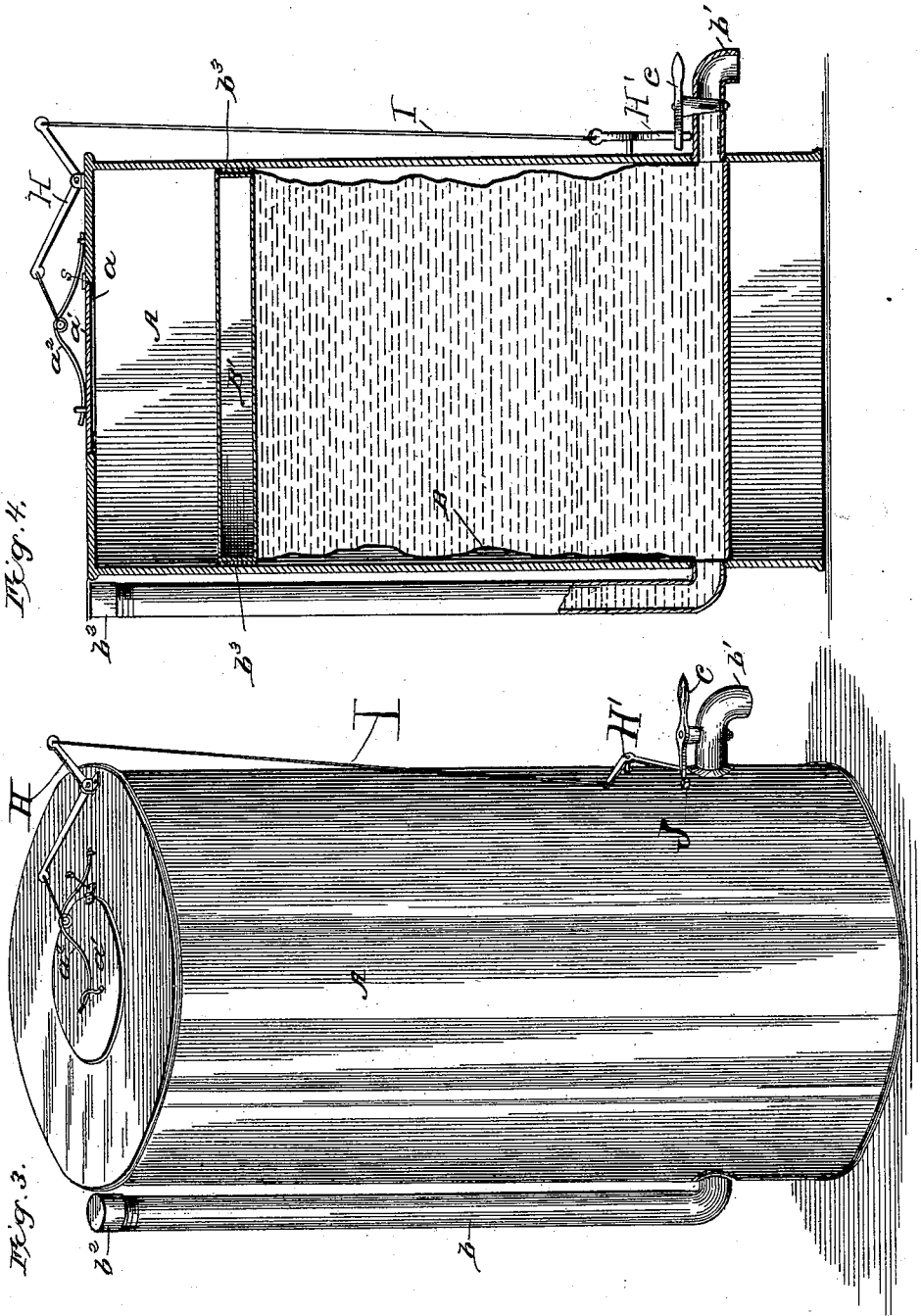
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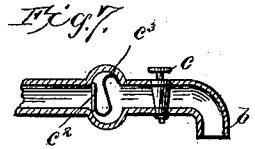
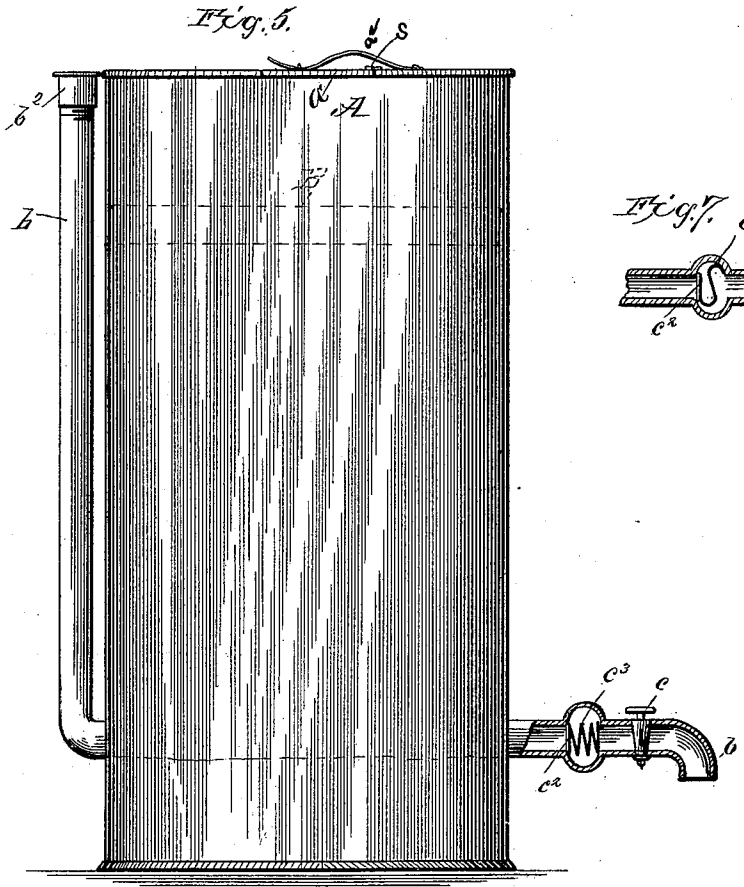
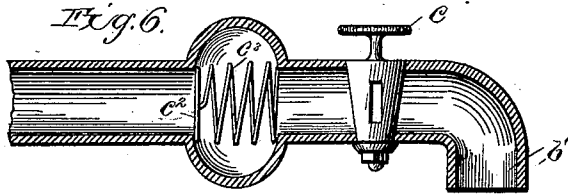
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*Geo. A. Ryan*  
*Wm. J. King*

*D. Steenekun*  
INVENTOR  
*per Chas. E. Barber*  
*his* Attorney

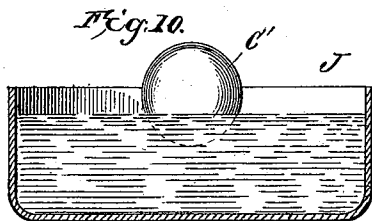
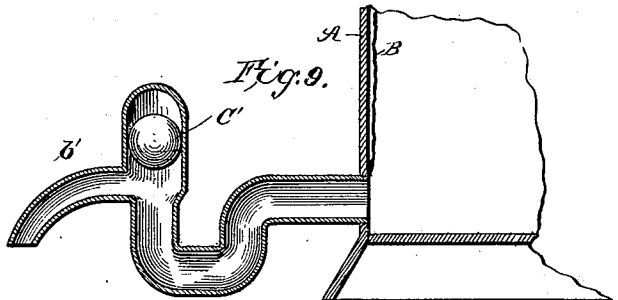
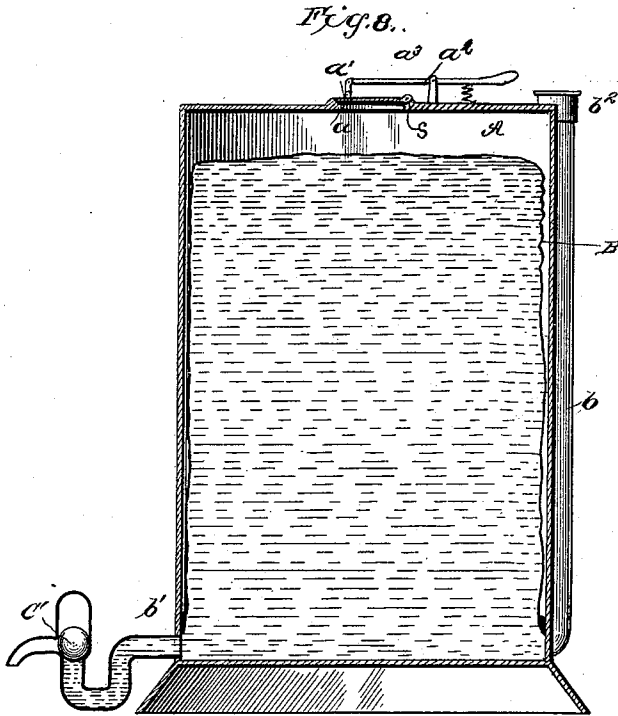
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4 Sheets—Sheet 4.

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WITNESSES:

*Jos. A. Ryan*  
*J. S. Ketter*

INVENTOR

*D. Steenekew*  
BY *Chas. E. Barber*  
His ATTORNEY

# UNITED STATES PATENT OFFICE.

DIEDRICH STEENEKEN, OF SAN ANTONIO, TEXAS.

## SAFETY OIL-CAN.

SPECIFICATION forming part of Letters Patent No. 336,826, dated February 23, 1886.

Application filed November 2, 1885. Serial No. 181,645. (No model.)

*To all whom it may concern:*

Be it known that I, DIEDRICH STEENEKEN, of the city of San Antonio, county of Bexar, and State of Texas, have invented a new and useful Improvement in Safety Oil-Cans, of which the following is so full, clear, and exact a description of means of carrying out my invention as shall enable one skilled in the art to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of a can provided with my improvements. Fig. 2 is a cross-section of the same on the line *xx*. Fig. 3 is a perspective of another form of construction. Fig. 4 is a cross-section of the same. Fig. 5 shows a can with a check-valve in the nozzle or faucet, and held to its seat by a coiled spring. Fig. 6 is a detail view of the exit-nozzle and check-valve of Fig. 5. Fig. 7 is a modified form of the same, showing a serpentine instead of a spiral spring to operate the check-valve. Fig. 8 is a vertical sectional view of a modification, showing a ball which by its own weight acts as a check-valve. Fig. 9 is a detail view of the nozzle and ball, showing it in the position which it takes when the oil is flowing out through the nozzle. Fig. 10 is an enlarged detail view of the ball, showing the depth to which it will sink in the oil if it were not supported in a seat.

The main object of my invention is to provide a can which shall prevent the contents of the can from becoming inflamed.

Another object of my invention is to provide a can from which oil may be poured into a blazing fire without danger from lighting and exploding the oil.

Still another object of my invention is to construct a can which shall be adapted to contain explosive oil and yet have the oil entirely inclosed and separate from air while in the can.

Still another object of my invention is to provide a means whereby the oil may be caused to flow from the can at will without opening any passage of air or blaze to the oil inside the can.

Still another object of my invention is to provide a means whereby the flow of oil from the can may be stopped and the stream flowing therefrom instantly cut off.

With these objects in view, and in the hope of preventing the recurrence of the frequent

and fatal exploding accidents in consequence of the never-ending attempts to kindle a fire with lamp-oil or other explosive oils and fluids, I construct a can, A, of suitable size—say from one quart to a gallon, more or less—with a diaphragm, B, which extends over the liquid in the can, the lower edge of the diaphragm being connected to the can above the point where the oil is put in and also above the exit-nozzle, and being secured in place by cement, and which automatically adjusts itself to the surface of the liquid. This diaphragm may be made of flexible material—such as india-rubber, artificial leather, oiled silk, prepared paper, or another air-tight material that will float on oil in a can.

In the top of the can A, I provide an air hole or vent, *a*, which is covered by an upwardly-opening valve, *a'*, the action of which is controlled alternately by the springs *a<sup>2</sup>* and rod *a<sup>3</sup>*, having the loop *a<sup>4</sup>* at its free end and the hook *a<sup>5</sup>* at its opposite end, which hooks into a ring in the springs *a<sup>2</sup>*. The valve *a'* may be provided with a hinge, *s*, when it is of such size to require it. At one side of the can A, I provide a feed-spout, *b*, which extends approximately to the bottom of the can to a point always below the diaphragm in the can. In the top of this feed-spout I insert a cork, *b<sup>2</sup>*, or it may be provided with a screw-cap. I also provide a nozzle, *b'*, which may or may not have a cock, *c*. I also provide the can with a handle, C, by which the can may be carried, and at the top of which is the loop *a<sup>4</sup>* and the rod *a<sup>3</sup>*. The loop *a<sup>4</sup>* is to be operated by the finger to open the valve, but the spring *a<sup>2</sup>* will cause it to close when released.

In Figs. 3 and 4 I show a wire, I, which is secured to a bell-crank, H, at the top of the can, and another bell-crank near the cock C in such a manner that the movement of the lever or handle which operates to open and close the cock also opens the vent-valve simultaneously with the opening of the cock, and as the cock is closed the vent-valve is also closed by the spring on the top, as will be readily understood by referring to the drawings. The stop J limits the movement of the cock lever or handle as it is thrown back to close the cock, thus preventing the bell-crank from opening the cock by reason of the strain on the wire I.

In the straight-sided can shown in Fig. 3 the diaphragm B is provided at the top with the weight or float B', and this is provided with a backing, b<sup>3</sup>, and the float is free to move up and down in the can on the top or surface of the fluid. It is obvious that this will keep the oil from coming into contact with the air, and thus all formation of gas in the can is prevented. If the flexible material below the float were dispensed with, the packing b<sup>3</sup> should be quite close to prevent formation and escape of gas.

The operation is as follows: Open the vent a' and then pour the oil into the feed-spout b, and the diaphragm will rise with the top of the oil till it reaches the top and the can is entirely filled. Then close the feed-spout and the can is ready for use. When it is desired to fill a lamp or kindle a fire, open the cock c in the nozzle b', and open the valve a' in the top of the can, and the air will rush in and force the diaphragm down, thus causing the oil to flow out of the nozzle or faucet b'; or, if the use of the cock in the delivery-nozzle is dispensed with, simply regulate the flow of the oil by opening and closing the vent-valve a'. The strength of the spring c<sup>2</sup> is such that it yields and allows the valve c<sup>2</sup> to open when the valve a' is open, and closes the valve c<sup>2</sup> so soon as the valve a' is closed. The function of the valve is not so much the prevention of the exit of the liquid (which cannot take place in any large degree while the vent-valve is closed) as the prevention of the entrance of flame into the vessel by way of the outlet of the liquid. It will be understood that a smaller can has a delivery-nozzle extending up so that its mouth is near the level of the top of the can, in which case no check-valve is necessary, as the flow is regulated entirely by the vent-valve a'. Thus it will be seen at a glance that no explosion can follow, as the fire cannot come into contact with the confined oil and cause formation of gas.

By the use of a can, as hereinbefore described, actual experimental test has shown that the entire can may be enveloped in flames, and the contents entirely emptied out without any explosion of the can. By providing the delivery-nozzle with an outwardly-opening valve it will be impossible for the flames to enter the can at that point. Thus it will appear that the great danger heretofore experienced by the use of cans which contain oil which is not covered or protected, and the unfortunate accidents which follow the indiscreet use of these old cans is avoided.

It seems impossible to educate people up to that point where they will not take these foolish risks, and this can is designed for the use of people who will carelessly take these great risks, which so often cause not only loss of valuable property but even human lives. It will be seen at a glance that this can is admirably adapted for use on steamships to in-

ject oil or burning fluid into a furnace. By the self-closing valve the oil or fluid could be thrown into the furnace in jets without necessity of opening the fire-door and without danger of explosion.

In Fig. 5 I show a check-valve, c<sup>2</sup>, provided with a spring, c<sup>3</sup>. It will be observed that the spring automatically throws the valve in to close the can as soon as the air-vent is thrown back to its seat. If the ball shown in Figs. 8, 9, and 10 were used, it should be made of such weight that it will be readily raised by any slight pressure of the oil. By using a hollow tin ball slightly weighted it will be found that the same effect is produced as is produced by the valve and spring shown in the other figures; and it will be readily understood by any one skilled in the art that this ball is a full equivalent for the flat valve and spring.

Having now explained the objects, advantages, and construction of my device, what I think new and novel, and desire to secure by Letters Patent, is—

1. An oil can provided with a feed-tube and a delivery-tube and an upwardly-opening and self-closing air-valve, in combination with a flexible diaphragm secured to the inside of the can above the points where the feed-tube and delivery-tube are connected with the can, whereby the contents of the can may be entirely emptied into a fire without danger of explosion, as set forth.

2. In a safety oil-can, the body provided with an outwardly-opening vent-valve, a delivery spout, and a feed-tube, in combination with an automatically self-adjusting diaphragm situated between the vent-valve and the junctions of the delivery-spout and feed-tube with the can-body, said spout having an outwardly-opening check-valve, as and for the purposes stated.

3. The herein-described safety oil-can having a self adjusting diaphragm in its body, a feed-tube and a delivery-nozzle opening into the can beneath the diaphragm, and an air-inlet above the diaphragm, which inlet is controlled by a self-closing vent-valve, and means for opening the valve.

4. In a safety oil can, the body provided with an air-inlet and an automatically self-adjusting diaphragm inside of the can, in combination with a feed-tube and delivery-nozzle opening into the can beneath the diaphragm, said delivery-nozzle having an automatically self-closing check-valve, all constructed and combined to operate substantially as described, whereby the contents of the can are entirely insulated from the air, for the purposes stated.

DIEDRICH STEENEKEN.

Witnesses:

L. WM. MENGER,  
ED. TORREY.