

W. S. KELLOGG & C. E. SCOTT.

FIRE EXTINGUISHER.

APPLICATION FILED AUG. 16, 1910.

998,527.

Patented July 18, 1911.

2 SHEETS—SHEET 1.

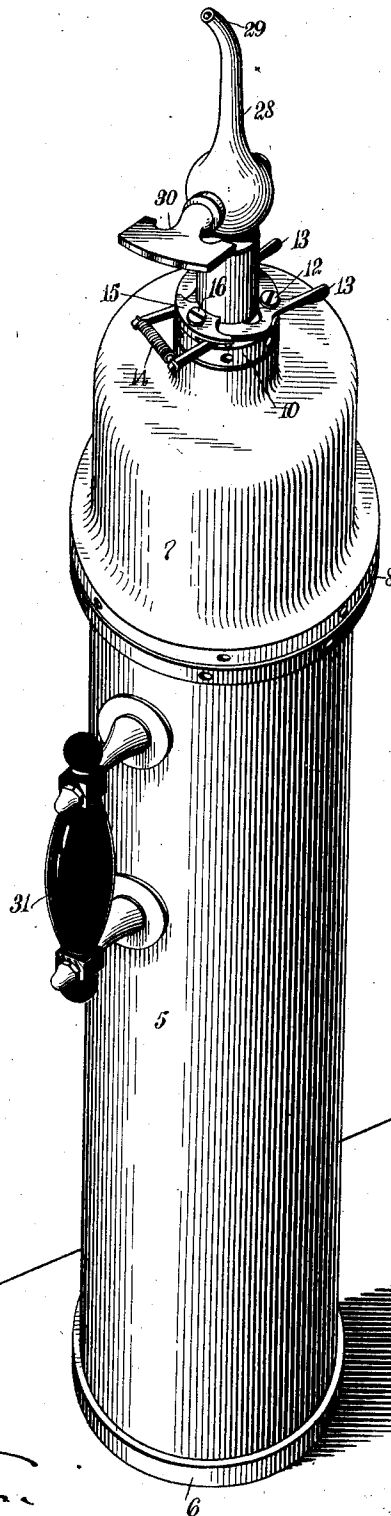


Fig. 1.

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INVENTORS

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2 SHEETS—SHEET 2

Fig. 2.

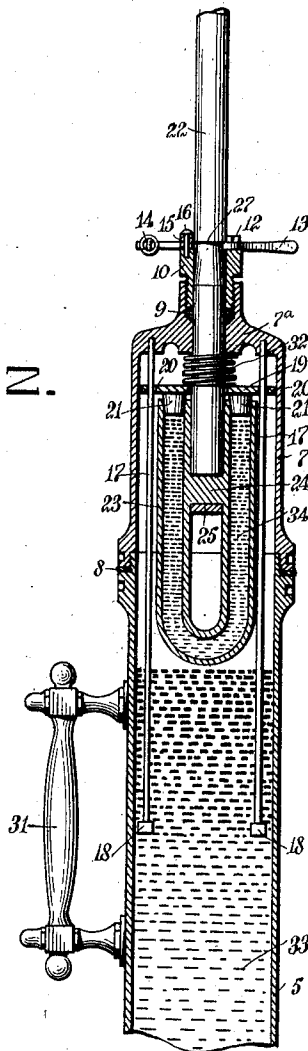


Fig. 3.

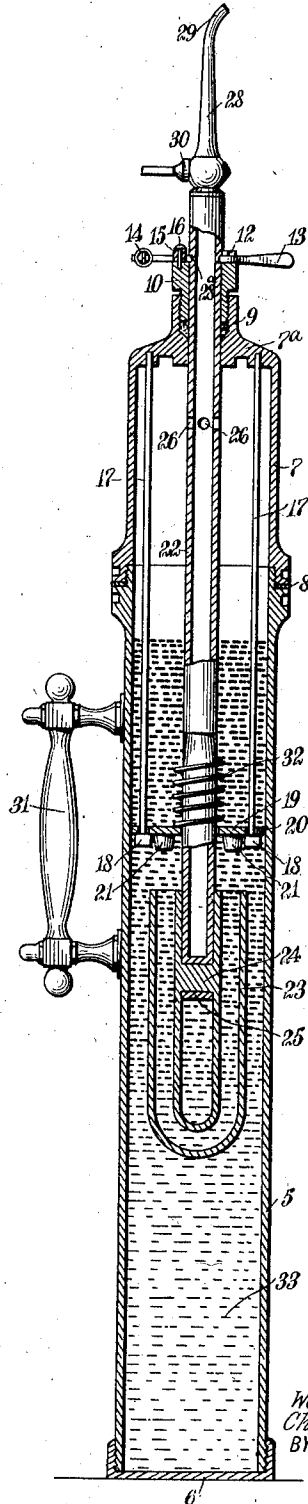
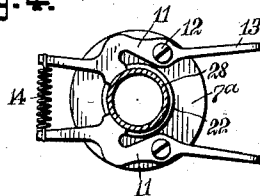


Fig. 4.



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UNITED STATES PATENT OFFICE.

WOODWARD SILAS KELLOGG AND CHARLES EDWARD SCOTT, OF ELIZABETH, NEW JERSEY.

FIRE-EXTINGUISHER.

998,527.

Specification of Letters Patent.

Patented July 18, 1911.

Application filed August 16, 1910. Serial No. 577,432.

To all whom it may concern:

Be it known that we, WOODWARD SILAS KELLOGG and CHARLES EDWARD SCOTT, both citizens of the United States, and residents of Elizabeth, in the county of Union and State of New Jersey, have invented a new and Improved Fire-Extinguisher, of which the following is a full, clear, and exact description.

Our invention relates to fire extinguishers, and more particularly to those of the so-called "portable" variety, in which an alkaline liquid and an acid are normally kept separate but are quickly admixed in order to produce a liquid or to generate a gas fatal to combustion.

More particularly our invention comprehends means for liberating the acid at a point some distance below the surface of the alkaline liquid, in order to insure thorough and quick admixture of the acid and the alkaline liquid.

Our invention further comprehends means whereby the operator may at will cause the extinguisher to send forth either a liquid or a gas, and to direct the same—whether a liquid or a gas—either upwardly or downwardly as desired.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective showing our improved fire extinguisher complete and resting idly in its normal position; Fig. 2 is a fragmentary section through the upper portion of the extinguisher, showing the various parts as occupying their normal positions, the extinguisher being now idle; Fig. 3 is a section showing the acid bottle as moved down into the alkaline liquid, the apparatus now generating a gas and being ready for use at a fire; and Fig. 4 is a detail, showing a part of the gas tube in section and the manually operated dogs for gripping the gas tube and holding the same in different positions.

A long cylindrical bucket 5 is closed at one end by a cap 6 which also serves as a

base for supporting it. Mounted upon the bucket 5 is a dome 7 provided with a thick portion 7^a. This dome fits gastight upon the upper end of the bucket 5, this object being facilitated by the insertion of a gasket 8. Mounted upon the dome 7 is a stuffing box 9 which includes a gland 10. Two dogs 11 are each mounted upon pivot pins 12 and provided with handles 13 whereby they may be moved relatively to each other. These dogs are pressed toward each other by a tensile spring 14 connecting them together. A limiting stop 15 is located between the dogs 11 and is held in position upon the gland 10 by aid of fastenings 16.

Secured rigidly to the thickened portion 7^a of the dome are two guide rods 17 provided at their lower ends with knobs 18. A guide plate 19 is provided with holes 20 which receive the guide rods 17. The guide plate 19 carries two stoppers 21 which may be of rubber, paraffin, or other material upon which acid has but little effect. A gas tube 22 extends through the stuffing box 9 and coincides with the axis of the bucket 5. The gas tube 22 carries a bottle 23 having generally the form of a U-tube and made preferably of porcelain. This bottle is provided with a cross bar 24 integral with it, this cross bar extending diametrically through the lower end of the gas tube 22, the lower end of the tube, where in engagement with the cross bar 24, being fashioned into a strap 25. The gas tube 22 is movable in the general direction of its length and is provided with holes 26. The gas tube is further provided with a shoulder 27 which may lodge against the dogs 11, thereby supporting the gas tube in a predetermined position. The outer end of the gas tube 22 carries a nozzle 28 having a tip 29 inclined about thirty degrees relatively to the general direction of the axis of the nozzle. The outer end of the gas tube also carries a hand valve 30 which may be turned at will so as to open or close the nozzle 28. Mounted upon the bucket 5 is a handle 31. A compression spring 32 in spiral form encircles the gas tube 22 and is compressed when the guide plate 19 is raised

into proximity to the top of the dome 17, as indicated in Fig. 2. The compression spring 32 when under tension as indicated in Fig. 2, tends to press the guide plate 19 downward according to Fig. 2. The bucket 5 carries an alkaline liquid 33 and the bottle 23 carries an acid 34 to be mixed with the liquid in order to produce the gas.

The operation of our device is as follows:

10 The bottle 23 being filled with acid, and the bucket 5 being partially filled with the alkaline liquid 33 and being in its normal position, the operator grasps the gas tube 22 and pulls it upward. This causes the bottle to
15 engage the two stoppers 21 which are forced into the bottle, closing the same completely. The stoppers being of paraffin, or other acidproof material, are not materially injured by the acid. This upward movement of the gas tube also causes the guide
20 plate 19 to move against the spring 32, the latter lodging against the thickened portion 7^a of the dome and being compressed, as indicated in Fig. 2. The shoulder 27 being
25 engaged by the dogs 11, as indicated in Fig. 2, will not now permit the gas tube 22 to be moved downwardly or into an abnormal position. The device is now ready for use and may be carried about by the handle 31 and
30 turned into horizontal position, or even inverted, without danger of starting into action. This is because no acid can escape from the U-shaped bottle. Suppose, now, that a fire breaks out and that the operator
35 wishes to use the extinguisher. He forces the handles 13 of the dogs 11 toward each other, thereby shifting the dogs out of engagement with the shoulder 27. The spring 32 being under compression now becomes
40 elongated and forces the guide plate 19 downward. The operator, by grasping the outer end of the gas tube 22 and pushing against the same in the general direction of its length, moves the U-shaped bottle down-
45 ward. The guide plate 19 follows the U-shaped bottle until obstructed by the knobs 18, as indicated in Fig. 3, the motion of the U-shaped bottle being continued still further, however. The parts are so propor-
50 tioned that when the guide plate 19 lodges against the knobs 18, the dogs 11 grip into an annular slot 28^a formed in the gas tube 22 and prevent further movement of the gas tube in the general direction of its length while permitting its rotation by hand.
55 Owing to the manually operated movement of the gas tube 22, the stoppers 21 are withdrawn from the bottle as soon as the movement of the guide plate 19 is arrested. This
60 guide plate does not stop and the stoppers 21 are therefore not withdrawn until the bottle is completely submerged to a considerable distance and occupies the proximate middle of the bucket, as indicated in Fig. 3.
65 This being done the liberation of the acid

from the bottle is rendered absolutely sure and the acid is thoroughly mixed with the alkaline liquid and could not be otherwise, for the reason that the liberation of the acid takes place below the surface level of the alkaline liquid. The mixture of the acid and the alkaline liquid causes the production of gas in large quantities. So long as the device is held with the bucket 5 vertical and the base 6 thereof downward, as indicated in Fig. 3, nothing but gas can escape. This gas passes through the holes 26 and out through the nozzle 28. By turning the gas tube 22 by hand, however, the tip 29 may be rotated and the path of the escaping gas from the tip may be varied within proper limits. If, however, the apparatus be inverted so that the holes 26 are filled with and surrounded by liquid, the gas pressure within the bucket 5 forces the liquid out through the nozzle 28 in like manner as the gas. The operator, therefore, by placing the bucket 5 under his arm and tilting the nozzle 28 upward or downward, as desired, may cause the apparatus to discharge either gas or liquid, as desired, and by rotating the nozzle at will may vary, within proper limits, the direction in which the liquid, or gas, as the case may be, is discharged. It is an easy matter to use this apparatus, therefore, for the extinguishment of almost any character of fire. This is because the operator has control over the device in being able to cause it to eject either gas or liquid, as desired, and to discharge the same in practically any direction. After the apparatus is once used, it is emptied of all the liquid it contains, the bottle 23 is again filled with acid, and the bucket again partially filled with alkaline liquid.

While in the foregoing description we have mentioned only an alkaline liquid and an acid, it will be understood that we do not limit ourselves to these particular substances, as the device may be used with any liquid or solid substances capable of forming a gas when brought into contact with each other. Neither do we limit ourselves to the particular forms of the various parts, as these forms may be varied within proper limits without departing from the spirit of our invention, the scope of which is commensurate with our claim.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

A device of the character described, comprising a receptacle, guide rods mounted therein, a guide plate movable relatively to said guide rods and having a limited play in relation to the same, a bottle for carrying a liquid to be discharged within said receptacle, stoppers mounted upon said guide plate and normally closing said bottle, means controllable at will for moving said bottle to a sufficient distance within said re-

ceptacle to withdraw said stoppers there-
from, thereby causing said bottle to spill a
liquid within said receptacle, and means for
discharging from said receptacle a medium
5 formed by aid of said liquid contained in
said bottle.

In testimony whereof we have signed our

names to this specification in the presence of
two subscribing witnesses.

WOODWARD SILAS KELLOGG.

CHARLES EDWARD SCOTT.

Witnesses:

ABE J. DAVID,

JAMES A. DOWD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
