

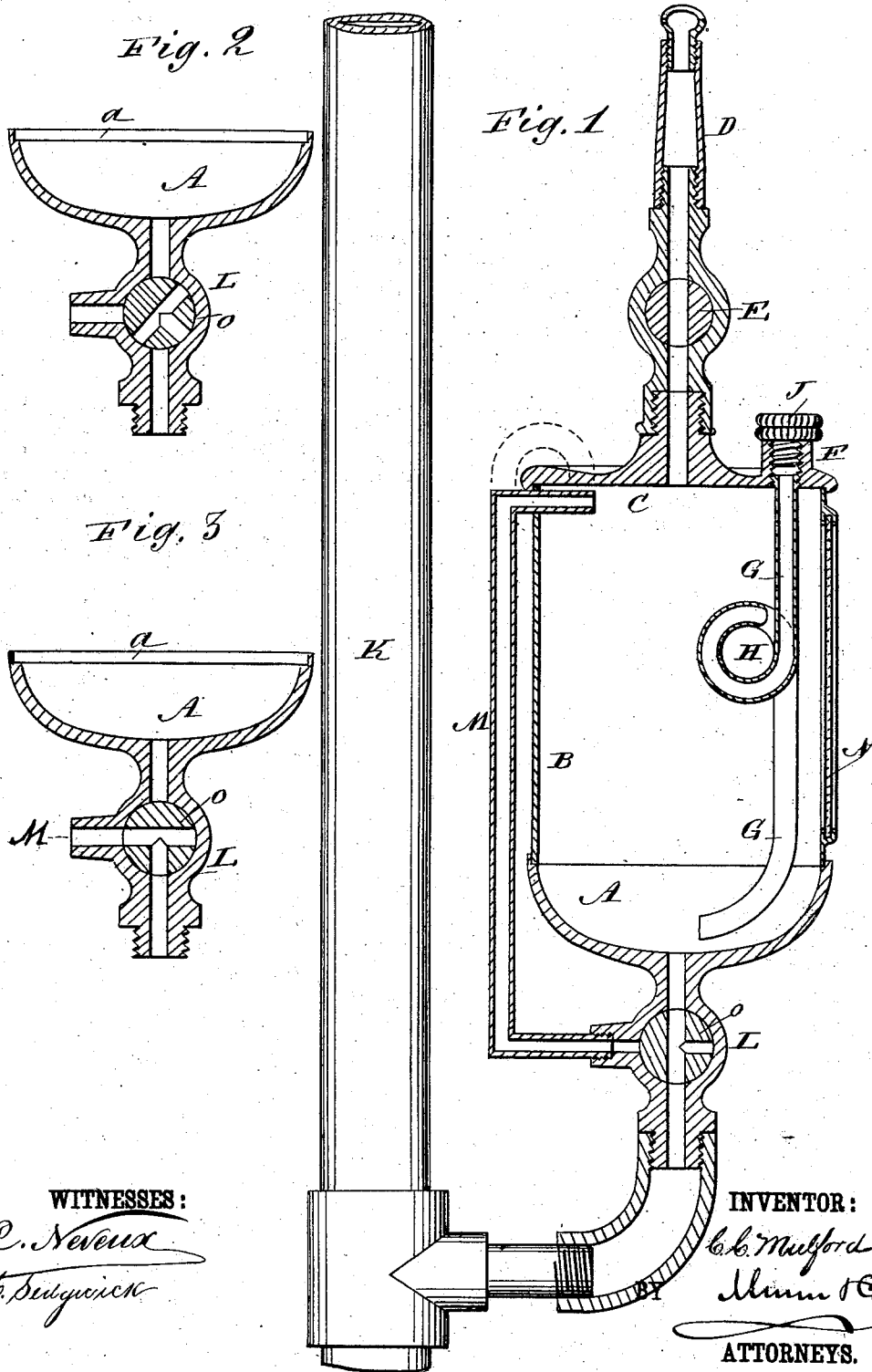
(No Model.)

C. C. MULFORD.

ALCOHOL COCK.

No. 264,556.

Patented Sept. 19, 1882.



WITNESSES:

C. Neveu
H. Bedgwick

INVENTOR:

C. C. Mulford
Mum & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CLARENCE C. MULFORD, OF STREATOR, ILLINOIS.

ALCOHOL-COCK.

SPECIFICATION forming part of Letters Patent No. 264,556, dated September 19, 1882.

Application filed February 24, 1882. (No model.)

*To all whom it may concern :**

Be it known that I, CLARENCE C. MULFORD, of Streator, in the county of La Salle and State of Illinois, have invented a new and Improved Alcohol-Cock, of which the following is a full, clear, and exact description.

This invention relates to alcohol-cocks used in dissolving the hydrocarbon substances in gas service-pipes, and has for its object to prevent the loss and waste of gas and alcohol during the operation.

The invention consists in a closed vessel, adapted to contain alcohol, connected with the gas service-pipe and provided with a three-way cock for establishing communication with the gas service-pipe or between the gas service-pipe and a pipe or tube leading from the cock up to the top of the closed vessel, so that the gas issuing from a test-cock on the vessel can be ignited when the direct communication between the gas service-pipe and the vessel is interrupted, this test-cock being used to ascertain if the obstructions in the service-pipe have been removed by the alcohol flowing from the vessel into the service-pipe for the purpose of dissolving these obstructions, consisting of congealed hydrocarbon vapors. The alcohol is filled into the vessel through a tube provided with a circular loop or bend, whereby a trap or seal for preventing the escape of gas is formed.

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

Figure 1 is a longitudinal sectional elevation of my improved alcohol-cock. Figs. 2 and 3 are cross-sectional elevations of the lower part or cup, the plug being shown in different positions.

A cup, A, preferably made of metal, is provided at its upper edge with an internal recess, a, to receive the lower edge of a cylindrical vessel, B, of glass, metal, or other suitable material. A top plate or cap, C, fits on the vessel B, and is provided with a gas-burner, D, provided with a cock, E, and communicating with the interior of the vessel B. This cap is also provided with an internally-threaded upwardly-projecting neck or collar, F, into the

lower end of which a seal-tube, G, is screwed, which seal-tube reaches down almost to the bottom of the cup A, and is provided at or near its middle with a circular bend or loop, H, to form a trap or siphon for the purpose of preventing the escape of gas. A screw-plug, J, or a cap or equivalent is screwed in the upper end of the neck F. The cup A is connected with the gas service-pipe K. The cup A is provided with a three-way cock, L, of any suitable construction, by means of which the vessel B can be placed in communication with the service-pipe or with a pass pipe or tube, M, extending from the cock L up to the top of the vessel B, entering the same at the side or on top, as may be desired; and, further, the vessel B can be cut off from the pass-pipe M and the service-pipe K by means of the cock L. If the vessel B is made of metal or other opaque material, it will have to be provided with a glass gage-tube, N, or a glass gage-strip.

The operation is as follows: The cap or plug J is unscrewed and the alcohol is filled into the vessel B through the seal-tube G, the plug O of the cock having been turned one-eighth, so as to interrupt the communication of the vessel B with the service-pipe K and the pass-tube M, as shown in Fig. 2. When the vessel A is filled the cap or plug J is screwed on the neck F again. If the plug O of the cock L is turned to establish a communication between the vessel B and the service-pipe K, as shown in Fig. 1, the alcohol will flow from the vessel B into the service-pipe and will dissolve the hydrocarbon substance which closes the pipe and obstructs the passage of the gas. After a certain quantity of alcohol has been admitted into the service-pipe the plug O is turned one-quarter of a revolution, so as to interrupt the communication between the service-pipe and the bottom of the vessel B, and to establish a communication between the service-pipe and the top of the vessel B by means of the pass-tube M, as shown in Fig. 3. The cock E is opened and a light applied to the burner D. If the gas can be ignited at the burner D, the service-pipe is clear and the substances have been removed; but if the gas cannot be ignited the service-pipe is still obstructed and

an additional quantity of alcohol must be admitted into the service-pipe, and this must be repeated until this pipe is cleared—that is, until the gas will burn at the test-burner D.

5 I have arranged a loop or trap, H, in the pipe G, so that in case there is no alcohol in the vessel B, or in case the level of the alcohol is below the bottom of the tube G, and the plug or cap J is unscrewed no gas can escape
10 from the vessel B.

By means of my improved alcohol-cock above described the alcohol can be admitted into the pipe K in very small quantities, and a test can be made very easily by means of the burner
15 D every time a quantity of alcohol has been admitted into the pipe K, and thus a waste of alcohol is prevented. As no gas can escape from the vessel B while filling the same, a waste of gas is also prevented, and consequently the
20 obnoxious smell of gas cannot penetrate the house. The several parts must be joined very accurately, so that no leakage of the gas or alcohol can take place.

Having thus described my invention, I claim
25 as new and desire to secure by Letters Patent—

1. An alcohol-cock for gas-pipes, made substantially as herein shown and described, and consisting of an alcohol and gas receiver pro-

vided with a self-sealing supply-pipe, a three-way cock, gas-pipe, and gas-burner, whereby
30 the alcohol may be introduced into the receiver and gas-pipe without the escape of gas, and gas may be admitted into the receiver and tested at the burner when desired, as set forth.

2. In an alcohol-cock, the combination, with
35 the cup A and the vessel B, of the filling-tube G, provided with a loop or trap, H, substantially as herein shown and described, and for the purposes set forth.

3. In an alcohol-cock, the combination, with
40 the cup A and the vessel B, of the three-way cock L and the pass-tube M, extending from the cock L to the top of the vessel B, substantially as herein shown and described, and for the purpose set forth.

4. In an alcohol-cock, the combination, with
45 the cup A and the vessel B, of the three-way cock L, the pass-tube M, extending from the cock L to the top of the vessel B, and of the gas-burner D, substantially as herein shown
50 and described, and for the purpose set forth.

CLARENCE C. MULFORD.

Witnesses:

JOHN ESSINGTON,
ELWOOD MULFORD.