

(Model.)

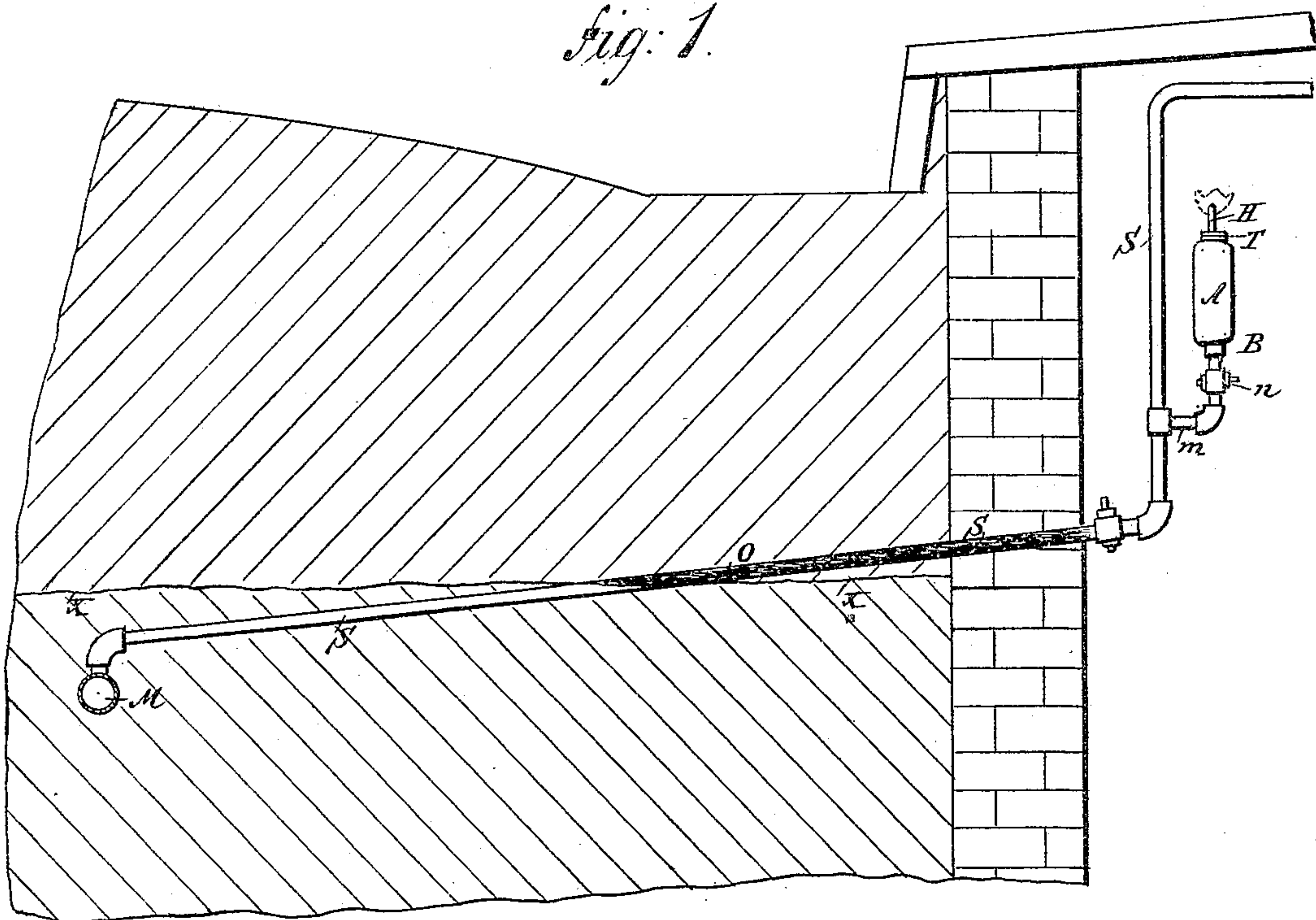
C. C. MULFORD.

ALCOHOL COCK.

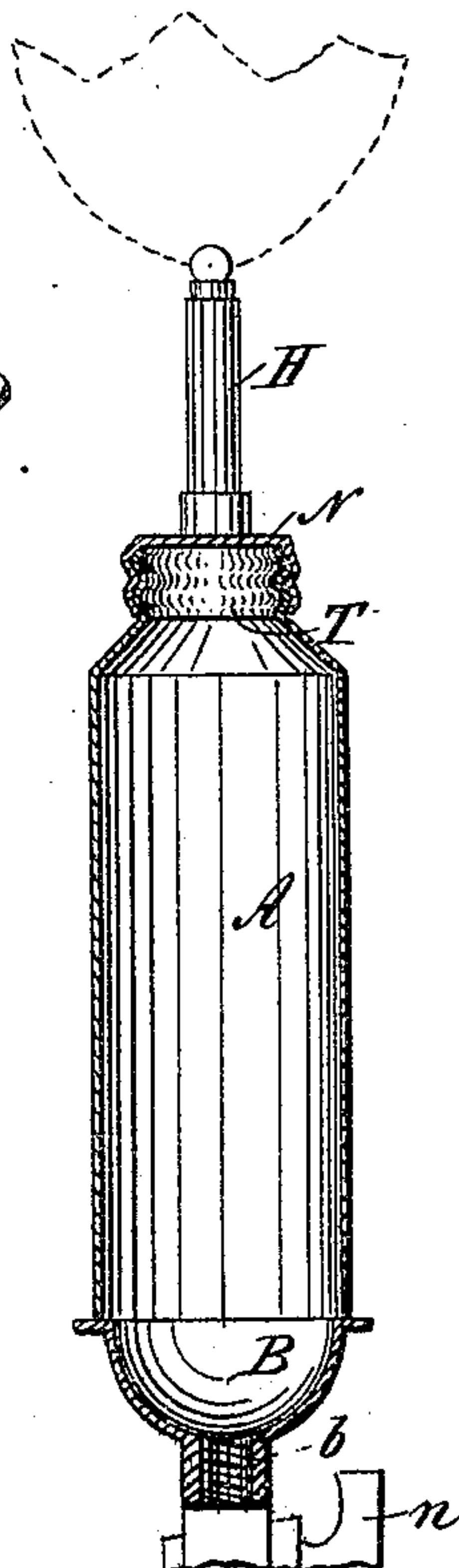
No. 249,077.

Patented Nov. 1, 1881.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*A. Schehl*  
*C. Sedgwick*

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# UNITED STATES PATENT OFFICE.

CLARENCE C. MULFORD, OF STREATOR, ILLINOIS.

## ALCOHOL-COCK.

SPECIFICATION forming part of Letters Patent No. 249,077, dated November 1, 1881.

Application filed March 29, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, CLARENCE C. MULFORD, of Streator, La Salle county, Illinois, have invented a new and useful Improvement in Alcohol-Cocks, of which the following is a specification.

Figure 1 is a cross-section of a portion of a road or street and the area of a building, showing the gas-main, service-pipe, and my improved alcohol or spirit cock applied thereto. Fig. 2 is a cross-section of my alcohol-cock enlarged.

Similar letters of reference indicate like parts.

The object of my invention is to provide an improved spirit-cock to be used in opening or thawing out gas-service pipes which have been closed by the action of the frost, my improvement being adapted to perform such operation quickly and thoroughly without waste of the spirits used or escape of gas from the pipes, my invention also providing safe means for testing the condition of the pipes during the thawing operation.

I more particularly describe my improvement as follows:

The vessel A of the apparatus serves as the receptacle for the spirits. Its bottom B has a central opening, *b*, which is threaded to allow its tight attachment to a section of gas-pipe, *m*, which is connected with the service-pipe S of a building, which pipe S is, in turn, connected with the street gas-main M. The top T of my device is threaded, to permit the attachment to the vessel A of the screw-nozzle N, to which is fixed an ordinary gas-burner, H. The valve-cock *n* opens and closes communication between the vessel A and the gas-pipes.

The line *xx* in the drawings indicates the depth to which the frost penetrates the ground. The gas-service pipe S, in its passage from the gas-main M to the building to be lighted, often passes above this line, as shown, and the low temperature causes a gradual congealing of the gaseous vapors therein until the pipe S is entirely closed, as indicated by the dark shading *o* in the drawings. The apparatus usually employed to remove this obstruction consists of an open bowl or cup provided with a lower

threaded stem, whereby it may be attached to the affected pipes, and also having a valve-cock connection, which may be opened to permit the downward flow of the spirits from the cup, and to determine the condition of the obstructed pipes.

The principal objections to the old device are, first, it holds but a small quantity of spirits, and has to be often filled before the pipes are cleared; second, there is considerable danger of ignition of the spirits in the open cup or while filling; third, should the valve-cock be opened to test the condition of the pipes after the alcohol has wholly or partially cleared away the obstruction, a most offensive-smelling combination of gas and alcohol is forcibly ejected from the cup, resulting in waste of both alcohol and gas and fouling the air.

In contradistinction to the above method, the vessel A of my improved spirit-cock is filled with alcohol and its top N firmly screwed on. After its connection to the pipe S, as shown in Fig. 1, the valve-cock *n* is opened and the alcohol permitted to flow down to the obstruction *o*. Upon opening the cock *n*, after the obstruction has been wholly or partially cleared away, the gas from the main M will cause a gurgling sound in the vessel A, and the condition of the pipes is thus made known. The pipes may be further tested by applying a light to the burner H, whereupon, if the pipes be properly cleared, the gas will burn. By the use of my cup a loss of alcoholic spirits and gas and the fouling of the air is prevented.

My improved cup may be used with its top entirely closed, and without the burner H, if desired.

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

An alcohol-cock, made substantially as herein shown and described, consisting of a closed vessel, A, having suitable means of connection to the gas-pipes, and provided with a valve-cock, *n*, and a removable top, T, substantially as and for the purposes herein set forth.

CLARENCE C. MULFORD.

Witnesses:

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