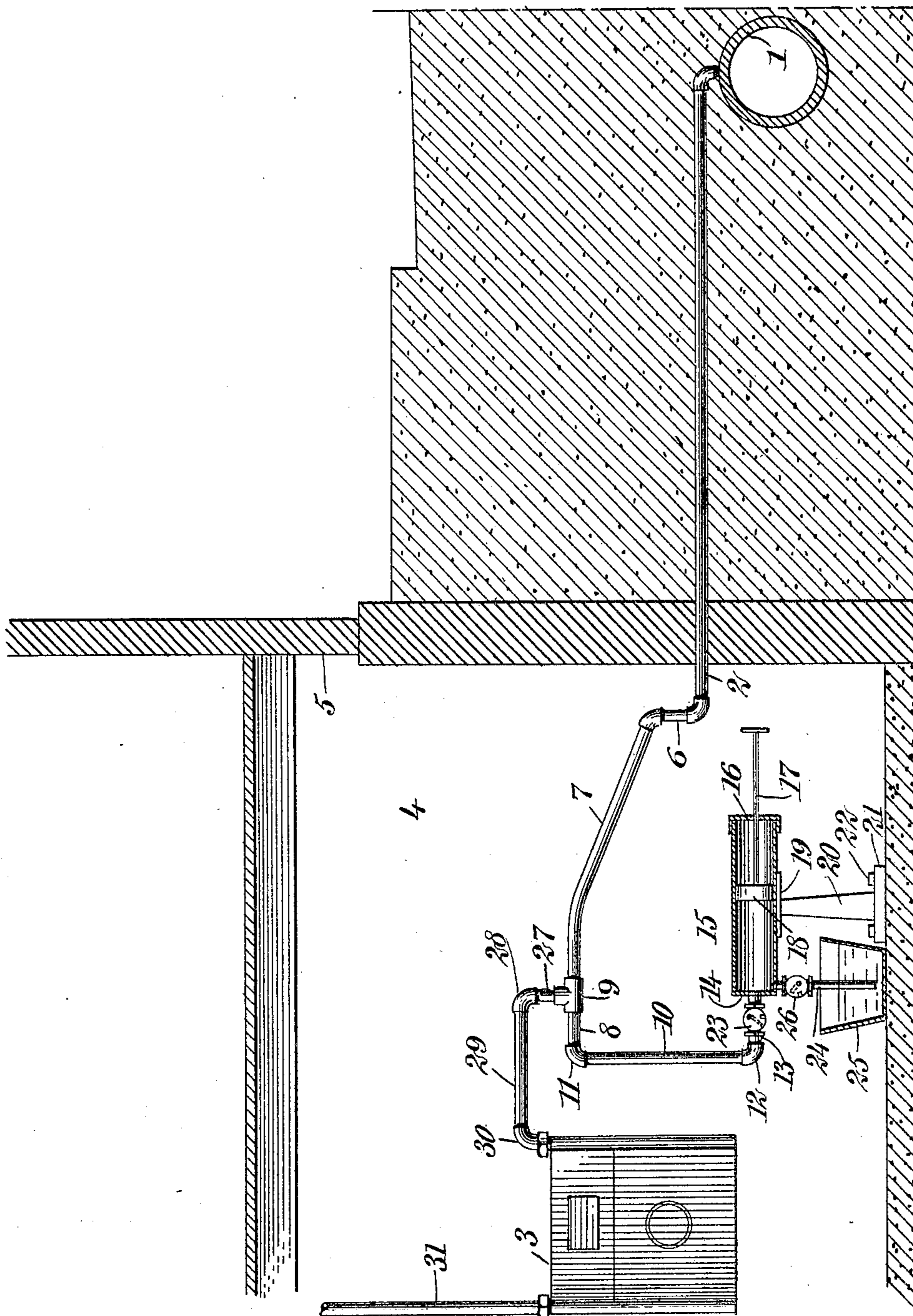


No. 812,052.

PATENTED FEB. 6, 1906.

L. J. C. LARSEN.
LIQUID FORCING OR PUMPING DEVICE.

APPLICATION FILED AUG. 7, 1905.



WITNESSES:

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LIQUID FORCING OR PUMPING DEVICE.

No. 812,052.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed August 7, 1905. Serial No. 273,075.

To all whom it may concern:

Be it known that I, LOUIS J. C. LARSEN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Liquid Forcing or Pumping Device, of which the following is a full, clear, and exact description.

This invention relates to liquid forcing or pumping devices; and it consists, substantially, in the details of construction and combinations of parts to be hereinafter more particularly described, and pointed out in the claim.

The invention has reference more especially to devices for forcing or pumping temperature-reducing liquids—as alcohol, for instance—into and through the gas-service pipes for houses leading underground from the usual street-main of the gas-distributing system for the purpose of relieving the passage through the service-pipe when the same has become choked or stopped up by the freezing or congelation of moisture therein.

One of the principal objects of the invention is to provide a device of this kind of an embodiment to overcome numerous disadvantages and objections encountered in the use of other devices hitherto employed for similar purposes.

A further object is to provide devices of the character referred to which are simple in construction and comparatively inexpensive to construct or install, besides being thoroughly effective and reliable in operation and possessing the capacity for long and repeated service.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawing, in which the figure illustrated is a sectional view of my improved liquid forcing or pumping device as located within the cellar or basement of a dwelling-house, for instance.

Before proceeding with a more detailed description it may be stated that in the form of my improvements herein shown I provide a specially-constructed forcing device or pump which may be located in the cellar or basement of a house, for instance, the said device having a special connection leading therefrom having communication with the service-pipe leading from the street-main of the gas-distributing system. A special connec-

tion is also employed leading from said first-named special connection to the gas-meter within some compartment in the house, the forcing device being also provided with a special suction pipe disposed within a suitable receptacle for containing alcohol or other temperature-reducing liquid to be introduced or forced through the service-pipe for the purpose specified.

Reference being had to the drawing by the designating characters thereon, 1 represents the street-main of an ordinary gas-distributing system, leading from which is a service-pipe 2, which ordinarily is in connection with a gas-meter 3, located within the basement or other suitable part of a house or other structure 5, but which in the present instance is provided with an elbow connection 6, leading upwardly from which is an inclined pipe-section 7, having communication with a short pipe-section 8 through the medium of an intermediate T-coupling 9, the said section 8 being in turn in communication with a vertically-disposed pipe 10 through a connecting-elbow 11, the lower end of the said pipe 10 being also in communication with another elbow 12, connecting the pipe 10 with a discharge-pipe 13, leading from the forward head 14 of the cylinder 15 of my improved liquid forcing or pumping device, the said cylinder being closed at its other end by means of a head 16, through which works a rod 17 of a plunger 18, it being noted that the cylinder is supported in any suitable manner at 19 by means of an upright 20, having a base 21, secured in place by spikes or nails driven into the base of the basement or other compartment in which the devices are disposed. The said discharge-pipe 13 of the cylinder 15 is provided with an intermediate section containing an outwardly-opening check-valve 23, while leading from the cylinder 15, at or near the forward end thereof, is a suction-pipe 24, extending within a suitable trough or other containing vessel 25 for a temperature-reducing liquid—such as alcohol, for instance—the said suction-pipe 24 being also provided with an intermediate section having therein an upwardly-opening check-valve 26.

Leading from the T-coupling 9 is a short vertical pipe-section 27, connected with which by means of an elbow 28 is a horizontally-disposed pipe 29, connecting with another elbow

30, having suitable means of communication with the meter 3, upwardly from which leads a pipe 31 for supplying the ordinary distributing-pipes (not shown) for the house or other structure in which my improved devices are employed.

From the foregoing it will be seen that whenever the service-pipe 2 becomes clogged up from the freezing or congelation of moisture therein, as often happens in severe cold weather, it is simply necessary to pour into the trough 25 a suitable quantity of alcohol or other proper liquid, whereupon by actuating the plunger 18 of the pump by means of its rod 17 it is apparent that the alcohol will be first drawn within the cylinder of the pump and then forced out of the cylinder into the discharge-pipe 13, thence upwardly through the pipe 10, and thence through the pipe-section 8 and T-coupling 9 to and through the inclined pipe 7 having connection with the service-pipe 2, as already explained. In this way the latter pipe will be quickly cleared of any congelated obstructions therein, and thus will there be no obstruction to or interference with the proper

supply of gas to the distributing-pipes within the house or other compartment in the ordinary way. In thus forcing the liquid to the service-pipe it is apparent that none of the same will be caused to enter the pipe 29 in view of the greater elevation thereof, and thus will the operation of my improvement be fully understood.

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

In liquid-forcing devices of the character described, the combination with a service-pipe leading from a street gas-main to a house, of a pump provided with a suction-pipe and a discharge-pipe, a connection from said discharge-pipe to said service-pipe, and a branch leading from said connection to a meter.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS J. C. LARSEN.

Witnesses:

E. EVERETT ELLIS,
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