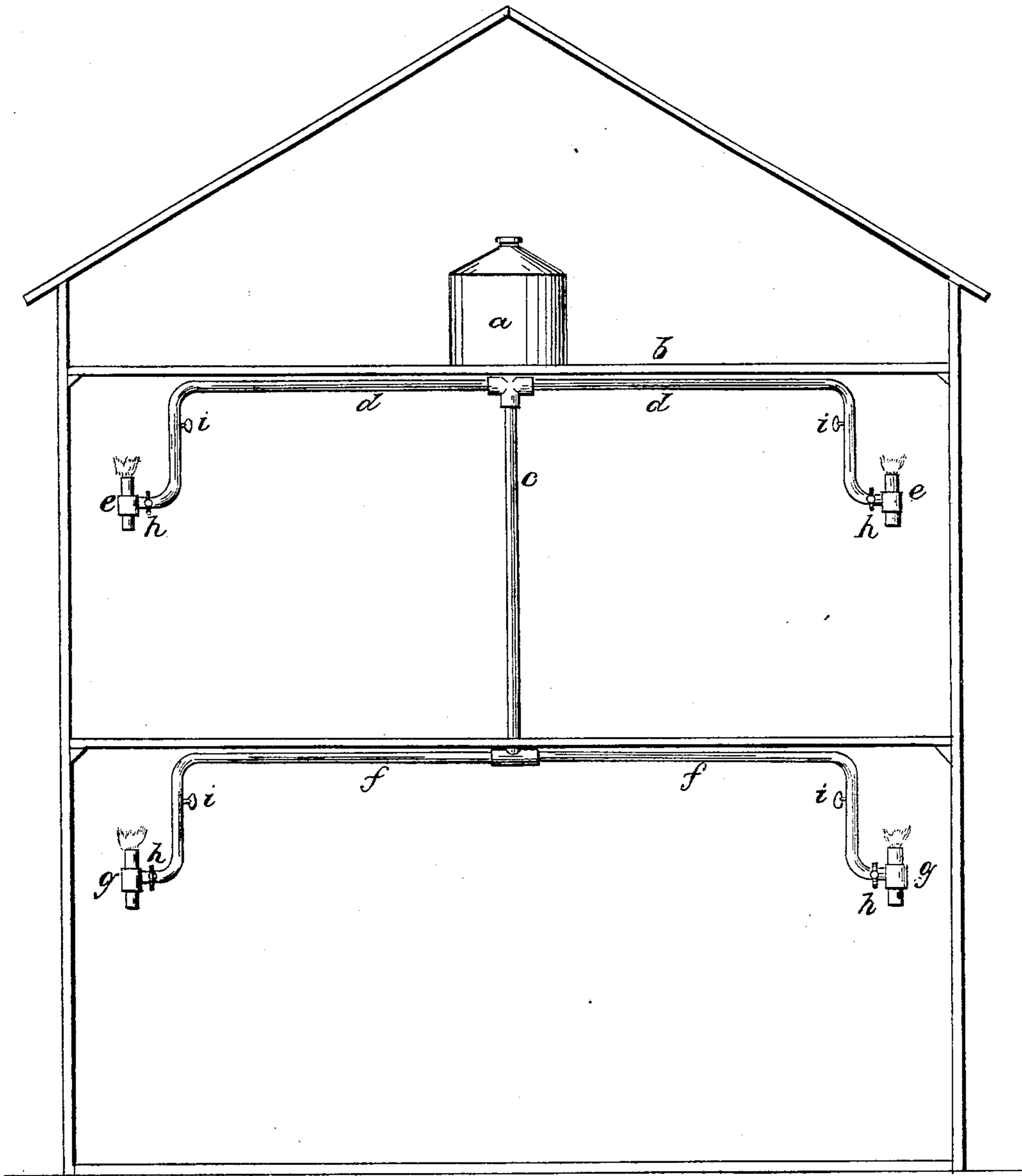


A. J. WHITE.

Lamp.

No. 68,923.

Patented Sept. 17, 1867.



Witnesses.
J. B. Kidder
M. A. Frothingham.

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A. J. WHITE, OF BALLSTON SPA, NEW YORK.

Letters Patent No. 68,923, dated September 17, 1867.

IMPROVEMENT IN MODE OF LIGHTING FACTORIES AND OTHER BUILDINGS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, A. J. WHITE, of Ballston Spa, in the county of Saratoga, and State of New York, have invented an Improvement in Lighting Factories and other Buildings; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

In manufactories where operations are carried on at night, and especially in localities not supplied with illuminating gas, it is very desirable to have some provision for lighting such establishments throughout without the annoyance and danger resulting from the use of common movable lamps.

There have of late been introduced, to some extent, portable gas-making machines, generating illuminating gas from volatile fluid hydrocarbons by vaporizing common air, but these machines are very dangerous, and have been the cause of many disasters and conflagrations, arising from explosions of the gas, and their use has been discarded, many underwriters very properly refusing to insure, except with a prohibition as to the employment of such machines.

To arrange a system of lamps to be supplied from a common source, and to burn an oil to the use of which as an illuminator there can be no objection, has been the object of my invention, and for this purpose I have arranged, as a fixture, a close reservoir, located above the apartments to be lighted, and having leading therefrom to such apartments main and branch conducting pipes, to which are attached wick-tubes or burners, (of that class used in common fountain or wall-lamps, in which the wick is supplied from a reservoir forming a direct part of the lamp,) and it is to such an arrangement of a system of wick-burning lamps, connected by a system of pipes with or leading from a tight oil-reservoir or tank located above the lamps, and having suitable controlling cocks, that my invention consists.

The drawing represents a section of a building having the invention applied thereto.

a denotes the oil-tank or reservoir, shown as located upon the upper floor *b*, through which and from the bottom of the tank leads a main pipe, *c*, having below this floor, and leading to any desired positions or rooms, any required number of branch pipes *d* leading to or having connected with them lamps or wick-burners *e*, while from the same main pipe, and to any required number of rooms below the next floor, similar branch pipes *f* lead, each of which connects with or terminates in a similar wick-tube or burner, *g*. Each of these tubes projects up from the point of its connection with the branch pipe, so that when the oil in the tube rises above the level of the opening of the branch pipe into it, it closes such branch pipe to the entrance of air, while, as the oil in the tube, as it is consumed in burning, falls to such opening, entrance is thereby given to air into and up the branch tube to the oil-reservoir or tank. Back of each burner, or between it and the reservoir, are two or more cocks, *h i*, by which the connection between the tank and the burner may be opened or closed.

The operation of the apparatus is as follows: The tank *a* being charged with oil, and this oil being permitted to flow down the main pipe *c* and through the branch pipes *d*, by opening the cocks *h i* slightly, to allow expulsion of air from the pipes, the tank is then closed tightly. If the wicks are now lighted, and the cock *h* back of each lighted burner be opened, each wick-tube, as its oil is burned down to the opening of the pipe *d* into it, is kept supplied with oil by the flow of air up through the branch and main pipes into the reservoir, the oil keeping the opening into the branch pipe sealed, excepting sufficiently to allow air to pass up to the reservoir, and oil to correspondingly flow down therefrom to keep the wick supplied. Upon extinguishing the lamps each burner-cock *h* is shut, and the oil will be maintained at the level it then has in each wick-tube, ready at all times for relighting.

By these means, without the employment of any gas-making apparatus, or of any movable lamps, and with only a single reservoir to supply the burners, large factories and other buildings may be lighted throughout with such oils as are ordinarily burned in common lamps, the apparatus being inexpensive, simple, reliable, cleanly, and perfectly safe.

When the burners are arranged in several stories, or out of common level, as shown, the cocks *i* are to be arranged at a considerable distance back from the cocks *h* at the burners, and when the burners are lighted, each of such cocks *i* must be closed, the burner being fed from the oil between such cock and the burner, or an auxiliary reservoir may be arranged in the main pipe, above each respective story, this reservoir being fed from the main reservoir, but having a cock just above it to cut off communication with the burners above when the lower burners are lighted.

I claim, in combination with an air-tight reservoir, and a series of conductors therefrom with burners attached, the cocks *h* and *i*, to operate substantially as and for the purpose described.

Witnesses:

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