UNITED STATES PATENT OFFICE.

WILLIAM H. H. MALLORY, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN CLEANING OBSTRUCTIONS FROM PIPES OF ICE-MACHINES.

Specification forming part of Letters Patent No. **167,181**, dated August 31, 1875; application filed May 17, 1875.

To all whom it may concern:

Be it known that I, WILLIAM H. H. MALLORY, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improvement in the Method of Cleaning Obstructions from Pipes of Ice-Machines using Ammoniacal Gas, of which the following is a specification:

The nature of the invention consists in using, in connection with any of the ice-making machines of the class in which the ammoniacal gas is recondensed after use, a small percentage of the vapor of benzine, the object of the invention being to overcome the clogging action of pure ammoniacal gas when the said gas meets with oil or other lubricating material used in the ice-making machine or refrigerator.

The following is a more full and complete description of my invention:

Those who are conversant with the action of ammoniacal gas in ice-forming machines know that the use of ammoniacal gas as a freezing agent in machines for reducing temperature is attended with the inconvenience of a viscous deposit, which coats and clogs the pipes, and often causes partial or complete stoppages, and is the cause of much annoyance and delay. This substance, collecting upon the inside of the pipes and passages, forms a non-conductor, and thus interferes with the working of the apparatus. When these stoppages to the flow of the gas or vapor occur it is often with great difficulty and loss of time that their precise locality is ascertained. The use of the combined ammoniacal gas and hydrocarbon vapor has the tendency to neutralize this action, never allowing the deposit to form, thus keeping the surfaces and passages free, and preventing stoppages in the pipes, and the formation of non-conducting deposits or coatings. Benzine vapor acts as a preventive of these deposits, and in this manner improves and benefits the freezing action.

I have found by experiment that by mixing with the ammoniacal gas with which the machine is charged a percentage of benzine vapor, varying from five to ten per cent., the compound gas or vapor produced from this mixture will not form a compound with the lubricants, and that the apparatus will not be clogged, but will continue to act with full power.

I do not have to confine myself to any particular proportion of benzine, it being desirable to have enough to effectually remove the clogging material.

I claim—

In the process of manufacturing ice by the agency of ammoniacal gas, the combination of benzine vapor with the ammoniacal gas, for the purpose of preventing the formation of clogging deposits in the circulating-pipes, all substantially as described, and for the purpose set forth.

WILLIAM H. H. MALLORY.

Witnesses:
WILLIAM EDSON,
NATHL. EVANS, Jr.