

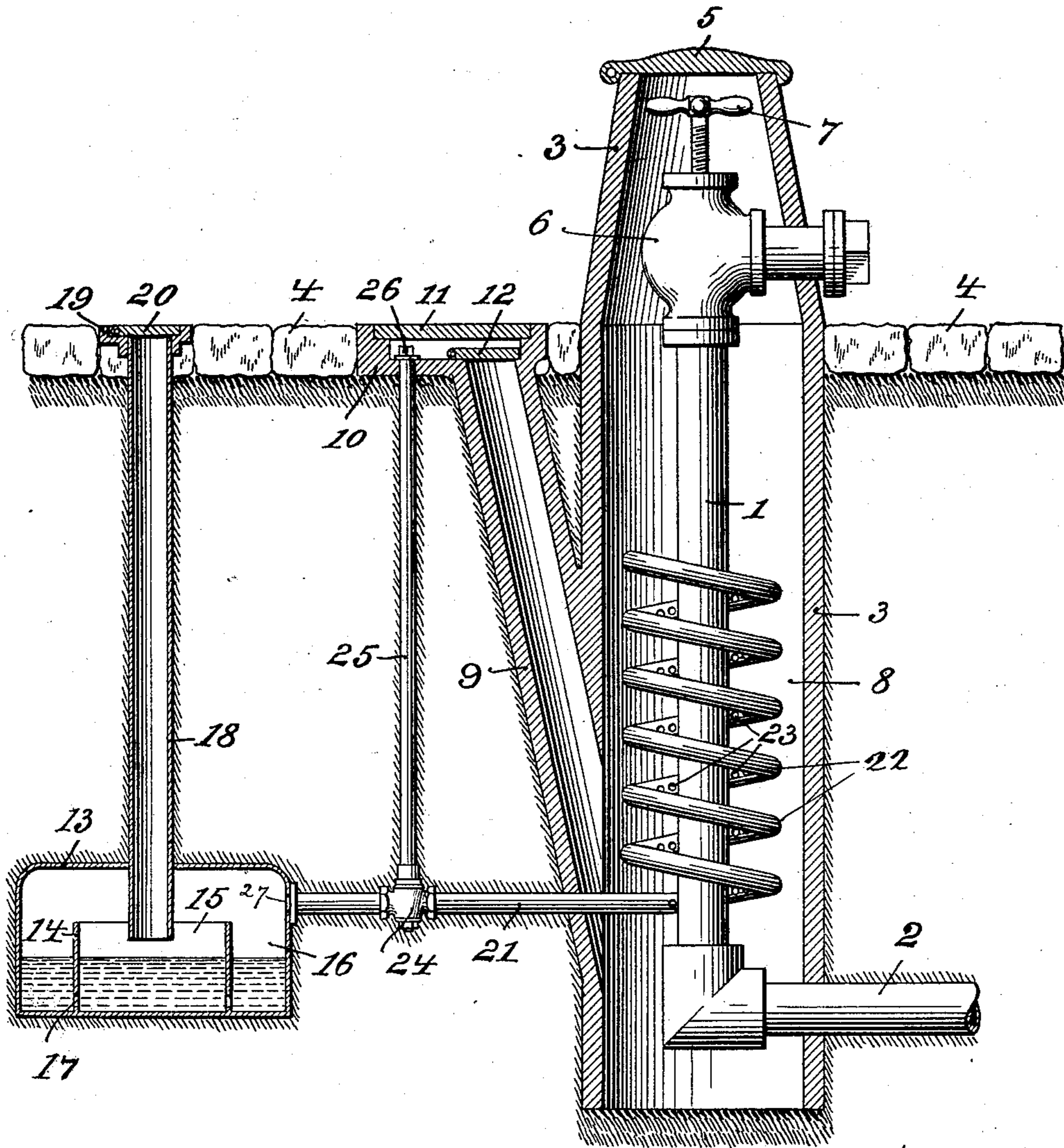
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J. C. MOORE.

DEVICE FOR THAWING HYDRANTS AND FIRE PLUGS.

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DEVICE FOR THAWING HYDRANTS AND FIRE-PLUGS.

No. 865,927.

Specification of Letters Patent.

Patented Sept. 10, 1907.

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To all whom it may concern:

Be it known that I, JAMES C. MOORE, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Thawing Hydrants and Fire-Plugs, of which the following is a specification.

My invention has relation to a device for thawing hydrants and fire-plugs; and in such connection it relates particularly to the constructive arrangement of such a device.

The principal objects of my invention are first, to provide a device with a sunken receptacle or carbureter for a volatile fuel, such as gasoline or the like, to form by the fuel and air entering the carbureter a combustible mixture of air and gas therein; second, to provide means for conveying the combustible mixture from the carbureter into the chamber of a fire-plug or hydrant to heat the same when ignited therein; third, to provide the fire-plug or hydrant chamber with an air inlet, which, when the fire-plug or hydrant chamber and air inlet are open and the air is heated in the chamber will permit of the circulation of air through the carbureter and thus of the formation of combustible mixture in the same and the feeding of the mixture from the carbureter into the hydrant chamber; and fourth, to provide the means which conveys the combustible mixture with a cut-off valve for regulating the supply of mixture to the fire-plug or hydrant chamber.

The nature and scope of my present invention will be more fully understood from the following description, taken in connection with the accompanying drawings illustrating partly in section and partly in elevation a fire-plug surrounded by a housing forming a chamber, an air inlet, a receptacle for a volatile fuel, a pipe connecting the receptacle above the fuel with the fire-plug chamber and extending spirally therein around the fire-plug, and a valve for controlling the inlet of a combustible mixture of air and gases of the fuel into the chamber, all embodying main features of my said invention.

Referring to the drawings 1 represents a hydrant or fire-plug of well known construction, which by means of a pipe 2, is connected with a water-supply pipe or main, not shown. The hydrant 1, is surrounded by a housing or casing 3, extending beyond the pavement 4, of a street or high-way and is provided at its upper end with a lid or cover 5, to permit of access being had to the handle 7, of a valve 6, for controlling the outlet of water from the hydrant 1. The housing or casing 3, of the hydrant forming a chamber 8, is provided with an obliquely arranged extension or pipe 9, terminating at the lower end in the housing 3, near the base of the same and at the upper end in a box-like receptacle 10, provided with a removable lid or cover 11. The receptacle 10, is placed in the pavement 4, of the street so as

to be flush with the same, and serves in conjunction with the extension or pipe 9, as an air inlet to the hydrant chamber 8. A valve 12, pivotally secured to the receptacle 10, normally serves to directly close the entrance or inlet opening of the pipe 9.

At a certain distance from the housing 3, and the pavement 4, is arranged a receptacle 13, which by means of walls 14, is divided into two sections 15 and 16, communicating with each other by openings 17, arranged in the walls 14, near the bottom of the receptacle 13. A pipe 18, connected with the receptacle 13, extends at the lower end into the section 15, and below the outlet 27, of the receptacle 13, and at the upper end terminates preferably in a head or support 19, introduced in the pavement 4. A removable cover 20, serves to permit of the introduction of a volatile fuel, such, for instance, as gasoline, into the pipe 18, which conducts the fuel directly into the inner section 15, of the receptacle 13, from which the same passes into the outer section through the openings 17. The walls 14, forming the inner section 15, serve as baffle walls which prevent the splashing of the liquid fuel during its introduction into the receptacle 13, and thus the entrance of a portion of the same into a pipe or conduit 21, terminating in the outlet 27, arranged in the upper portion of the receptacle 13, and the chamber 16, formed by the same above the level of the fuel therein. By extending the pipe 18, below the outlet 27 of the receptacle 13, and close to the level of the fuel therein, the highly combustible gases arising from the fuel will be retained in the receptacle 13. The pipe 21, passes through the housing 3, of the hydrant 1, and extends into the chamber 8, thereof, in which the same is bent so as to form a spiral 22, which for a certain distance surrounds the hydrant 1. Within the chamber 8, and contiguous to the wall of the hydrant 1, the spiral windings 22, of the pipe 21, are provided with openings 23, for a purpose to be hereinafter described. The fuel in the receptacle 13, vaporizes therein and commingles with the air in the receptacle 13, and pipe 18, thus forming a combustible mixture. When due to atmospheric conditions the water in the hydrant 1, is frozen preventing the outflow of water therefrom, the lid 5, of the housing 3, of the hydrant 1, the cover 12, of the air inlet 9, and a valve 24, arranged in the pipe 21, are opened and readily combustible material, such as paper, is ignited when introduced into the chamber 8. The air in the chamber 8 is heated and in this condition to maintain combustion in the chamber 8, draws fresh air through the inlet 9, until the spiral 22, becomes heated, after which the cover 20, of the pipe 18, is opened to permit air to pass through the pipe 18, into the carbureter 13, and through the outlet 27, of the same, and pipe 21, and valve 24, into the spiral 22, in which the air is heated. The cover 12, is then closed and the fresh air due to the

expansion of the same in the spiral 22 is sucked through the pipe 18 and in its passage through the carbureter 13, commingles with the volatile gases of the gasoline, which form in conjunction with the air a combustible mixture, which when issuing from the opening 23, of the spiral 22, is ignited by paper burning in the chamber 8, in the form of jet flames, which by being directed against the hydrant 1, will speedily heat the same, and thus melt the frozen water therein, at which time the paper introduced into the chamber 8, to heat the spiral 22, will have been completely consumed. The valve 24, of the fuel supply pipe 21, is provided with a rod 25, terminating in the receptacle 10, of the air supply pipe 9, which by means of a square head 26, permits of the ready turning of the rod 25, and thus of the actuation of the valve 24.

Having thus described the nature and objects of my invention, what I claim as new and desire to secure by Letters Patent is:—

0 In a device of the character described, an incased fire-plug arranged to form a chamber, a pipe terminating in

said chamber and forming an air inlet thereto, a cover adapted to close said air inlet pipe, a receptacle for liquid fuel having an outlet above the level of the liquid fuel therein, a pipe terminating in said receptacle below the outlet thereof to permit the receptacle to retain the gaseous fuel and forming an inlet for liquid fuel and air to the same, a cover adapted to close said fuel and air pipe, a second pipe surrounding the outlet of said receptacle and terminating in the chamber of said fire-plug and so arranged as to spirally surround the same, means arranged in said second pipe to control the passage of gaseous fuel therethrough, said air inlet pipe adapted when the cover thereof is removed to conduct air into the chamber of said fire-plug to permit of the heating of the spiral portion of said second pipe therein, said fuel pipe when the cover thereof is removed, and said second pipe when heated, coöperating to draw gaseous fuel and air from the receptacle into the chamber of said fire-plug and air into said receptacle.

In witness whereof, I have hereunto set my signature in the presence of two subscribing witnesses.

JAMES C. MOORE.

Witnesses:

GEO. W. REED,

THOMAS M. SMITH.