

No. 682,497.

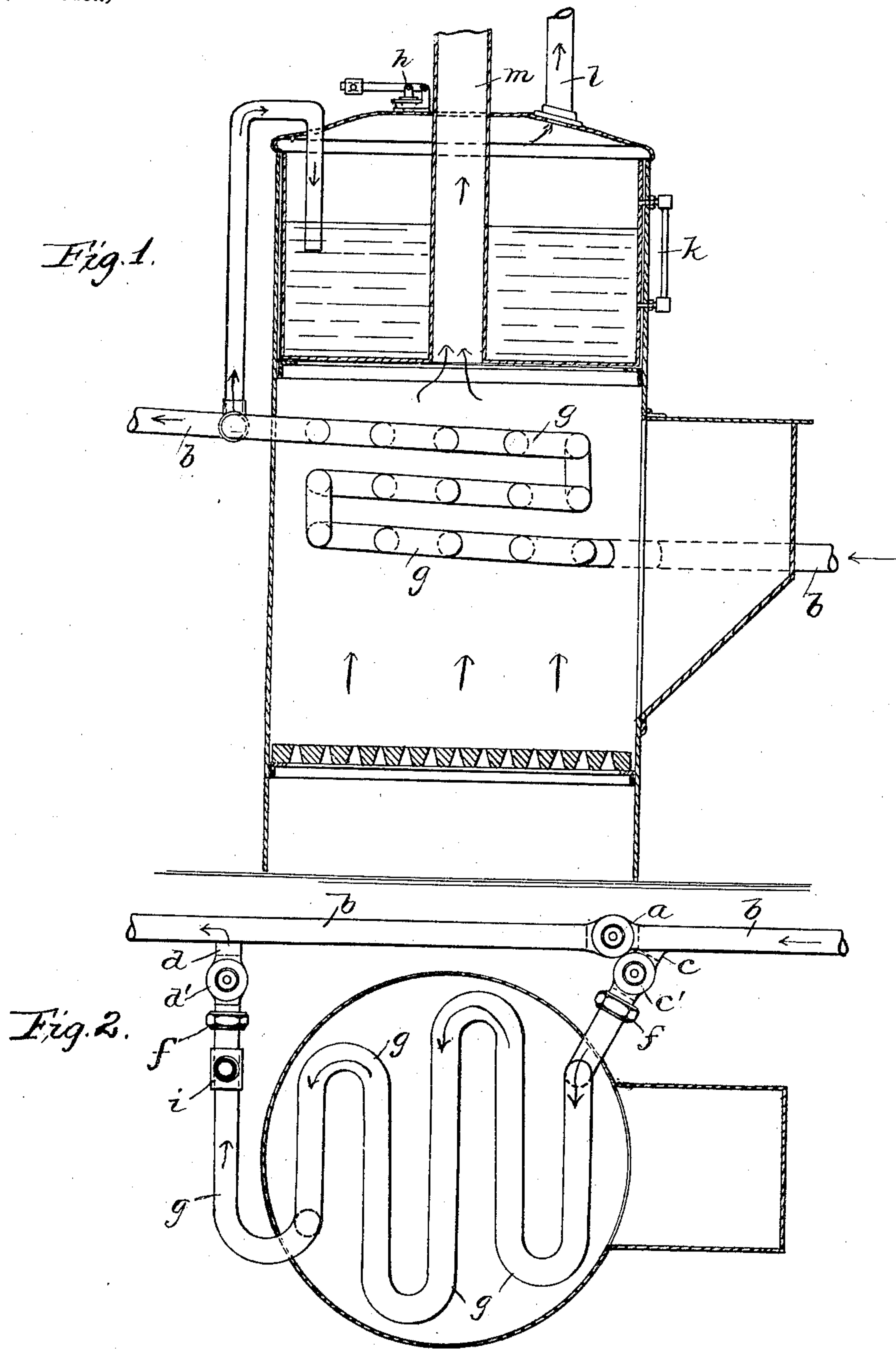
Patented Sept. 10, 1901.

J. RÜHLING.

APPARATUS FOR PREVENTING FREEZING OF WATER PIPES.

(Application filed Apr. 5, 1901.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

JULIUS RÜHLING, OF GERA, GERMANY.

APPARATUS FOR PREVENTING FREEZING OF WATER-PIPES.

SPECIFICATION forming part of Letters Patent No. 682,497, dated September 10, 1901.

Application filed April 5, 1901. Serial No. 54,535. (No model.)

To all whom it may concern:

Be it known that I, JULIUS RÜHLING, a citizen of Gera, residing at Gera, Reuss Younger Line, Germany, have invented certain new and useful Improvements in Contrivances to Prevent the Freezing in of Water-Conduits; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a device for preventing the freezing in of water-pipes in which the water of the pipes is forced to pass first through a coil of pipe in a heating apparatus before it reaches the floors of a dwelling or other building. There is also above the heating-serpentine a reservoir which is fed at the same time with the water heated in the coil, from which reservoir by a separate pipe the vapors developing therein are conducted, by means of branch pipes, to closets or similar apartments for the purpose of warming them.

In the accompanying drawings, Figures 1 and 2 represent, respectively, vertical and horizontal sections through a device constructed in accordance with my invention, the latter on line 2 2 of the former.

The main conducting-pipe *b*, with a stop-valve *a*, is provided at the branches *c* *d*, having valves *c'* and *d'*, which are connected by the couplings *f* and *f* with the heating-coil *g*. The reservoir *A* above the coil *g* and provided with a safety-valve *h* is connected by a pipe *i* with the coil *g* and has a glass gage *k*. For cutting off the pipe *i* from the serpentine *g* and the conduit *b* no valve or cock is shown in the drawings. The pipe *i* serves as an outlet for the vapors developing in the reservoir *A* and may be connected by branch pipes (not shown) leading to the apartments to be heated.

m is the chimney.

To make use of this device, it is necessary to close the valve *a*, so that the water is forced to run through the heating-coil *g*, the latter being placed in an oblique position to ren-

der possible an easy emptying when desired. The water may be heated with any suitable fuel. The products of combustion heat the reservoir *A*, thereby causing the vaporization of the water contained therein and already heated in coil *g*, so that the vapors are led by conduit *l* to the apartments to be heated.

While not using this device the valves *c'* and *d'* are closed and valve *a* opened, whereby the water passes through pipe *b* unheated. If for any reason it is desirable to place the device in another room, the couplings *f* and *f* may be loosened and connection to the main pipe made in another place.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the character described, the combination with a heater and a superposed water-tank, of a main water-pipe, a coil of pipe in the fire-box of the heater, valved connections, between the ends of the coil and the main pipe, a valve in the main pipe between said connections, a branch pipe leading from the main pipe, beyond the coil connections, into the water-tank, and a pipe leading from the top of the tank substantially as and for the purposes set forth.

2. In a device of the character described, the combination with a heater and a superposed water-tank surrounding the chimney of the heater, of a main water-pipe, a coil of pipe in the fire-box of the heater, valved connections having interposed couplings between the ends of the coil and the main pipe, a valve in the main pipe between said connections, a branch pipe leading from the main pipe, beyond the coil connections, into the water-tank delivering below the water-level thereof, and a pipe leading from the top of the tank substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JULIUS RÜHLING.

Witnesses:

F. STEPHAN,
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