No. 636,682. Patented Nov. 7, 1899.

P. I. MOULE.

HYDROTHERMOSTAT.

(Application filed Oct. 2, 1897. Renewed Apr. 20, 1899.)

(No Model.)

Fig. 1.

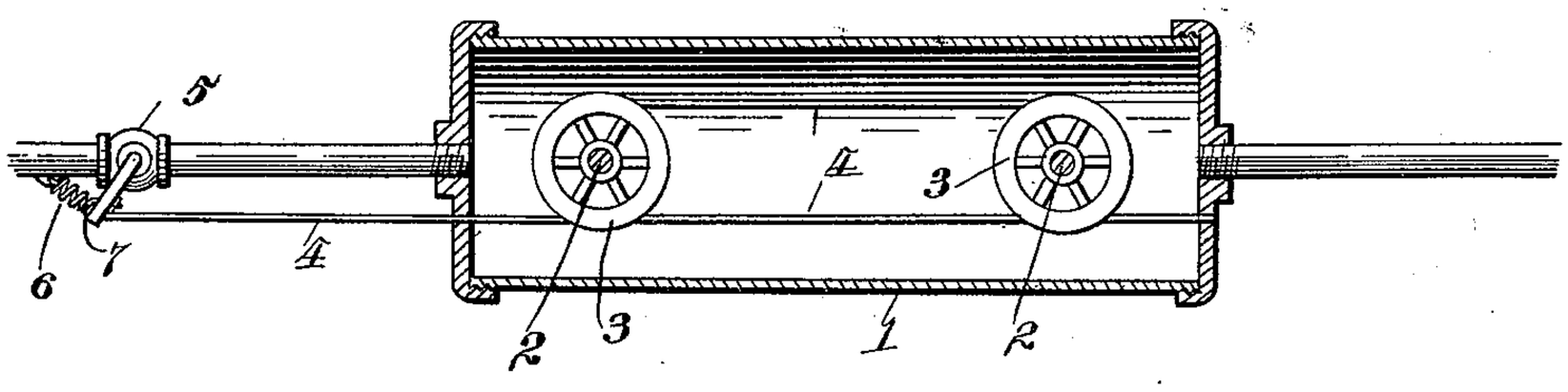
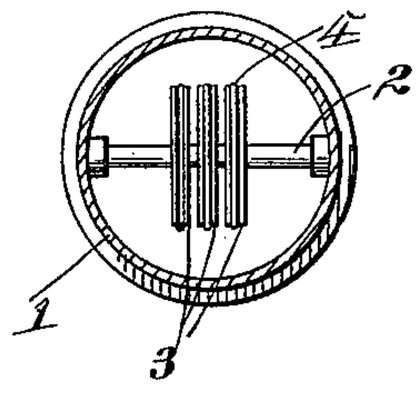


Fig. 2



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HYDROTHERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 636,682, dated November 7, 1899.

Application filed October 2, 1897. Renewed April 20, 1899. Serial No. 713,788. (No model.)

To all whom it may concern:

Be it known that I, PHILIP INGHAM MOULE, of Bercail, in the county of Fergus and State of Montana, have invented certain new and useful Improvements in Hydrothermostats; 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 improvements in hydrothermostats; and the object of the same is to provide an improved device to be applied to water-pipes, the same being adapted to automatically control the flow of water through said pipe to prevent freezing thereof.

The invention consists in the novel features of construction hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of my invention, the wall of the casing being broken away; and Fig. 2 is a transverse section.

Referring to the drawings, 1 indicates the casing, having its ends closed. Said ends are provided with screw-threaded perforations to receive the screw-threaded ends of the sections of water-pipe to which it is connected. Secured within this casing, adjacent its ends, are the transversely-extending rods 2, upon which are journaled the pulleys 3. Secured at one end to the casing, adjacent its end wall, is a wire 4, of copper or other material easily affected by changes in temperature. This wire is passed around the pulley at the opposite end of the casing and then back around the pulley adjacent its starting-point, and so on until it has been passed around each of the series of pulleys. The opposite end is then extended through the end pulley of the casing and attached to the stop-cock 5 in one section of the pipe 1. A spring 6, attached to the stop-cock, holds the same, normally closing the supply of water.

In order to properly provide for the relative adjustment of the stop-cock and wire, the latter is terminally screw-threaded beyond the handle of the cock to receive an adjusting-nut 7. The tension of the spring 6 is also designed to be regulated by means of an adjustable rod passed through the handle of the cock and likewise provided with a nut upon its extremity. By this means the limits of movement of the cock under the impulse of the hydrostat may be determined and a waste of water prevented.

As the atmosphere becomes cold within the casing and the freezing-point is approached the wire will contract, causing the rotation of the pulleys, and the extended end thereof, which is secured to the stop-cock, will operate to open the same and cause the water to flow through said pipes, so that freezing is prevented. As soon as the atmosphere rises the wire will expand and the spring will return the stop-cock to the closed position. This casing or section of the pipe may be introduced at any point within the line of piping as desired, and my device will be found most effective in preventing the freezing of the pipe.

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

1. The combination of a casing adapted to be introduced in a line of piping, wheels journaled within the casing, a wire of suitable material which is sensitive to the rise and fall of the temperature, said wire secured at one end to the casing and passed around said pulleys, its opposite end being extended through the casing, a valve or stop-cock for the water-supply to which the opposite end of the wire is secured, and means for holding the valve normally closed, substantially as described.

2. The combination of a casing adapted to be introduced into a line of piping, transversely-extending rods secured therein, a series of pulleys journaled upon each rod, a wire of suitable material which is sensitive to the rise and fall of temperature, said wire being secured at one end to the casing and passed around the series of pulleys, the opposite end of said wire being extended from the casing and attached to the valve of the water-supply, whereby when the temperature

falls the wire will be contracted and the valve opened to cause the water-supply to flow through the pipes, and when the temperature rises the wire will expand to permit the valve to shut off the water-supply, and means for holding the valve normally closed, substantially as described.

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

PHILIP INGHAM MOULE.

Witnesses:

W. S. STRANAHAN,

J. M. PARRENT.