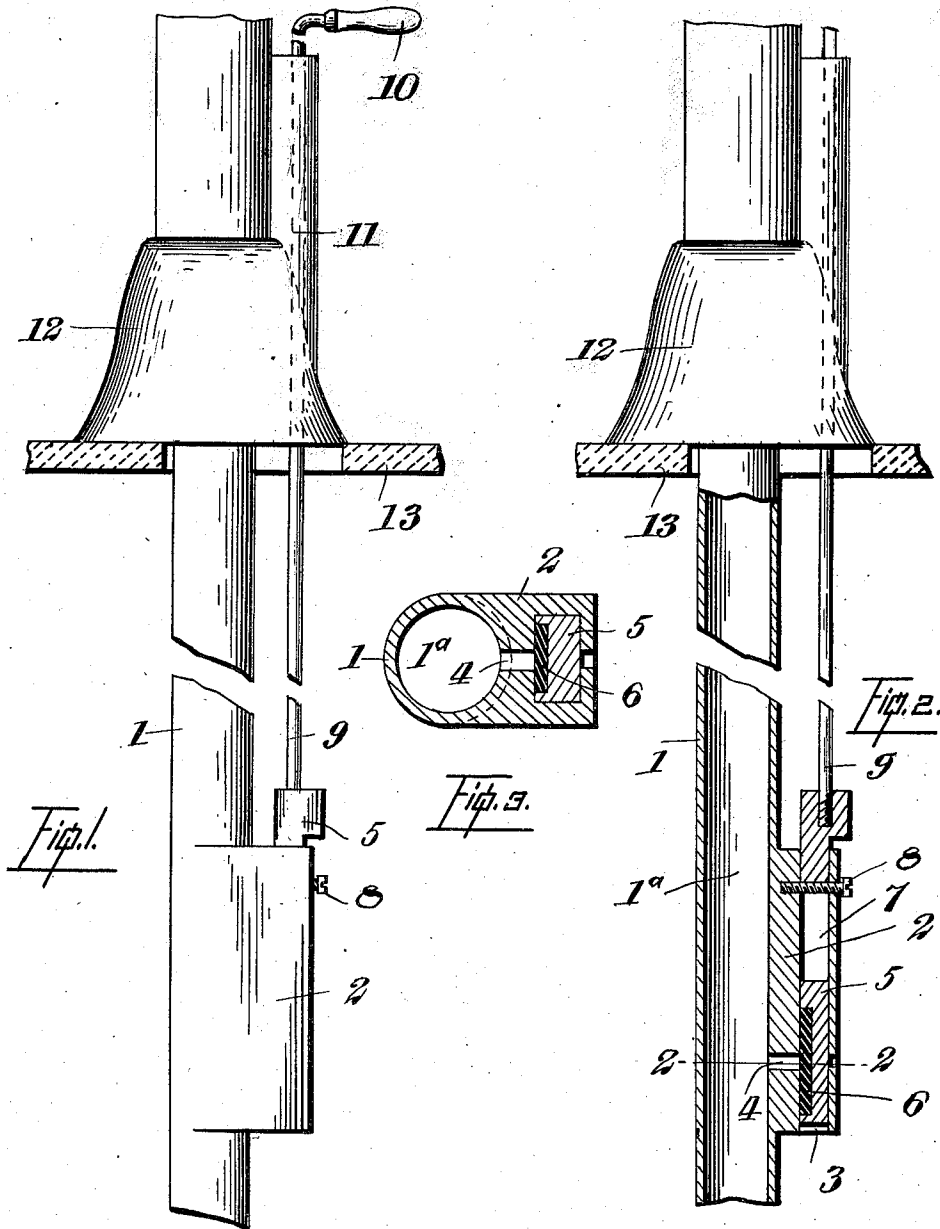


J. REITZ.
 DEVICE FOR PREVENTING THE FREEZING OF WATER IN PUMPS.
 APPLICATION FILED AUG. 2, 1912.

1,066,150.

Patented July 1, 1913.



WITNESSES

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UNITED STATES PATENT OFFICE.

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DEVICE FOR PREVENTING THE FREEZING OF WATER IN PUMPS.

1,066,150.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed August 2, 1912. Serial No. 712,844.

To all whom it may concern:

Be it known that I, JONATHAN REITZ, a subject of the King of Great Britain, residing at Calgary, in the Province of Alberta, in the Dominion of Canada, have invented certain new and useful Improvements in Devices for Preventing the Freezing of Water in Pumps, of which the following is the specification.

My invention relates to improvements in devices for preventing the freezing of water in pumps, and the object of the invention is to provide means for draining the water out of the suction pipe of the pump to prevent the same from freezing, said means being situated below the frost line but being controlled from within reach of the pump.

The invention consists of a section of the suction pipe having a vertical orifice therethrough, said pipe section being connected at both ends to the suction pipe proper of the pump, a dome formed on the pipe section designed to rest on the flooring above the well, said dome having a boss formed thereon, a boss formed in the suction pipe below the frost line, said boss having a vertical orifice extending therethrough and also a lateral vent between the interior of the suction pipe and the vertical orifice in the boss, a plunger in the vertical orifice in the boss having a suitably packed inner face normally covering the vent, a rod connected to the plunger, said rod extending up through the boss in the dome and being provided with a suitable handle adjacent to the pump handle, said plunger having a slot therein and a pin extending through the boss on the suction pipe below the frost line and through the slot in the plunger, all as hereinafter more particularly described and illustrated in the accompanying drawing, in which:—

Figure 1 represents a side elevation of the device broken away intermediately. Fig. 2 is a vertical section through the device, broken away intermediately. Fig. 3 is a cross section of the same through line 2—2, Fig. 2.

Like characters of reference indicate corresponding parts in the different views.

1 is the suction pipe having a boss 2 thereon below the frost line.

3 is a vertical orifice extending through the boss.

4 is a lateral vent through the boss 2 and

communicating with the interior of the pipe 1^a.

5 is a plunger extending down in the orifice 3 and having a suitable packing 6 in the face thereof which normally covers the vent 4.

7 is a vertical slot in the plunger and 8 is a pin extending through the boss and through the slot 7.

9 is a rod connected at its lower end to the top of the plunger 5 and having the handle 10 connected to its upper end. The rod 9 extends through a boss 11 formed on a dome 12 surrounding the pipe 1 above the flooring 13 of the well.

The device is operated as follows:—In cold weather after the water has been pumped up, the water remaining is drained from the suction pipe 1 by pulling up the handle 10, which pulls up the plunger 5 of the device above the vent 4 thus allowing the water to drain out of the vent and prevent the same from freezing. When it is desired to use the pump again the handle 10 is pushed down which pushes the plunger 5 down in the boss 3 until the packing face 6 covers the vent, thus effectually preventing any leakage of water through the vent when the pump is in operation. Further, should the packing become worn the plunger can be removed by unscrewing the pin 8 and a new packing substituted therefor.

It is to be understood that the plunger 5 and vent are preferably situated below the frost line in order that when the water is drained from the pump it will not freeze when discharging from the vent.

What I claim as my invention is:

1. A device for preventing water freezing in pumps comprising a suction pipe connected to the pump, a boss formed on the suction pipe having a vertical orifice extending therethrough, a vent extending through the boss and communicating with the interior of the pipe, a plunger in the vertical orifice in the boss, means for actuating said plunger, a packing on the plunger, said plunger having a vertical slot therein, a screw pin extending through the boss and through the vertical slot, and a rod connected at its lower end to the plunger and provided at its upper end with a suitable handle, as and for the purpose specified.

2. A device for preventing water freezing in pumps comprising a suction pipe con-

nected to the pump, an elongated boss
formed on the suction pipe having a vertical
orifice extending therethrough a vent ex-
tending transversely through the boss and
communicating with the interior of the pipe,
a plunger in the vertical orifice in the boss, a
packing on said plunger, said plunger hav-
ing a vertical slot therein closed at the top
and bottom, a screw pin extending through
the boss and through the vertical slot adapt-
ed to engage the top and bottom walls of
the slot to limit the movement of the
plunger, a dome surrounding the suction

pipe above the well floor, a boss formed on
the dome, a rod extending through the boss 15
and connected at its lower end to the
plunger and provided at its upper end with
a suitable handle, as and for the purpose
specified.

In witness whereof I have hereunto set 20
my hand in the presence of two witnesses.

JONATHAN REITZ.

Witnesses:

E. HUTCHISON,
EDWARD F. RYAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
