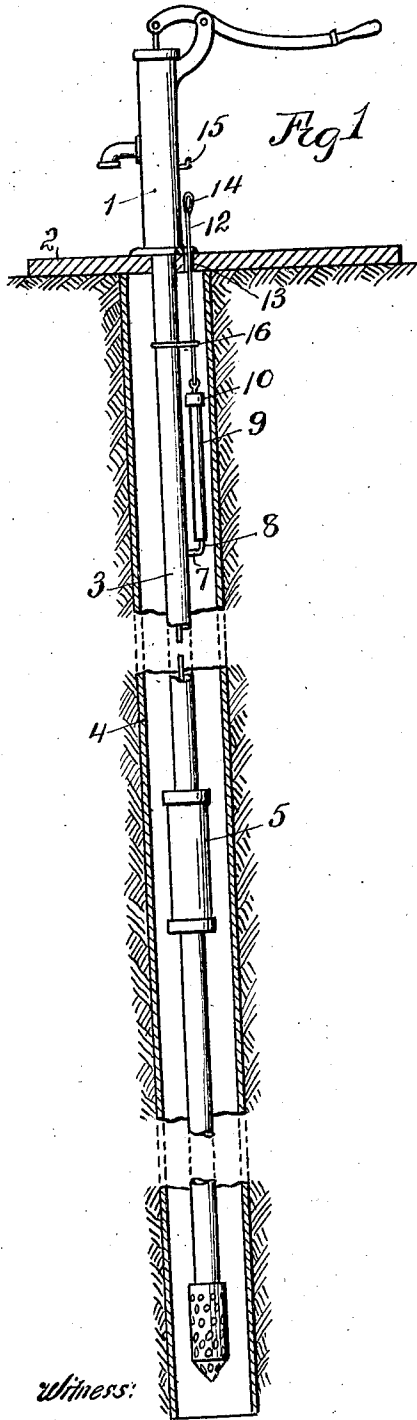


E. M. ANDERSON.
PUMP DRAIN.
APPLICATION FILED MAR. 19, 1921.

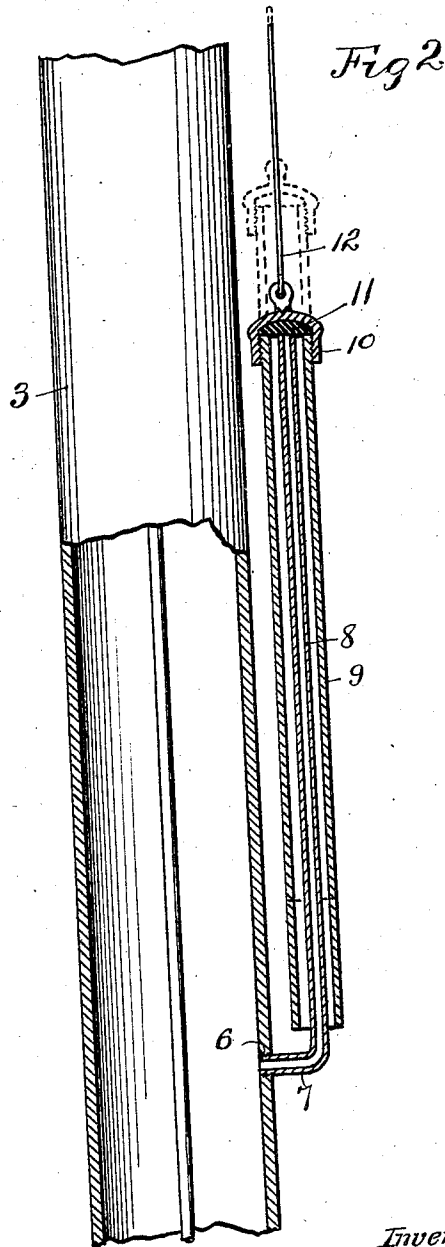
Patented Jan. 10, 1922.

1,402,826.



Witness:

R. E. Hamilton



Inventor,

Elihu M. Anderson,
By Warren L. House,
His Attorney.

UNITED STATES PATENT OFFICE.

ELIHU M. ANDERSON, OF KANSAS CITY, KANSAS.

PUMP DRAIN.

1,402,826.

Specification of Letters Patent. Patented Jan. 10, 1922.

Application filed March 19, 1921. Serial No. 453,768.

To all whom it may concern:

Be it known that I, ELIHU M. ANDERSON, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented a certain new and useful Improvement in Pump Drains, of which the following is a specification.

My invention relates to improvements in pump drains.

The object of my invention is to provide a novel means for draining a pump to prevent its freezing.

A further object of my invention is to provide novel pump draining means which is simple in construction, cheap to make, durable, and not liable to get out of order, which may be readily applied to pumps now in use, which is easily operated, and which is efficient in operation.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing, which illustrates the preferred embodiment of my invention,

Fig. 1 is a view, partly in side elevation, partly in vertical section, and partly broken away, of a pump provided with my improvement and shown mounted in a well.

Fig. 2 is an enlarged vertical sectional view of a portion of my improved drain shown mounted on a portion of a stand pipe which is shown partly in elevation and partly in vertical section.

Similar reference characters designate similar parts in the different views.

1 designates an ordinary pump stand mounted on a platform 2, and supporting the usual stand pipe 3, shown mounted in a well tubing 4, and provided with the usual pump cylinder 5.

The stand pipe 4 is provided above the cylinder 5 and at a suitable distance below the surface of the ground with a drain opening 6, in which is fitted the lower end of a drain pipe 7, having an upwardly extending portion 8, which is encircled by and spaced apart from a vertical tube 9, the upper end of which is closed by a cap 10, in which is mounted a valve 11, which may be of soft rubber, leather or other suitable material, and which is adapted to seat upon and close the upper end of the vertical portion 8, of the drain pipe. A vertical manually reciprocative rod 12 extends through an opening 13 in the platform and is attached

at its lower end to the cap 10. The upper end of the rod 12 is provided with an eye 14, by means of which the rod 12 may be lifted, so as to lift the cap 10, valve 11, and tube 9, from the closed position, shown in Fig. 1, and in solid lines in Fig. 2, to the open position shown in dotted lines in Fig. 2. For supporting the rod 12, and the parts lifted by it in the open position, the stand 1 has attached to it a hook 15, which is adapted to enter and support the eye 14.

If desired, the stand pipe 3 may have secured to it a guide plate 16, in which the rod 12 is vertically slidable.

In the normal operation of the invention, the rod 12, cap 10, and valve 11 are in the closed position shown in Fig. 1 and in solid lines in Fig. 2. In freezing weather, after the pump has been used, the rod 12 is lifted to the open position and supported in said position by the hook 15. After pumping has ceased, the water in the stand pipe will be drained, to the level of the upper end of the portion 8 of the drain pipe, the water so drained passing from the stand pipe through the drain pipe 7—8, and thence downwardly into the well tube 4, through the tube 9.

The drain pipe 7—8 is so disposed that the upper end thereof is far enough below the surface of the ground to be below the zone of freezing in the particular latitude in which the pump is located. The water which remains in the stand pipe 3 and in the drain pipe 7—8 will, therefore, not be frozen.

When the pump is to be used, the rod 12 may be disengaged from the hook 15 and lowered to the closed position shown in Fig. 1 and in solid lines in Fig. 2. The valve 11 will then close the drain pipe 7—8, thereby preventing the discharge of water there-through.

The drain pipe 7—8 with the use of the valve 11, may be made large enough to quickly drain the stand pipe, so as to prevent liability of freezing even in very cold weather.

The tube 9 serves to retain the valve 11 in a position such that it will always close the drain pipe when the valve is lowered to the closed position. The tube 9 serves further as a weight to retain the valve seated, although the valve is subjected to the pressure of a relatively high column of water. For this reason, the valve tube 9 is made relatively long to obtain sufficient weight to

overcome the pressure of the column of water in the pipe 3, when the valve is seated, and also as a guide to prevent the valve tilting to any considerable extent. The drain pipe is extended upwardly a corresponding length to accommodate the long valve tube.

I do not limit my invention to the structure shown and described, as many modifications, within the scope of the appended claims, may be made without departing from the spirit of my invention.

What I claim is:—

1. In a pump drain, the combination with the stand pipe of a pump having a lateral outlet opening in a drain pipe communicating with said opening and having an upwardly extending discharge portion, of a tube encircling and spaced apart from said portion, a cap mounted on the upper end of said tube, a valve mounted in said cap and adapted to seat upon and close the upper end of said drain pipe, and means for raising and lowering said valve to respectively open and close the same, substantially as set forth.

2. In a pump drain, the combination with the stand pipe of a pump and the stand supporting said pipe, the pipe having a lateral opening for drainage, and a drain pipe communicating with said opening and having an upwardly extending discharge portion, of a tube encircling and spaced apart from

said portion, a cap mounted on the upper end of said tube, a valve in said cap adapted to seat upon and close the upper end of said portion, means attached to said cap for raising and lowering said valve to respectively open and close the latter, and means carried by said stand and adapted to engage and support said raising and lowering means for holding the latter in the raised position, substantially as set forth.

3. In a pump drain, the combination with a stand of a pump and a stand pipe supported thereby and having a lateral drain opening and a drain pipe communicating with said opening and having an upwardly extending discharge portion, of a tube encircling and spaced apart from said portion and vertically adjustable, a cap closing the upper end of said tube, a valve in said cap arranged to close the upper end of said drain pipe, a rod attached at its lower end to said cap and adapted to lift the latter with said tube, the upper end of the rod having an eye, and means on said stand for engaging said eye for holding the rod and with it the tube and valve in the raised open position, substantially as set forth.

In testimony whereof I have signed my name to this specification.

ELIHU M. ANDERSON.