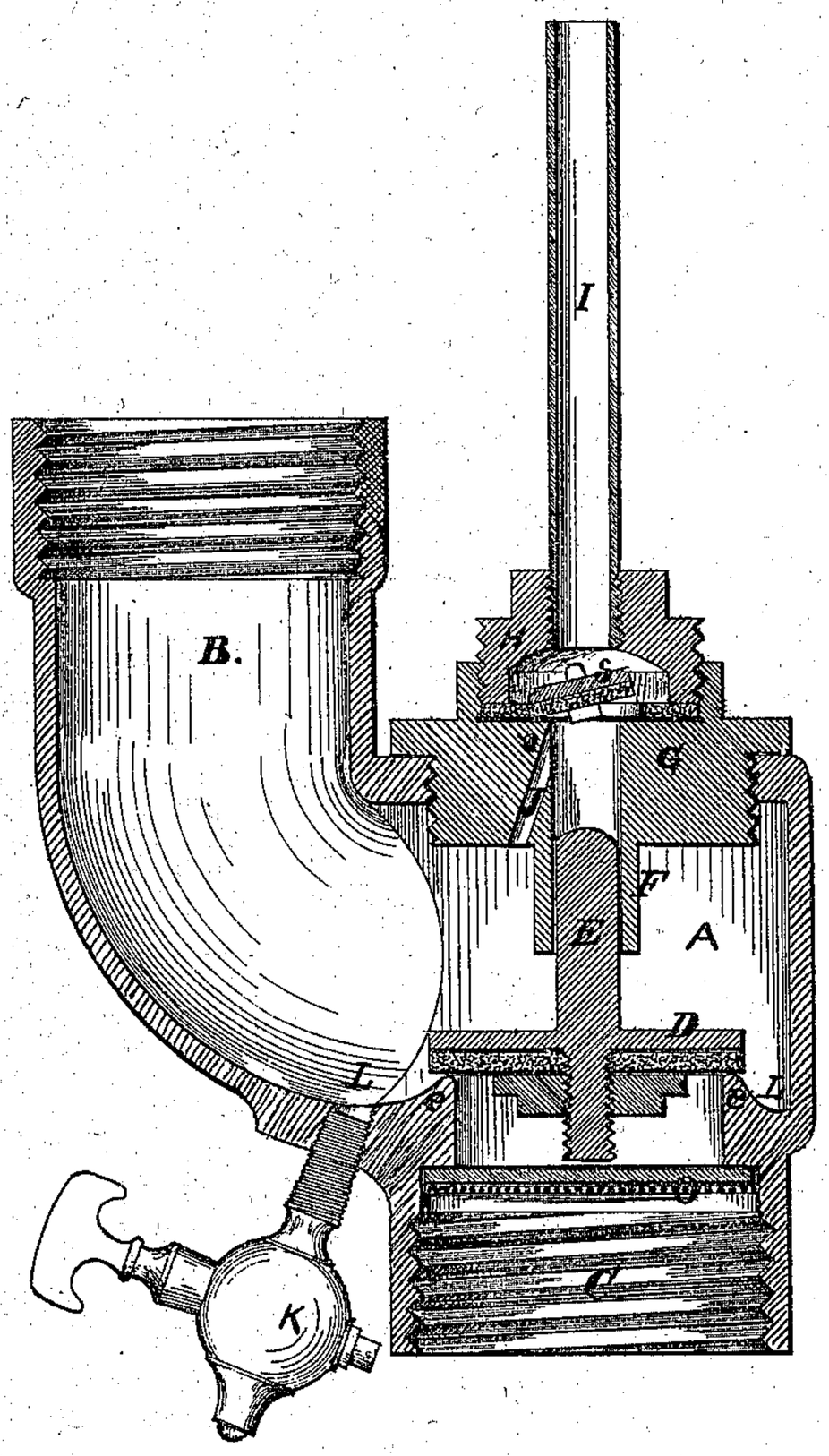
J. G. HANNING.

ANTIFREEZING DEVICE FOR PUMPS.

No. 103,325. Patented May 24, 1870.



Witnesses.

O. F. Mayhew

G. A. Skinner

John G. Hanning INVENTOR

INDIANAPOLIS, IND.

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JOHN G. HANNING, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO HIMSELF AND ROSWELL R. ROUSE, OF SAME PLACE.

IMPROVEMENT IN ANTI-FREEZING DEVICES FOR PUMPS.

Specification forming part of Letters Patent No. **103,325**, dated May 24, 1870.

To all whom it may concern:

Be it known that I, JOHN G. HANNING, of Indianapolis, in the county of Marion and State of Indiana, have invented a certain Combined Anti-Freezing Valve, Sand-Screen, and Washer for Pumps, of which the following is a specification.

The first part of my invention relates to preventing iron pumps from freezing; and it consists in the construction of the lower valve-chamber and its arrangement at any desired position in the pipe below the reach of frost, combined with the attachment of a supplementary valve and overflow-pipe in such a manner that when pumping has ceased the water contained in the pump and pipe above the valve will flow out down to the level of the top of the overflow-pipe.

The second part of my invention consists in the construction of the lower valve-seat, combined with the arrangement of a suitable cock, through which to wash out any sand that may be drawn into the valve chamber, and a screen or filter to prevent as far as practicable sand from getting into the chamber.

The drawing is a vertical section through a valve-chamber embodying my invention.

The valve-chamber A is made of a suitable form to make a connection in the pipe leading from the pump to the water, the upper part, B, receiving the pipe that connects with the pump, and the lower part, C, receiving the pipe that extends to the water.

D is the lower valve of the pump, which is kept in its proper position by the stem E and guide F, the latter being a downward projection from the nut G, constituting the cap of the valve-chamber. A chamber is formed in the top of cap G for the supplementary or overflow-valve S by means of the hollow nut H, which is screwed into a flange on top of the cap G, as shown. From the chamber in this nut a pipe, I, extends up to any desired height, the height of the tube I regulating the height of the water in the pipe connecting the upper part, B, of the valve-chamber with the pump. The overflow-valve S is a common clack-valve, and is held in place by the lower part of nut H, which screws down upon the packing of which it is made. The water in the pipe above the valve D finds its way into the chamber in nut H through the duct J, made by drilling a hole through cap G, as shown, from whence it flows out of tube I until it has descended in pipe B to a level with the top of the tube I. The seat of the lower valve, D, is an upward-projecting flange, *e*, which presents the least practicable lodging-place for sand, and also forms a basin or receptacle, L, around it for any sand that may be drawn into the valve-chamber.

In order to conveniently wash out the sand that collects in the chamber, I insert a stop-cock, K, in such a manner as to tap the basin around the valve-seat at the bottom, and through which the water in pipe B above the chamber may be discharged at pleasure, and which will wash any sand out of the basin. To prevent as far as practicable any sand from getting into the chamber, I place a diaphragm of one plate of perforated sheet metal and one of fine woven wire at O. This valve-chamber is designed to be placed below the platform on which the pump stands, and, as will be seen, is so constructed and arranged as to be easily accessible for repairs of the valves without having to disconnect the pump from the pipe or to disconnect any part of the pipe, as the valves can be reached by unscrewing the nut H and cap G. This arrangement of the valve chamber also obviates the necessity of constructing the barrel or base of the pump in separate pieces, thereby saving considerable expense in its construction, as there is no necessity for the valve in the base of the pump as usually arranged.

I claim as my invention—

1. The valve-chamber A and connecting branches B C, constructed and arranged as described, in combination with the cap G and duct J, chambered nut H, valve S, and overflow-pipe I, substantially as and for the purpose set forth.

2. The valve-seat *e*, basin L, stop-cock K, and strainer O, arranged in connection with the valve-chamber A, substantially as and for the purpose set forth.

JOHN G. HANNING.

Witnesses:

O. F. MAYHER,

G. A. SKINNER.