

L. H. BEEBE.

PREVENTING THE OBSTRUCTION OF WATER CHANNELS.

No. 188,842.

Patented March 27, 1877

Fig. 1.

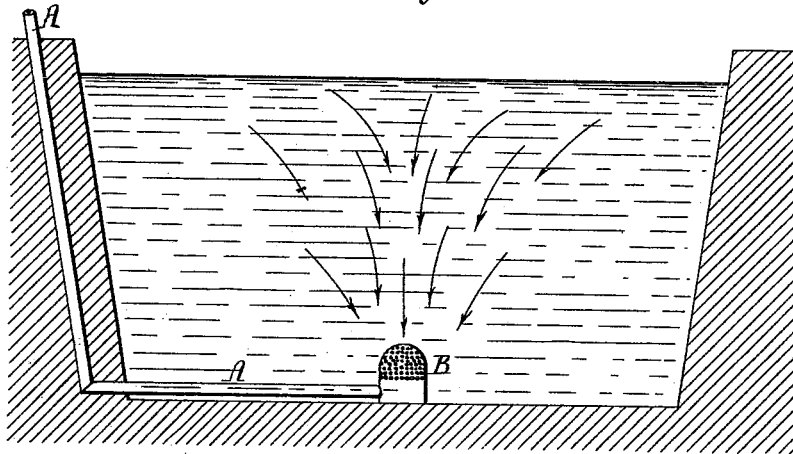


Fig. 2.

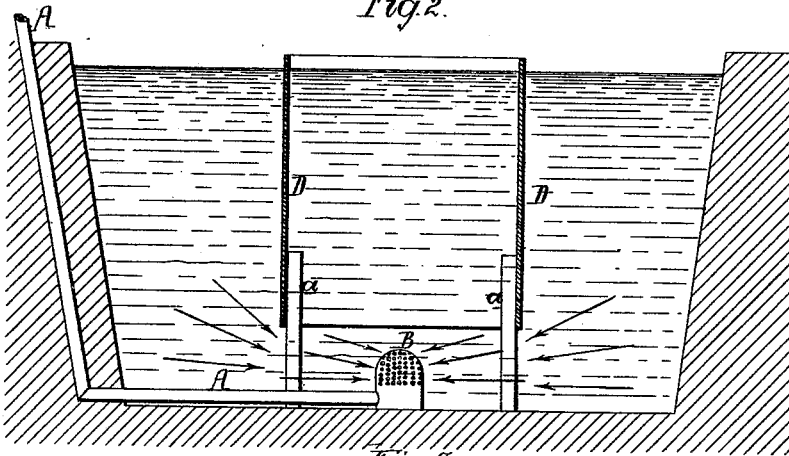
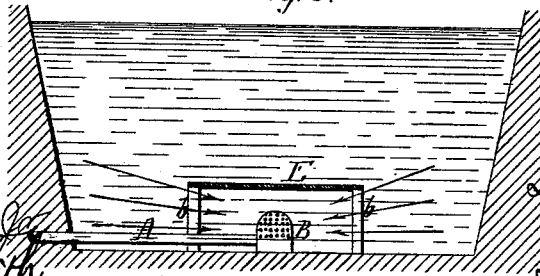


Fig. 3.



Witnesses:
Henry Bowyer
Henry Smith

Lewis H. Beebe
by his Attorneys
Howson and Son

UNITED STATES PATENT OFFICE

LEWIS H. BEEBE, OF LAKE SIDE, MICHIGAN.

IMPROVEMENT IN PREVENTING THE OBSTRUCTION OF WATER-CHANNELS.

Specification forming part of Letters Patent No. 188,842, dated March 27, 1877; application filed August 7, 1876.

To all whom it may concern:

Be it known that I, LEWIS H. BEEBE, of Lake Side, Berrien county, Michigan, have invented an Improvement in Devices for Preventing the Obstruction of Water-Channels, of which the following is a specification:

The object of my invention is to prevent the obstruction by ice, &c., of the mouths of pipes or channels, through which water is drawn from rivers or reservoirs to supply water-wheels, pumping-engines, &c.; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 represents the ordinary method of supplying pipes with water from rivers or reservoirs; Fig. 2, the same with my improvements, and Fig. 3 a modification.

Where the strainers B, usually employed at the entrances to water pipes or channels A, are exposed, as in Fig. 1, the passage of the water into the pipe causes the formation of downward currents above the entrance, these currents tending to draw the surface-water downward.

This is objectionable under ordinary circumstances, because refuse matter floating on the surface is drawn downward, as shown by the arrows, Fig. 1, and either enters or obstructs the pipe; but the plan is especially objectionable during the winter months, when the surface-water is cold, and is filled with fine icy particles, commonly termed "slush ice."

In this case the cold surface-water and fine particles of ice descend, and soon coat the strainer B with a thickness of ice, which effectually prevents the entrance of water into the pipe.

This objection I overcome by arranging over the strainer a casing or platform, which prevents the direct downward flow of cold surface-water to the pipe, and compels the latter to draw its supply from a point at or near the bottom of the river or reservoir.

Thus, in Fig. 2, D is a casing or box, mounted upon posts *a*, so that its lower edge is somewhat higher than the top of the strainer, while its upper edge extends slightly above the level of the water.

When water is first drawn into the pipe A there will be a downward current created, which will draw some of the water from within the casing, and thus lower the level in the same below that of the surrounding water. As soon as this takes place water will pass under the edge of the casing, as shown by the arrows, in order to restore the level within the same, and the current thus created will be kept up as long as water is drawn into the pipe.

It will thus be seen that after the flow of water has once begun the water within the casing is kept in a quiescent state, compelling the supply to be drawn under the lower edges of the casing, so that by regulating the height of these edges above the bottom the water can be drawn from a point as near to the bottom as desired.

In Fig. 3 a platform, E, supported upon posts *b*, is shown in place of the casing D, this platform also serving to prevent the direct downward flow of surface-water to the strainer, and compelling the supply to be drawn from a point at or near the bottom, as indicated by the arrows.

I do not desire to claim, broadly, the use of a casing in combination with the mouth of a water-pipe, as an instance of such use is shown in the patent granted to me on the 29th day of June, 1875, said patent being numbered 165,859; but

I claim as my invention—

The combination of a pipe or channel through which water is drawn from a river or reservoir with a casing or platform arranged wholly above the entrance to said pipe, and serving to prevent the direct downward flow of water to the same, as set forth.

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

LEWIS H. BEEBE.

Witnesses:

HENRY HOWSON, Jr.,
HARRY SMITH.