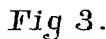
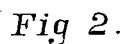
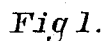


(No Model.)
H. C. THACHER & G. H. BREYMAN.

No. 342,652.

Patented May 25, 1886.



Inventors.

Horace B. Thacher
George H. Bregmann

UNITED STATES PATENT OFFICE.

HORACE C. THACHER AND GEORGE H. BREYMAN, OF TOLEDO, OHIO.

SUBMERGED FILTERING-CHAMBER FOR PUBLIC WATER-SUPPLY.

SPECIFICATION forming part of Letters Patent No. 342,652, dated May 25, 1886.

Application filed January 8, 1886. Serial No. 187,969. (No model.)

To all whom it may concern:

Be it known that we, HORACE C. THACHER and GEORGE H. BREYMAN, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Submerged Filtering-Chamber for Public Water-Supply, of which the following is a specification.

Our invention relates to improvements in submerged filtering-chambers for public water-supply, in conjunction with a flow-back arranged to reverse the water-pressure for the purpose of cleaning the filtering material; and the objects of our improvements are, first, to provide a submerged filtering-chamber designed to be constructed in the bed of a river, lake, or other source of water-supply, completely underneath the surface of the water, and so arranged that the water, in entering the filtering-chamber, cannot carry the filtering material with it into said filtering-chamber; second, to construct in such form that when material of light specific gravity is used in the construction of said submerged filtering-chamber the filtering material on the outsides will hold the said filtering-chamber in position in case the filling over the top of said filtering-chamber should become removed; and, third, to provide a flow-back for the purpose of cleaning the filtering material. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the filtering-chamber and a view of the arrangement of the flow-back. Fig. 2 is a longitudinal section of the filtering-chamber on the line 3 4, Fig. 3; and Fig. 3 is a cross-section of the filtering-chamber on the line 1 2, Fig. 1, also a view showing the position of the filtering material on the outside of the filtering-chamber.

Similar letters refer to similar parts throughout the several views.

The deck A, posts B, caps D, and the sills E, secured together, constitute the frame-work of the filtering-chamber. The slats F, with the spaces G between said slats F, form the inlets through which the water enters the filtering-chamber. The conduit H conveys the

water from the filtering-chamber to a pump or a pump-well. The flow-back J conveys water back to the filtering-chamber from a stand-pipe, reservoir, or other head by opening the valve-gate K and closing the valve-gate I, thereby forcing the water out through the spaces G and up through the filtering material L, washing the sediment from said filtering material.

The sloping sides shown in Fig. 3 form a resistance against the filtering material L, deposited on the outside of the filtering-chamber, which holds the said chamber in position in case the filling over the top of the filtering-chamber should become removed.

We propose to carry out our invention by excavating a cavity in the bed of a river, lake, or other source of water-supply and constructing the filtering-chamber therein below low-water mark, and filling around the sides and ends and over the top with broken stones, gravel, and sand, or with other suitable filtering material; or to construct the filtering-chamber on the bed of a river, lake, or other source of water-supply, then filling around and over the said filtering-chamber with filtering material, as above mentioned.

We propose to construct the filtering-chamber of the size and capacity required to collect an adequate supply of water for the place where designed to be used. This can be done either by building it in one continuous crib, or it may be done by constructing a number of short cribs and joining them together to make one or more continuous filtering-chambers.

We propose to reverse the flow of the water through the flow-back J, conduit H, and inlets G to the filtering-chamber under a pressure obtained from a stand-pipe, reservoir, or other head, for the purpose of cleaning the filtering material L.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, in a filter, of a filtering-chamber provided with a series of inclined slats presenting a series of inclined openings, whereby water, when drawn through said slatted portion, will pass in an upward direc-

tion into the said chamber, substantially as shown.

2. The combination, in a filter, of a closed filtering-chamber, inclined slats arranged in the sides of said chamber, a pipe, H, through which water is drawn from said filtering-chamber, and a second pipe intersecting said pipe H, for causing a reverse current of wa-

ter through said pipe H to the filtering-chamber, substantially as set forth.

HORACE C. THACHER.
GEORGE H. BREYMAN.

Witnesses:

CLARENCE BROWN,
EDWARD H. RHOADES.