

L. H. Cowley.

Oil Dam.

Nº 95,089.

Patented Sept. 21, 1869.

Fig: 1.

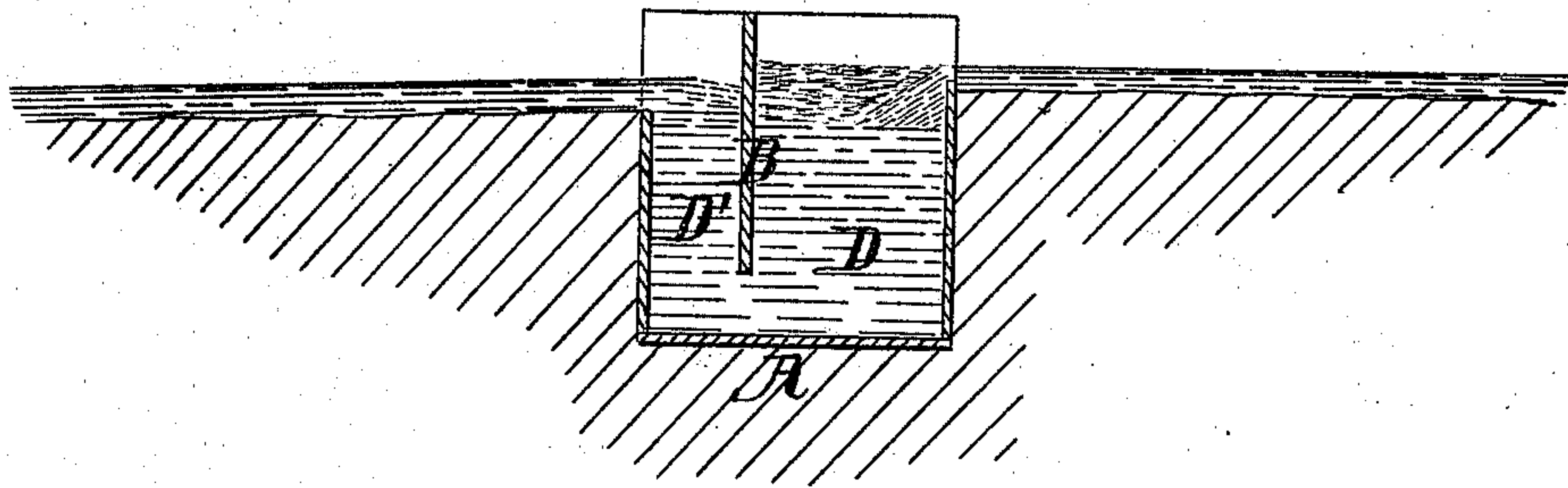
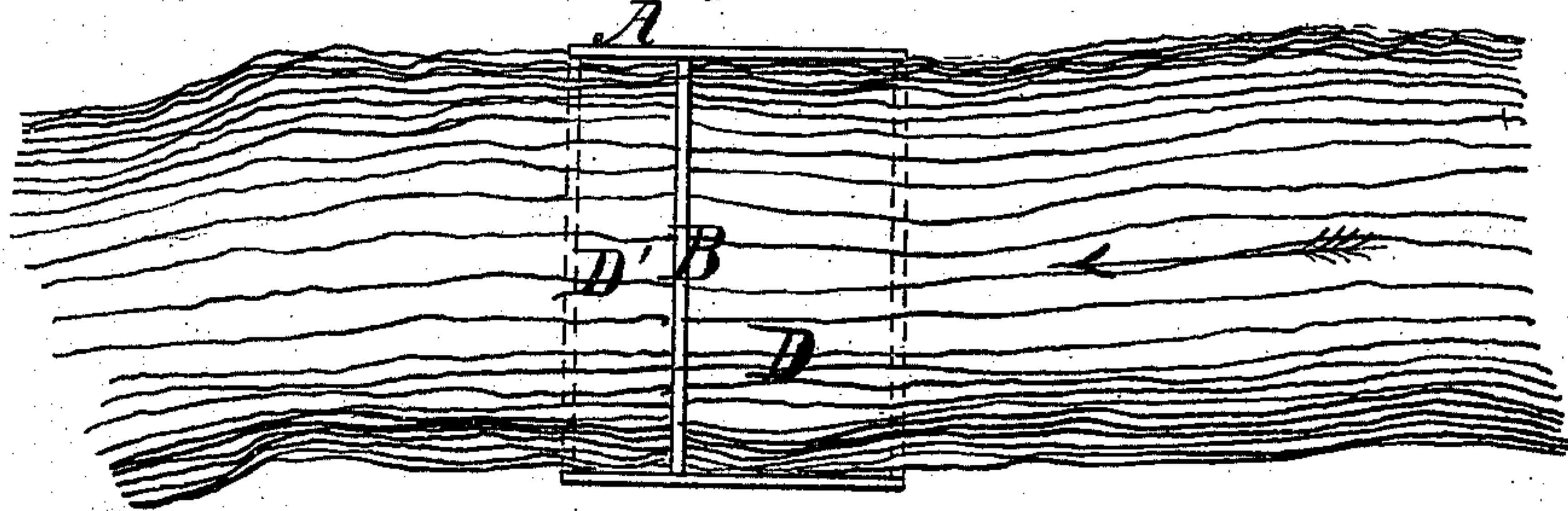


Fig: 2.



Witnesses

Victor H. Beester

Geo. J. Bonner

Inventor,

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United States Patent Office.

L. H. COWLEY, OF SILVER CREEK, NEW YORK.

Letters Patent No. 95,089, dated September 21, 1869.

IMPROVED DEVICE FOR COLLECTING PETROLEUM FROM THE SURFACE OF WATER-COURSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, L. H. COWLEY, of Silver Creek, in the county of Chautauqua, and State of New York, have invented a certain new and improved Dam for Collecting Petroleum on Creeks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical section of my improved dam, as arranged in a creek

Figure 2 is a plan of the same.

Like letters refer to like parts in each of the figures.

The object of my improvement is the collection of petroleum found on the surface of creeks in the so-called oil-regions of Pennsylvania, and other places where petroleum is found.

The invention consists of a reservoir sunk below the bed of the creek, with a partition in it, extending across the stream, and above the surface of the water and to near the bottom of the reservoir, space being left beneath it for the free passage of the water, which, with the oil, is intercepted above by the dam formed by the partition, the reservoir being of such size and depth, compared with the size of the stream, as will permit the water to flow beneath the partition or dam without producing such a draught or current as to suck downward with the water the oil which collects and floats on the surface of the water in the reservoir.

In the drawings—

A is the reservoir, which may be constructed of rectangular form, as shown, the size and proportions of which will vary with the width and depth of the stream beneath which it is to be submerged.

B is the partition, dividing this reservoir into two unequal compartments, the larger, D, being on the side up stream, into which the water first flows.

The reservoir is sunk in the bed of the stream, so that the upper edge of the side of the reservoir up stream will be level with the bed.

The edge of the lower side should be made a trifle lower than that of the opposite side, to compensate for the lighter gravity of the oil in the upper compartment, and to facilitate the escape of the water.

The reservoir should extend across the whole width of the stream, unless the latter is contracted, so as to cause all the water to flow into the same.

To prevent the oil being carried down with the

water in the reservoir D, and escaping beneath the partition at its bottom, the velocity of the descending column should be retarded, and the effects of this downward movement counteracted.

This I effect by making the area of the two compartments or divisions of the reservoir, (and especially the first or upper one,) and the area of passage beneath the partition, so much greater than the cross-sectional area of the stream, that the downward movement of the water in this enlarged compartment D will be comparatively slow.

I also make the reservoir of considerable depth, which may be more or less, say from six to twelve or fifteen feet, so that the velocity with which the water enters the reservoir at its top may be overcome, and the water diffused throughout the whole area of the compartment, before it escapes at the bottom into the opposite chamber D'.

The increased density of the water toward the bottom of a reservoir of considerable depth, will also have the effect to counteract any tendency which the descending column of water has to draw down with it the oil, which is of lighter specific gravity.

The operation of my improvement, therefore, becomes obvious. The partition B, extending above the water, arrests and confines within the chamber D the oil, which gradually collects at the top, while the water flows from the bottom into the compartment D', whence it rises and continues its flow down the bed of the stream. As the oil collects in sufficient quantities it may be removed by pumps, or other suitable means.

If desired, the top of the compartment D may be covered, partially or entirely, by a grate, which will operate to break up the current and diffuse the water as it enters the reservoir, and also to intercept the passage of sticks, and other debris, that might otherwise enter the reservoir, and fill up the same.

What I claim as my invention, and desire to secure by Letters Patent, is—

The sunken reservoir D D', divided by partition, and dam B, and arranged in the bed of a creek, so as to operate substantially as set forth.

L. H. COWLEY.

Witnesses:

ALPHEUS BABCOCK,
SIMEON HAWES.