

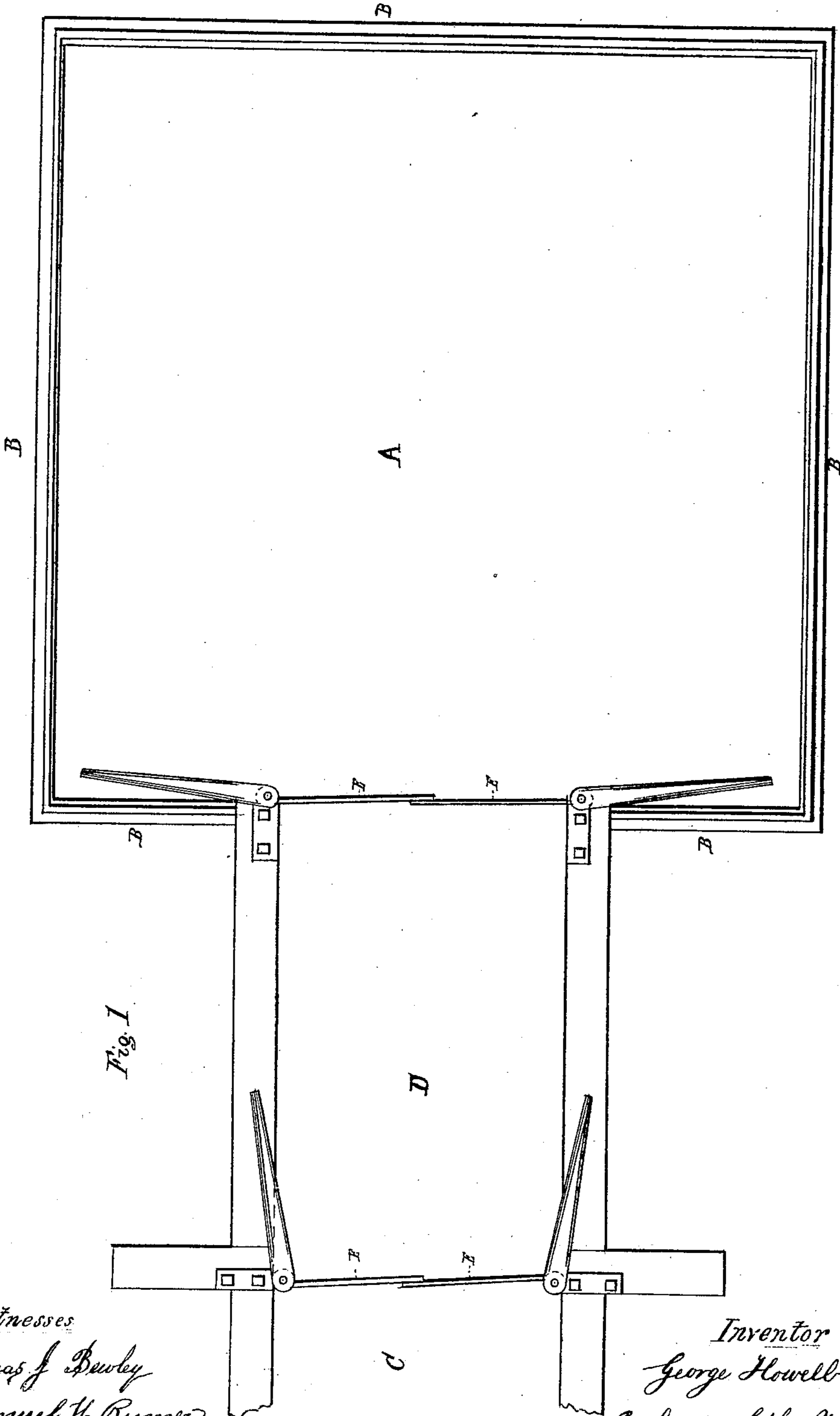
G. Howell,

2. Sheets. Sheet. 1.

Dredger.

No. 110,468.

Patented Dec. 27. 1870.



Witnesses  
Thomas J. Bewley  
Samuel H. Rumer

Inventor  
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By his atty. Stephen M. Wick

2. Sheets, Sheet 2.

No. 110468.

*Patented Dec. 27. 1870.*



Fig. 3.

Inventor

George Howell  
By his Attorney, Stephen Ustick.

# United States Patent Office.

GEORGE HOWELL, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 110,468, dated December 27, 1870; antedated December 9, 1870.

## IMPROVEMENT IN DEVICES FOR FILLING LOWLANDS.

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

I, GEORGE HOWELL, of the city of Philadelphia and State of Pennsylvania, have invented certain Improvements in Filling up Lowlands, of which the following is a specification.

The nature of my invention consists of a boat for scooping up the mud from the bed of rivers or other sheets of water, and discharging the same into a scow, which is floated off through a canal to an inclosure to be filled up.

The said boat has longitudinal trunks, the front ends of which are set of the proper depth to scoop up the mud off the top of the bed, and the rear ends of the trunks being elevated sufficiently high to hang over a drop-bottom scow arranged at the rear end of the boat; the latter is driven or drawn forward by means of a steam-engine, and the mud is forced through the before-mentioned trunks and deposited in the scow.

When the scow is filled it is floated off through the canal into the inclosure to be filled up, and emptied of its contents, and then floated back for another load, and so on successively.

To enable others skilled in the art to which my improvement appertains to make and use my invention, I will now give a detailed description thereof.

In the accompanying drawing which makes a part of this specification---

Figure 1 represents an inclosure to be filled up and a canal leading therefrom to a place from which dirt is taken to fill up the said inclosure.

Figure 2, sheet No. 2, is a plan view of a boat provided with an apparatus for scooping up mud from muddy land or beds of rivers, and a flat drop-bottom scow into which the mud is discharged and transported to the inclosure.

Figure 3 is a side elevation of the same.

Like letters in all the figures indicate the same parts.

A, sheet No. 1, is an inclosure to be filled up, having embankments B, which I usually make by throwing up earth of a suitable height to receive a sheet of water for floating a loaded drop-bottom scow. The water is supplied to the inclosure by means of a pump.

C is a canal leading to the place from which the dirt is obtained.

The canal is connected with the inclosure A by means of the lock D, having gates E E, constructed,

arranged, and operated in the usual manner, the canal receiving its supply of water from the said inclosure.

In figs. 2 and 3 a boat, F, is represented, which is operated by means of a steam-engine, not shown in the drawing.

There are trunks, G G, one at each side of the boat F, hung on the shaft H which passes through the boat. The trunks are also connected with the parallel shaft H' by means of the beams J J, and parallel vertical bars K.

The said shaft H' is provided with a lever, L, for adjusting the front ends 1 1 of the trunks G G, so that the curved plates *a a* may rest upon the top of the mud to be taken up.

The trunks being adjusted, the lever is held in position by the pin *b*, which is passed through a hole beneath it in each of the curved strips S S, between which it bears, the lower ends of said strips being confined by means of foot-flanges *c c* and screws *d d*, seen in the drawing.

The scooping-trunks G G being adjusted as described, the boat is forced or drawn forward, the projecting plates *e e* at the front ends of the trunks running through the mud to facilitate the passage of the same through the trunks.

As the mud, by the forward movement of the boat, is pushed through the trunks in a continuous stream it falls into the drop-bottom scow T.

When the scow is filled the boat F is stopped, and the scow floated off through the canal O to the inclosure A and emptied of its contents.

Then the scow is floated back to the boat F, and the operation continued until the inclosure A is filled up.

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

The combination of the adjustable scooping-trunks G G with the boat F, the said trunks being constructed and arranged substantially as described, and discharging the dirt into a scow, T, as specified.

In testimony that the above is my invention I have hereunto set my hand and affixed my seal this 9th day of February, 1870.

GEORGE HOWELL. [L. s.]

Witnesses:

STEPHEN USTICK,  
THOMAS J. BEWLEY.