

# Howell & Smith

## Dredger,

N<sup>o</sup> 82,224.

Patented Sep. 15, 1868.

Fig. 1.

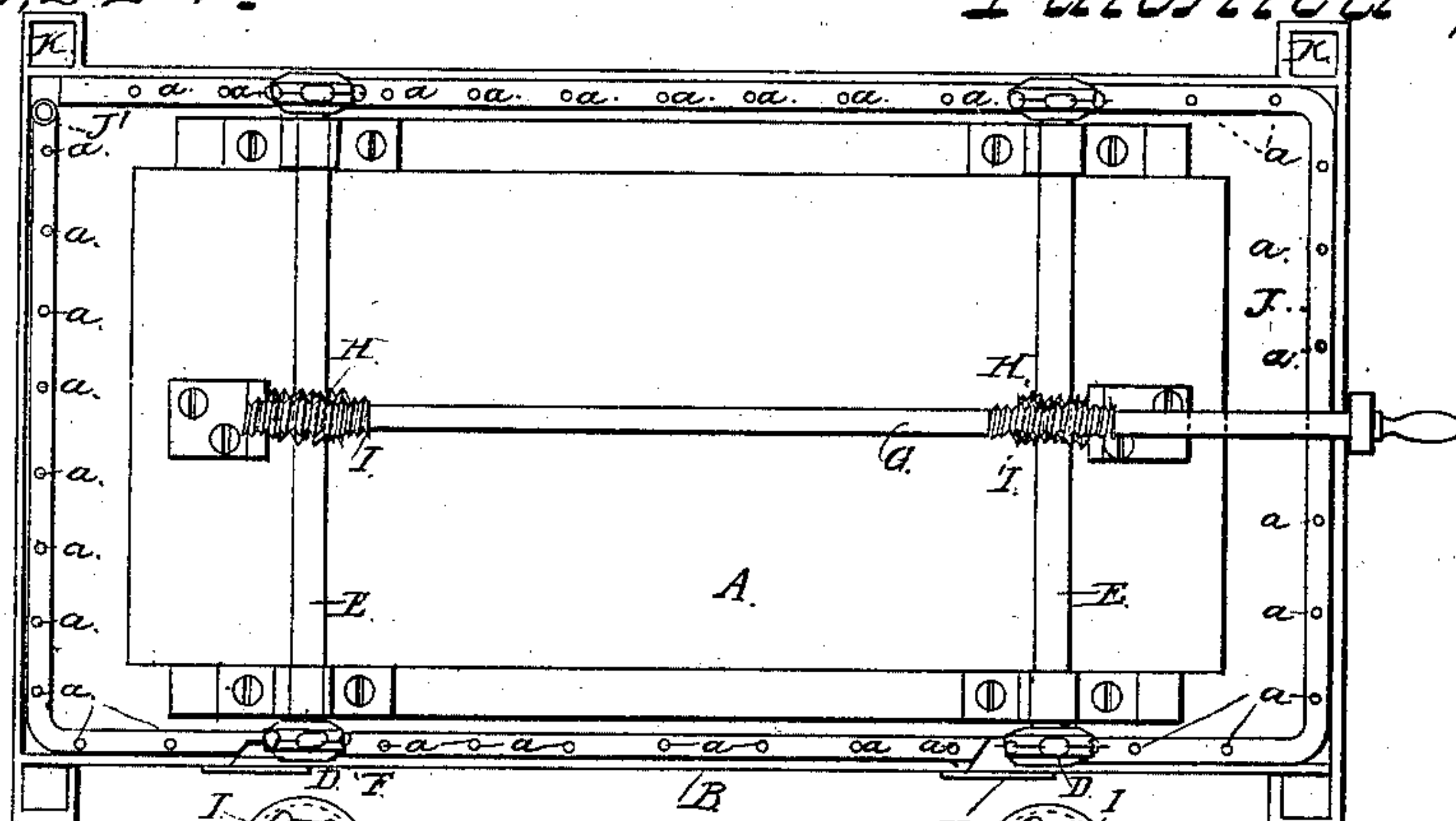


Fig. 2.

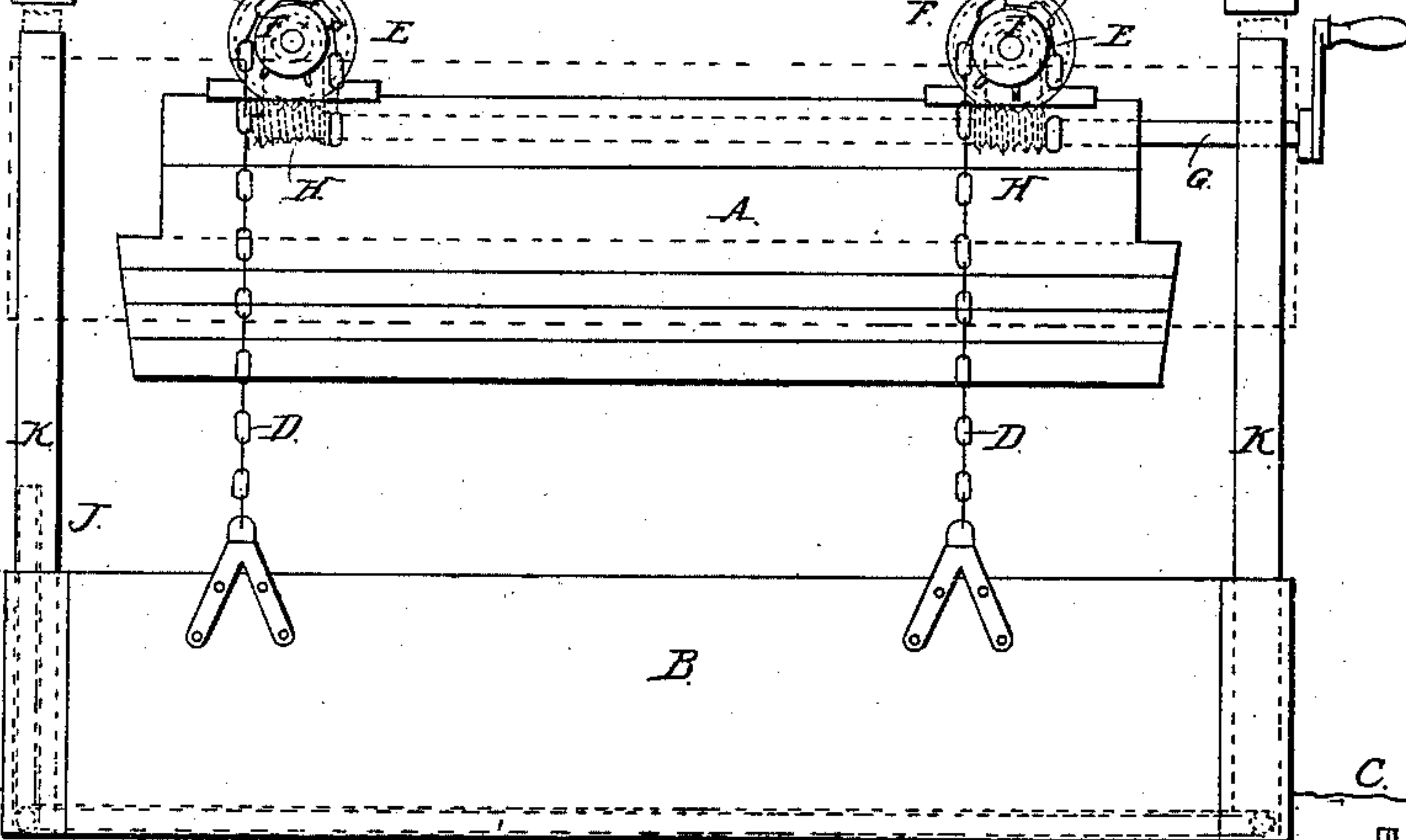
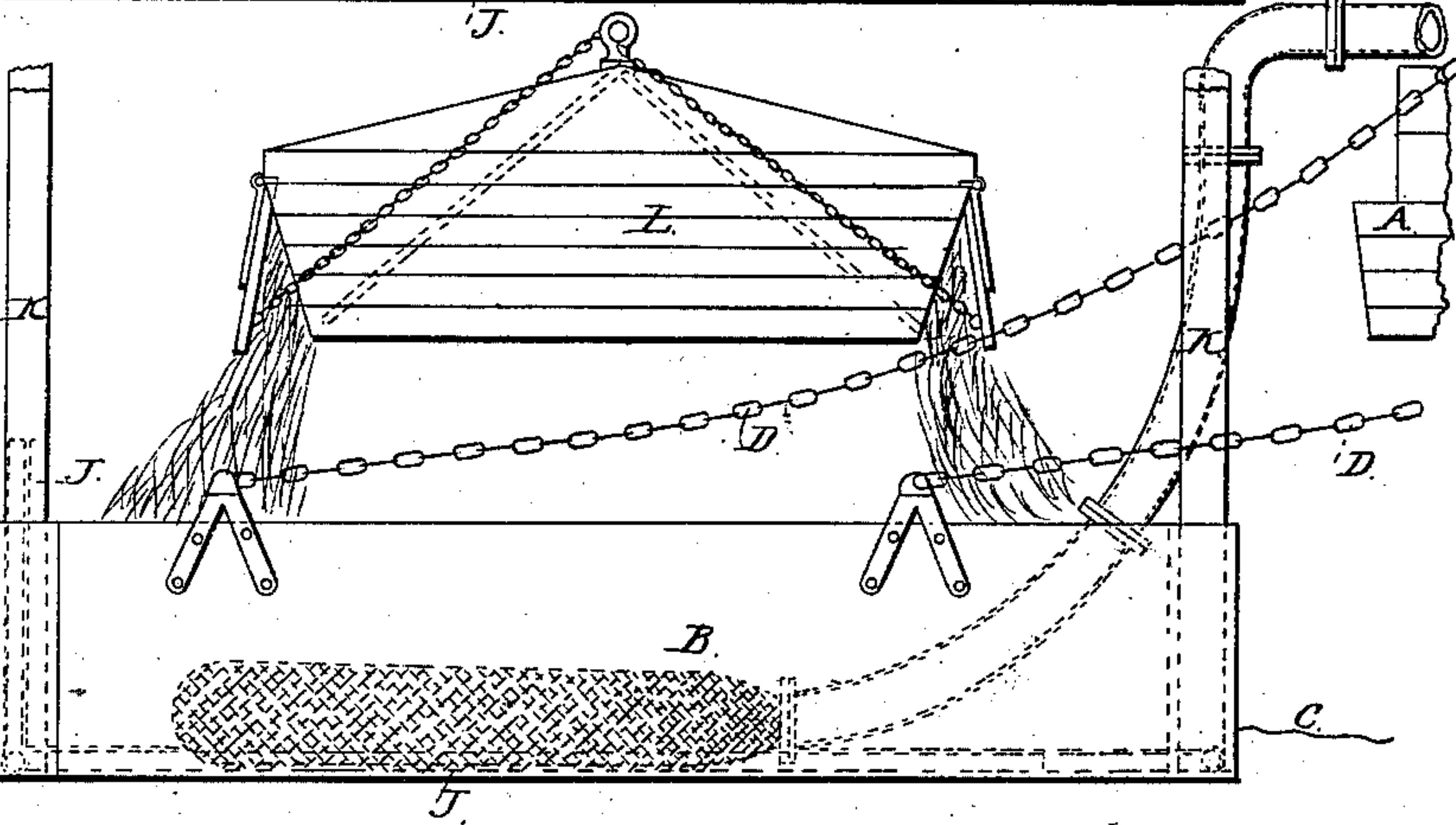


Fig. 3.



Witnesses:

S. Borron  
Samuel Oliver

Inventor:

Geo. Howell  
By his attorney  
Stephen H. H. H.

# United States Patent Office.

GEORGE HOWELL AND WILLIAM SMITH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO GEORGE HOWELL.

*Letters Patent No. 82,224, dated September 15, 1868.*

## IMPROVED DEVICE FOR FILLING MARSHES.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, GEORGE HOWELL and WILLIAM SMITH, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Devices for Filling Marshes; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention is an improvement on the device for filling marshes set forth in the patent of GEORGE HOWELL, (the first named,) dated March 31, 1868, and consists, in the first place, in the combination and arrangement of a case with a scow or boat, in such a manner as to be capable of being drawn up and around the latter, which is floated to a convenient place in the river, for the case to be filled by means of dredging-scows. The case is then sunk, with the lower edges of its sides resting in the bed of the river.

In the second place, it consists in the arrangement of a perforated pipe with the interior of said case, through which pipe water is forced, and is discharged through the perforations, so as to agitate the mud or earth within the case, if found necessary, and bring it to the proper consistency to be passed, by means of a pump, through hose or pipes, to the land to be reclaimed.

In the accompanying drawings, which make a part of this specification—

Figure 1 is a plan or top view of an ordinary scow, A, and case, B, in combination.

Figure 2 is a side elevation of the same.

Figure 3 is an end elevation of a dredging-scow, L, and case, B, in combination.

Like letters, in all the figures, indicate the same parts.

A represents a scow, and B an iron case, sufficiently large to admit of being drawn up around the former, as represented by red lines in fig. 2. The case is brought into this position when it has to be taken to a convenient spot in the river to receive the contents of a dredging-scow or scows. The case is then lowered and submerged in the water, its lower edges resting in the bed, C, of the river, as represented by black lines. The submerging and elevating of the case are accomplished by means of the chains D, shafts E E, and chain-wheels, F, on each end of the latter, as represented in figs. 1 and 2. The said shafts are turned either way, for lowering or elevating the case, by means of the geared connection of the said shafts E with the shaft G, there being worms, H H, on the latter, which gear into the worm-wheels I I on the shafts E E.

There is a perforated pipe, J, within the case B, which extends all along its sides, at or near their bottom edges. It has a vertical extension, J', which has a connection with a pump, which is brought into action when the case has been filled, as hereinafter described, for forcing the water through the perforations, to agitate the mud or earth, to thoroughly mix the water with it, and bring it to the proper consistency to be pumped up and forced through the hose or pipe to the land to be reclaimed. This is only necessary when the mud is thick.

When the case B is submerged in the river, as represented, the scow A is swung off a convenient distance from it, to admit of one or more dredging-scows, L, being brought successively over the case, and emptied of their mud or earth. This operation is represented in fig. 3. The case is provided with corner-posts, K, between which the scows pass to be brought directly over the former. When the case has been filled, a suction-pump on the scow A is operated, for the removal of the mud to the land to be reclaimed. We place a steam-engine on board the said scow, and connect with it a pump, which is provided with hose or pipes, leading to the locality where the mud or earth is to be conveyed.

There is a pump in connection with the perforated pipes J, by means of which water that is taken up from the river is forced through the perforations *a*, so as to agitate the mud, and make it sufficiently thin to admit of its being forced, through the hose or pipes above mentioned, to the land to be reclaimed.

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

1. The combination and arrangement of the case B, constructed as described, with the scow A, substantially in the manner hereinbefore described, and for the purpose set forth.
2. The combination of the perforated pipes J with the case B, substantially as and for the purpose above described.

In testimony that the above is our invention, we have hereunto set our hands, and affixed our seals, this tenth day of July, 1868.

GEORGE HOWELL, [L. s.]  
WM. SMITH. [L. s.]

Witnesses:

STEPHEN USTICK,  
JOHN WHITE.