

D. ALLEN.  
DUMPING SCOW.

No. 184,744.

Patented Nov. 28, 1876.

fig:1.

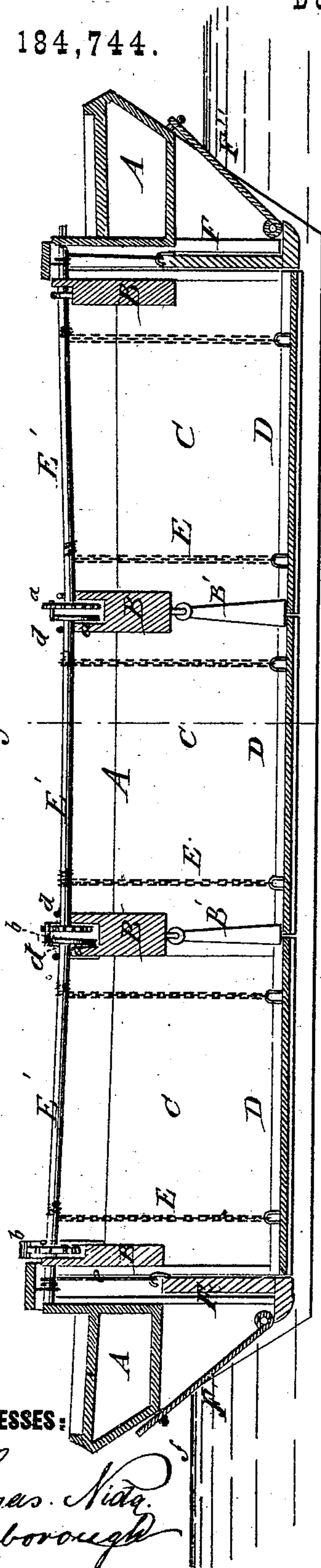


fig:2

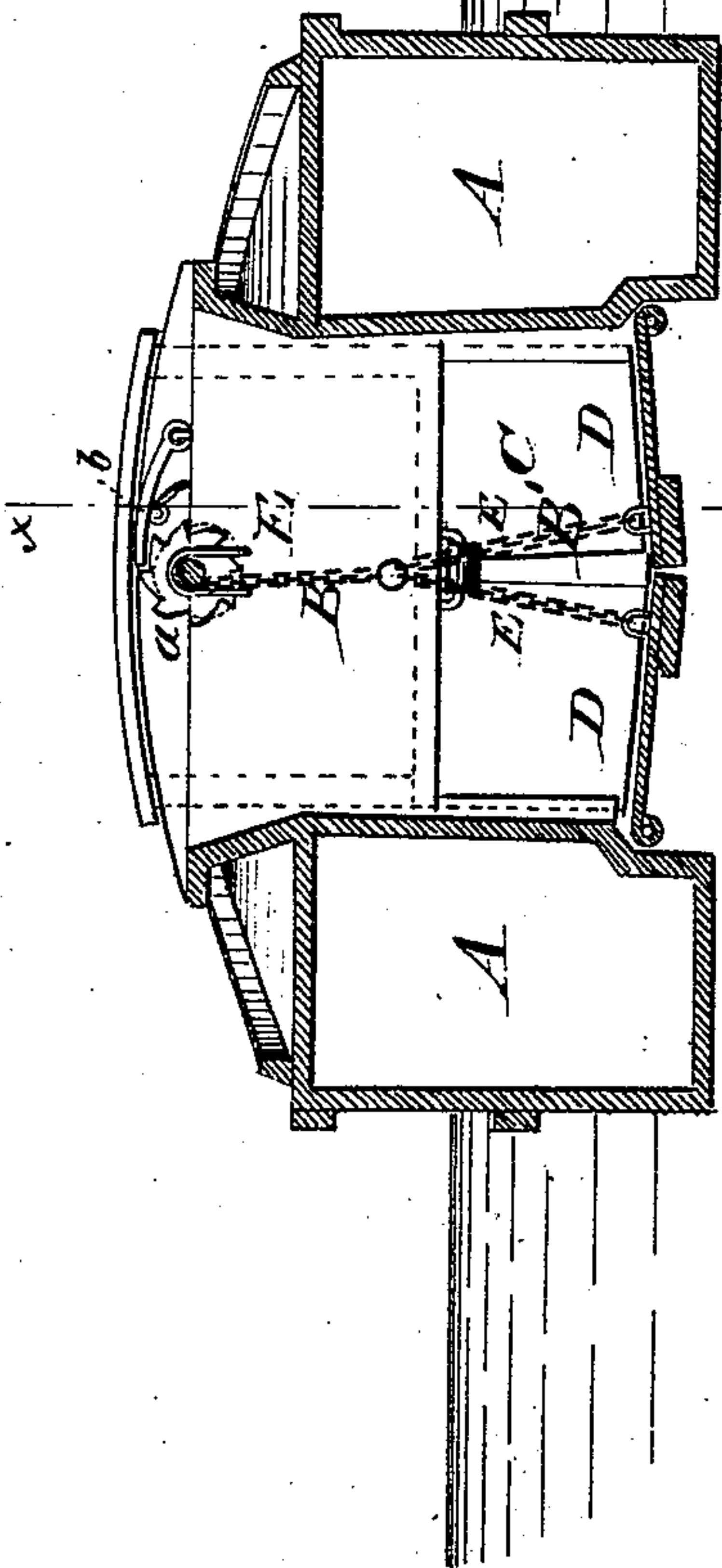


fig:3.



WITNESSES:

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DANIEL ALLEN, OF RONDOUT, NEW YORK.

## IMPROVEMENT IN DUMPING-SCOWS.

Specification forming part of Letters Patent No. 184,744, dated November 28, 1876; application filed November 4, 1876.

*To all whom it may concern:*

Be it known that I, DANIEL ALLEN, of Rondout, in the county of Ulster and State of New York, have invented a new and Improved Dumping-Scow, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved dumping-scow in line *x x*, Fig. 2; Fig. 2, a vertical transverse section of the same on line *y y*, Fig. 1; and Fig. 3, a detail side view of pawl, ratchet, and cam mechanism for releasing the shafts and dropping the gates.

Similar letters of reference indicate corresponding parts.

This invention has reference to an improved dumping-scow, that admits the rapid and convenient discharge of the load into the water by the automatic action of the gates and the sweep of the water through the scow; and the invention consists of a dumping-scow, divided by bulk-heads into compartments, having drop-gates, that are raised or lowered by suspension-chains from sectional top shafts, which are successively and automatically set in operation on releasing the first shaft-section. Hinged gates at the bow and stern are operated simultaneously with the shafts, and admit a full sweep of the water through the scow. The drop-gates of each section form contact with pendent arms of the bulk-heads to be retained in position.

In the drawing, A represents my improved dumping-scow, which is constructed in two separate boat-like structures, that are laterally connected by bulk-heads B, forming a large intermediate space, C, for the garbage, refuse, and other material to be transported therein. The bulk-heads divide the central space C into compartments or pockets, that are closed at the bottom by hinged drop-gates D, which bear against the lower enlarged ends of pendent arms B' when they are closed.

The pivoted arms B' are pivoted to the center of the bulk-heads B, which are of such depth as to be above the water-line when the scow is empty. Each compartment or pocket is provided with separately-hinged gates, that are raised or lowered by means of suspension-chains E at the ends, that branch out from one

common chain wound up on the ends of each top shaft E' for each pocket.

The shafts E' turn in suitable bearings of the bulk-heads B, for winding up the chains by suitable crank or lever mechanisms, being retained by ratchets *a* and pawls *b* at one end.

The pawls *a* are made wide enough to be engaged by eccentric cams *d* of the adjoining shafts, for the purpose of throwing them out of the ratchet-wheels.

The chains are alternately wound on the shafts in opposite direction, so that when the pawl of the first shaft is released, the weight of the contents on the gates drop them and turn the shafts, releasing, by the pawl and cam connections of the shafts, successively the remaining shaft-sections, so as to drop automatically the gates and empty all the pockets. Simultaneously with the dropping of the bottom gates, vertically-guided end-gates F at the bow and stern of the scow are raised by the end shaft-sections, which wind up the suspension-chains *e* of the end-gates, raising them by the turning of the shafts in one direction, and lowering them by the turning of the shafts in opposite direction by the windlass or lever mechanism, when the drop-gates are to be closed, after the scow is empty.

To the lower ends of the vertically-sliding end-gates F are hinged the inclined guard-plates F', that are guided on lateral rods *f*, or otherwise, at the bow and stern, for the purpose of closing the space in front or rear of the end-gates, to facilitate the passage of the scow through the water.

When the end-gates are raised the water has full sweep through the scow, so as to produce the rapid submerging of the contents dropped from the pockets. The dropping of the contents is facilitated by giving the side walls of the pocket an outward inclination from the upper part, and by hinging the gates into recesses at the lower part of the sides, to do away with any projecting parts. The entire load of the scow can thus be easily and rapidly discharged without requiring a large number of hands, and without loss of time.

After the load is dropped into the water the bottom gates are raised, and simultaneously therewith the end-gates and guard-plates closed. The bulk-heads slowly rise with the



boat during the discharge of the load above the water, and admit thereby an unobstructed sweep of the water of the scow, so as to completely clear the same of the contents.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A dumping-scow divided by bulk-heads into compartments or pockets, with bottom and end gates, that are automatically opened by the shaft-sections of the pockets on the release of one shaft-section only, substantially in the manner and for the purpose set forth.

2. The combination of the hinged bottom gates of the compartments, and of the suspension-chains of the same, with shaft-sections that are arranged to turn alternately in opposite direction, and are connected by pawl, ratchet, and cam mechanism, to drop succes-

sively the gates on the release of the first shaft, substantially as specified.

3. The combination of the end shaft-sections with vertically-sliding end-gates and inclined guard-plates, operating simultaneously with the dropping or closing of the bottom gates, substantially as set forth.

4. A dumping-scow, being open at the ends and provided with movable end-gates, to admit a full sweep of water through the scow on raising the gates, substantially as specified.

5. The combination of the bulk-heads, having central pendent arms, with the hinged bottom-gates bearing thereon when closed, substantially as and for the purpose set forth.

DANIEL ALLEN.

Witnesses:

DANIEL B. STOW,

THOS. YOUNGMAN.