

**No. 630,593.**

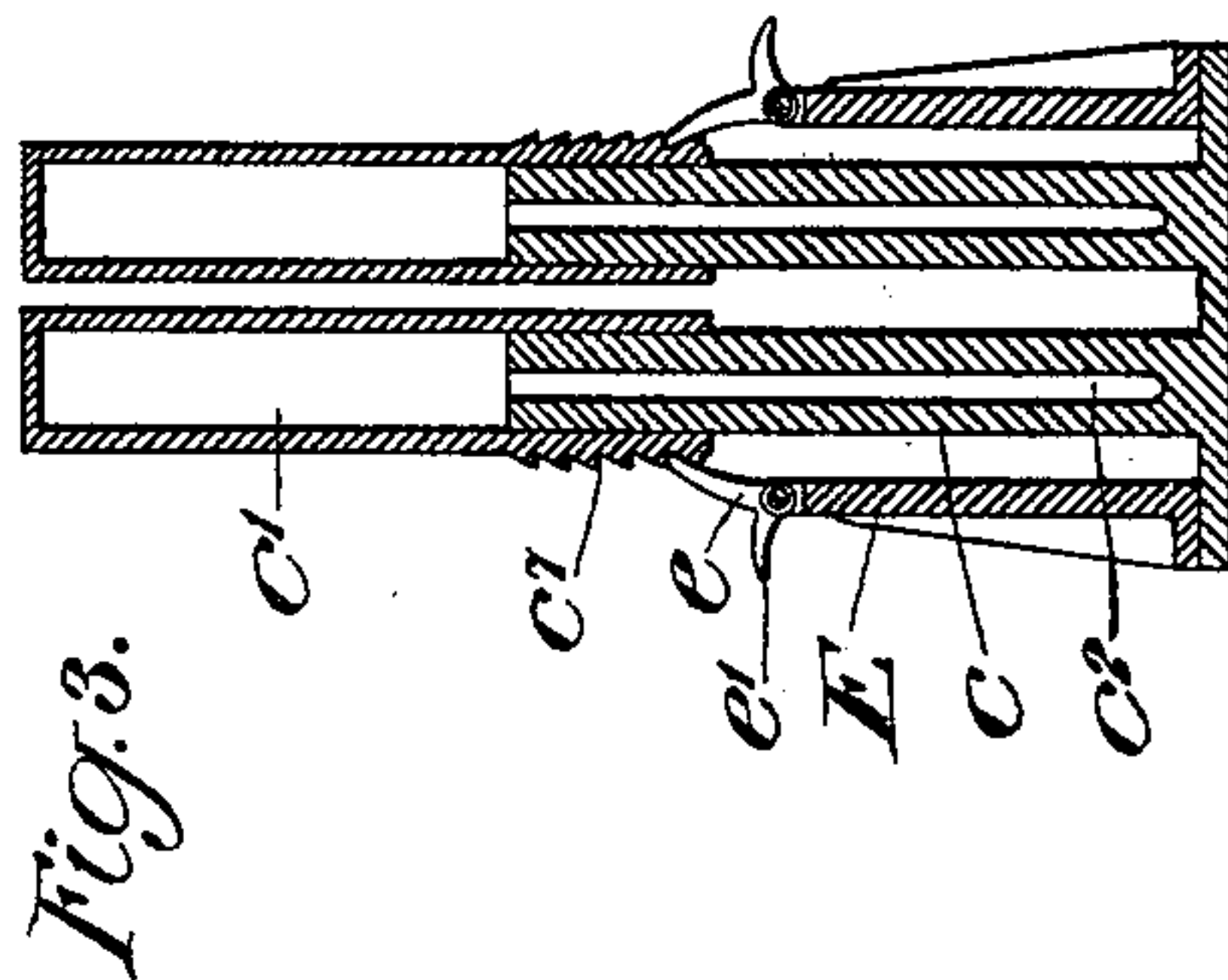
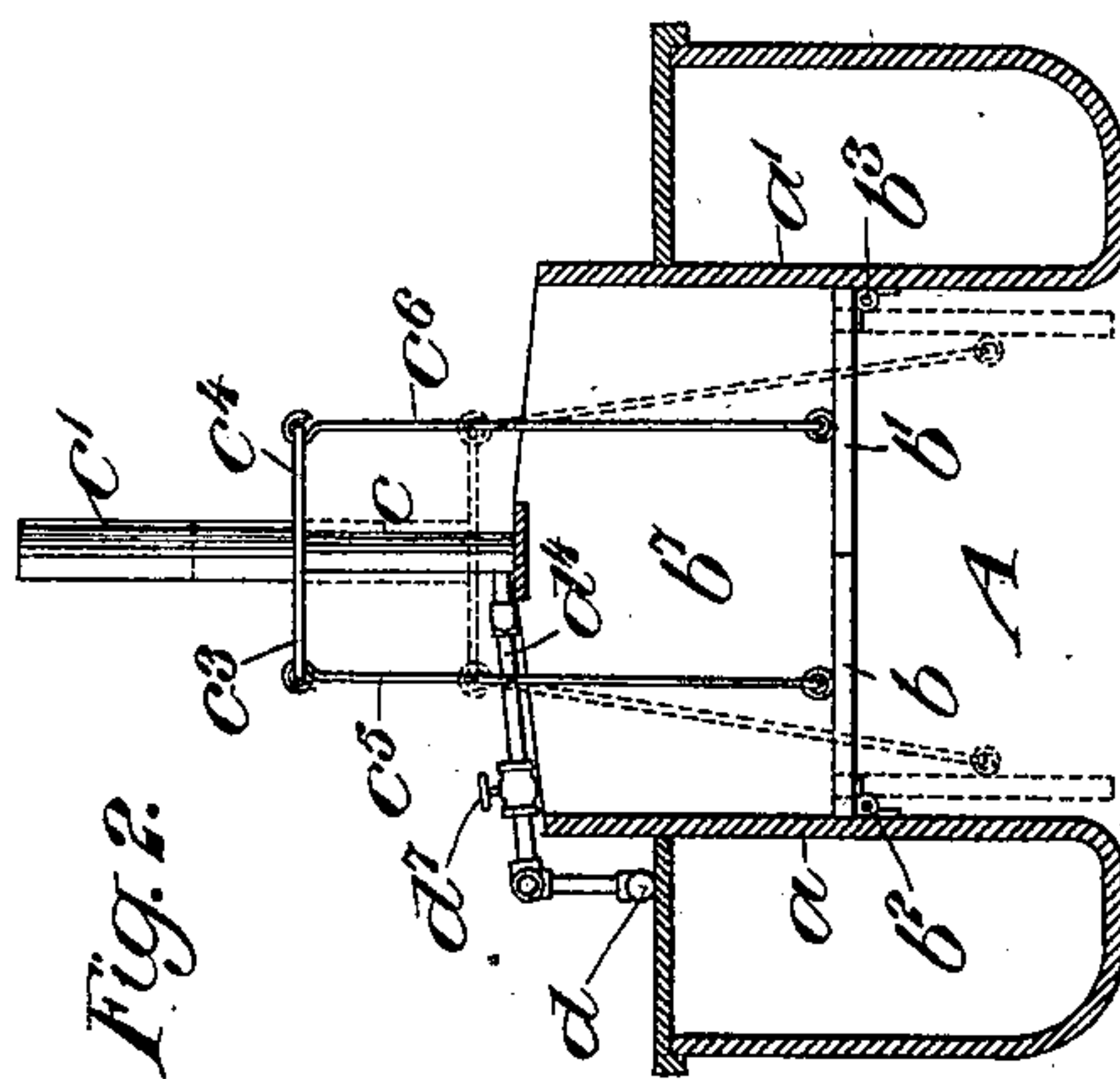
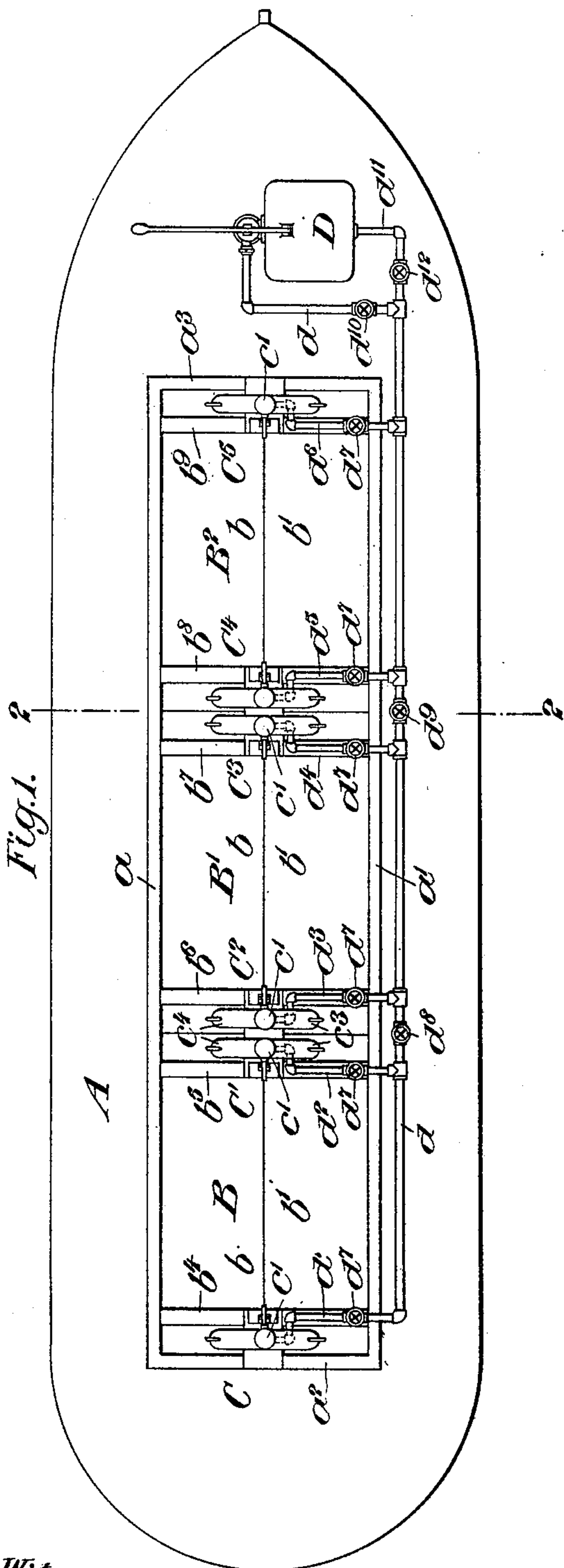
**Patented Aug. 8, 1899.**

**S. F. CLOUSER.**

**DUMPING SCOW.**

(Application filed June 4, 1898.)

(No Model.)



Witnesses:-  
M. E. Fletcher.  
Edward Wieser.

Inventor:-  
Samuel A. Brown  
by his attorneys  
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# UNITED STATES PATENT OFFICE.

SAMUEL F. CLOUSER, OF NEW YORK, N. Y.

## DUMPING-SCOW.

SPECIFICATION forming part of Letters Patent No. 630,593, dated August 8, 1899.

Application filed June 4, 1898. Serial No. 682,515. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL F. CLOUSER, a citizen of the United States, and a resident of New York, in the county of Kings and State of New York, have invented a new and useful Improvement in Dumping-Scows, of which the following is a specification.

My invention consists in certain improvements in dumping-scows and mechanism for raising and lowering the bottom doors of the several compartments, and hydraulic mechanism, the mechanism being so arranged that the doors of any one or more of the compartments may be opened or closed independently of the others or all of the doors may be opened and closed simultaneously, as may be desired.

A further object of my invention is to locate the connections between the hydraulic lifting-jacks and the doors in spaces between the compartments, so as to protect them from contact with the contents of the said compartments.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a top plan view of a dumping-scow, showing three compartments therein and the connections between the doors of the compartments and hydraulic pump. Fig. 2 is a transverse vertical section in the plane of the line 2 2 of Fig. 1; and Fig. 3 is an enlarged detail sectional view through two of the hydraulic lifting-jacks, showing clearly the additional means for sustaining the movable members of the jacks when in their lifted position.

The dumping-scow is designated by A, and it is provided in the present instance with three compartments B B' B<sup>2</sup>, each of the said compartments having pairs of swinging bottom doors b b', hinged at their opposite edges to the side walls a a' of the scow, as shown at b<sup>2</sup> b<sup>3</sup>, with their free edges meeting at about the middle of the compartment when the said doors are in their closed position. These doors are preferably hinged at points considerably above the bottom of the side walls a a', so that when the compartments are not filled and the doors closed the said doors will be at or above the water-line. Cross-partitions b<sup>4</sup> b<sup>5</sup> b<sup>6</sup> b<sup>7</sup> b<sup>8</sup> b<sup>9</sup> extend between the side walls a a' and form

the end walls of the compartments. These partitions extend down to the doors b b', so that when the doors are closed they rest snugly against the bottoms of the said partitions. The partitions b<sup>5</sup> b<sup>6</sup> are spaced a short distance from each other, and the partitions b<sup>7</sup> b<sup>8</sup> are similarly spaced from each other. The partition b<sup>4</sup> is spaced a short distance from the end wall a<sup>2</sup> of the scow, and the partition b<sup>9</sup> is similarly spaced from the end wall a<sup>3</sup> of the scow. The ends of the several pairs of bottom doors b b' extend beyond their end partitions and are there connected with their operating means, thereby bringing such means entirely outside of the compartment.

Hydraulic lifting-jacks are represented in the accompanying drawings, two for each set of doors, and they are designated by C C' C<sup>2</sup> C<sup>4</sup> C<sup>5</sup>, respectively. Each of these lifting-jacks consists of a stationary part c and a hollow movable part c', arranged to be slid upwardly and downwardly along the stationary part as the liquid is forced into or withdrawn from the jack. In the present instance the stationary portion c is provided with a central conduit c<sup>2</sup> near its bottom, where it is connected with a branch pipe leading to a main pipe d, extending along the deck of the scow and leading to a hydraulic pump D of any suitable style, that represented herein being a hand hydraulic pump. The branch pipes which lead from the several hydraulic jacks to the main pipe d are designated by d' d<sup>2</sup> d<sup>3</sup> d<sup>4</sup> d<sup>5</sup> d<sup>6</sup>, and they are each provided with a suitable cock d<sup>7</sup> for opening and closing communication from the several jacks to the main pipe d. This main pipe d is provided with a cock d<sup>8</sup>, located intermediate the branch pipes d<sup>2</sup> d<sup>3</sup>, for controlling the admission of liquid to the jacks C C', a cock d<sup>9</sup>, located between the branch pipes d<sup>4</sup> d<sup>5</sup>, for controlling the admission of liquid to the jacks C<sup>2</sup> C<sup>3</sup>, and a third cock d<sup>10</sup>, located between the pump and the branch pipe d<sup>6</sup>, for controlling the admission of liquid to the jacks C<sup>4</sup> C<sup>5</sup>. A return-pipe d<sup>11</sup> leads from the pipe d to the return end of the pump D, and it is provided with a suitable return-valve d<sup>12</sup>. Each of these hydraulic jacks is connected to the doors in the following manner: The movable member c' of the jack is provided with a pair



of laterally-extended branches  $c^3$   $c^4$ , and a connecting-rod  $c^5$  leads from the branch  $c^3$  to the door  $b$ . A similar connecting-rod  $c^6$  leads from the branch  $c^4$  to the door  $b'$ . The movable member  $c'$  is held in its raised position by means of a gravity-pawl  $e$ , mounted on a suitable support  $E$ , adjacent to the jack, which pawl engages one of a series of teeth  $c^7$  on the exterior of the member  $c'$ , near its bottom.

10 The pawl  $e$  is preferably provided with a tail-piece  $e'$  for use in knocking the pawl out of engagement with the tooth when it is desired to release the movable member  $c'$ .

In operation, supposing the several compartments to be filled and it be desired to dump them, the pawls  $e$  are first knocked out of engagement with the movable members of their respective jacks, the cock  $d^{10}$  is closed, and the cocks  $d^8$   $d^9$   $d^{12}$  are opened. The cocks  $d^7$  in the several branch pipes which lead to the jacks are then opened, permitting the liquid in the said jacks to be released therefrom and escape into the reservoir of the pump  $D$ . If it is desired to raise all of the doors at once, the cock  $d^{10}$  is opened and the return-cock  $d^{12}$  closed, when the operation of the pump will cause the liquid to be forced into all of the jacks. If it is desired to close only one set of doors at a time—beginning with those in the compartment  $B^2$ , for instance—the cock  $d^9$  is closed until the jacks  $C^4$   $C^5$  are raised. The cock  $d^9$  may then be opened and the cock  $d^8$  closed, thereby permitting the doors in the compartment  $B'$  to be closed. After this the cock  $d^8$  may be opened, permitting the closure of the doors in the compartment  $B$ .

From the above description it will be seen that the mechanism for opening and closing the doors in the several compartments is entirely protected from contact with the contents of the several compartments, and it will also be seen that the doors in one of the

compartments can be opened and closed at pleasure independently of the others. 45

While I have represented only three compartments in the scow herein represented, it is to be understood that the number of compartments may be varied to suit different requirements, and it is evident that slight changes might be resorted to in the form and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but 55

What I claim is—

1. In a dumping-scow, the combination with one of its compartments and the set of doors therein having their opposite ends projecting beyond the ends of the compartment, of mechanism for operating the doors comprising a hydraulic pump, a pair of lifting-jacks for the set of doors operated by the pump and direct connections between the jacks and the opposite ends of the doors at points beyond the ends of the compartments, substantially as set forth. 65

2. A dumping-scow having a plurality of compartments, a set of doors for each compartment, a hydraulic pump, a main pipe leading thereto, a series of jacks, two for each set of doors, connections between the jacks and the doors, branch pipes leading from the main pipe to the jacks and cocks arranged in the main and branch pipes in position to control the flow of liquid to and from any of the jacks for operating one or more sets of doors at pleasure, substantially as set forth. 75

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 19th day of May, 1898. 80

SAMUEL F. CLOUSER.

Witnesses:

FREDK. HAYNES,  
EDWARD VIESER.