

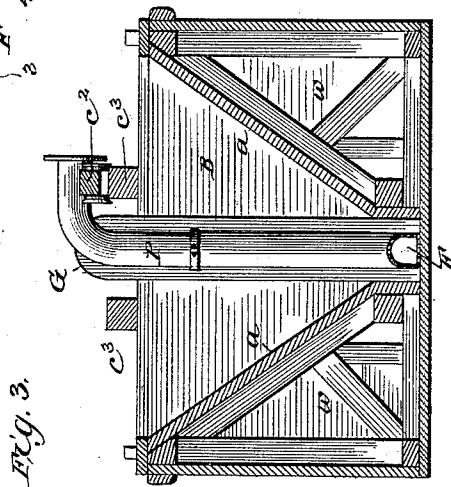
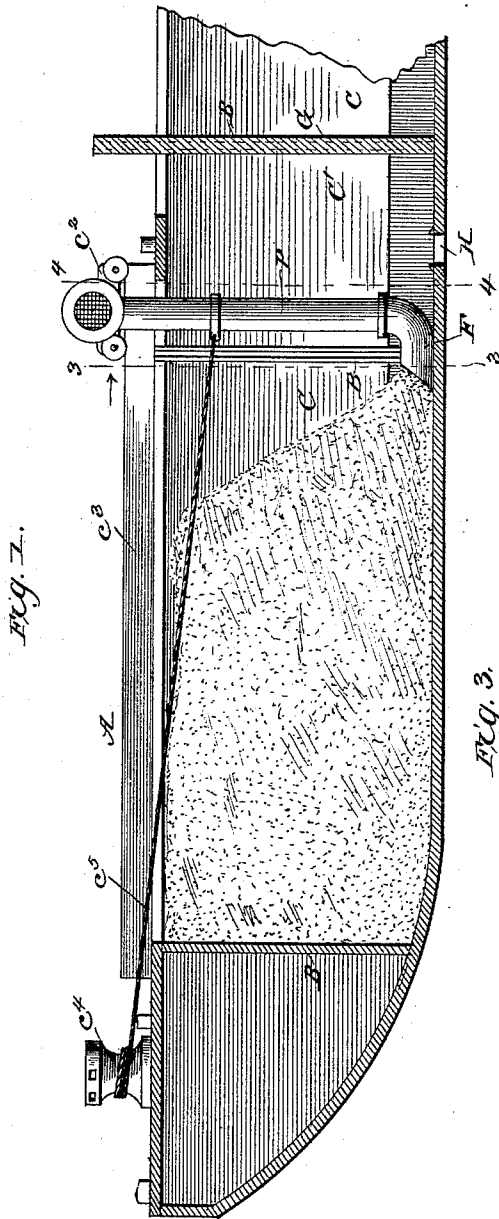
(No Model.)

2 Sheets—Sheet 1.

W. OSBORN.  
SAND SCOW.

No. 465,724.

Patented Dec. 22, 1891.



WITNESSES:

*Fred G. Dieterich*  
*Jos. A. Ryan*

INVENTOR:

*William Osborn.*

BY *Wm. T. C.*

ATTORNEYS

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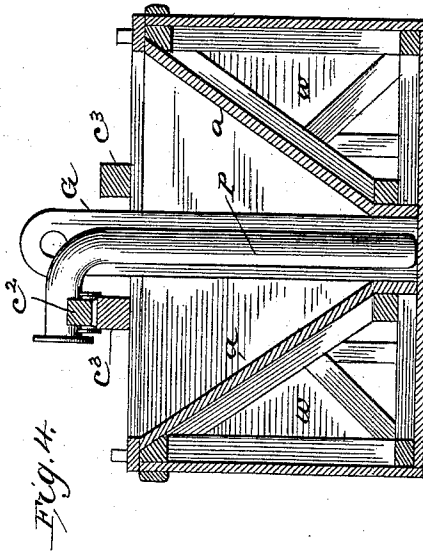
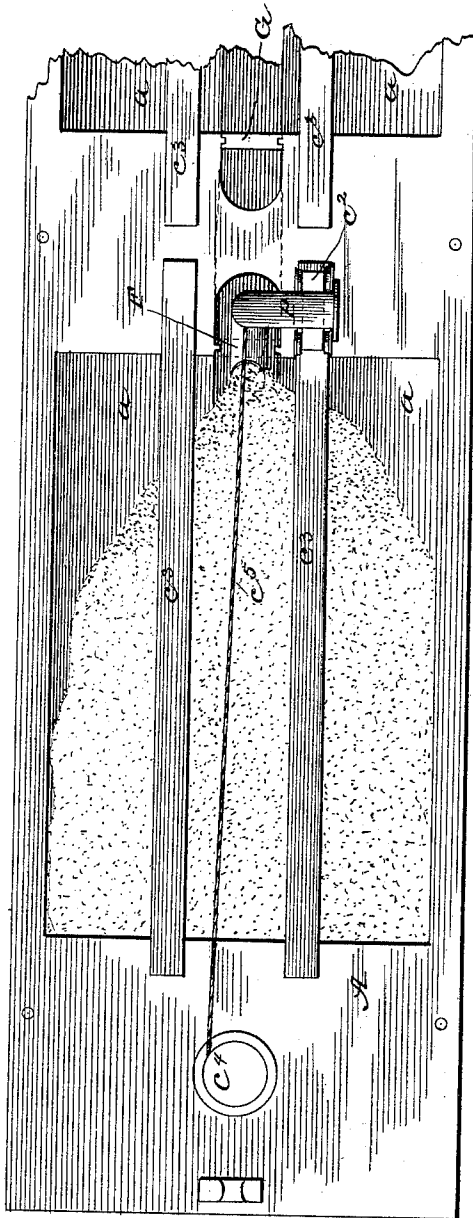
W. OSBORN.  
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Fig. 2.



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# UNITED STATES PATENT OFFICE.

WILLIAM OSBORN, OF DULUTH, MINNESOTA.

## SAND-SCOW.

SPECIFICATION forming part of Letters Patent No. 465,724, dated December 22, 1891.

Application filed August 16, 1890. Renewed July 13, 1891. Serial No. 399,300. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM OSBORN, of Duluth, in the county of St. Louis and State of Minnesota, have invented a new and useful Improvement in Sand-Scows, of which the following is a specification.

My invention relates to an improved sand-scow from which the sand can be quickly and easily removed by suction.

10 The object of my invention is to provide a scow of the character described that shall consist of a few simple parts and one in which the unloading apparatus used in connection with my scow shall be of a simple and efficient character.

15 With these objects in view my invention consists of a scow having hopper-like sand-compartments at each end and a water-compartment between the same, and a suction device located in said water-compartment.

My invention consists, further, in certain details of construction and combination of parts hereinafter referred to.

25 In the drawings forming a part of this specification, Figure 1 is a central longitudinal section of a portion of my scow. Fig. 2 is a top plan view of the same. Fig. 3 is a section on the line 3 3 of Fig. 1, and Fig. 4 is a section on the line 4 4.

30 In carrying my invention into effect I employ a scow or other vessel A, said scow having the downwardly-converging walls or partitions *a*, forming the hopper-like hold, and the water-tight air-compartments *w* between said hopper-like hold and the sides of the vessel.

35 The hold of the vessel is divided into a series of compartments C and C' by means of the bulk-heads B, the compartments C being arranged near each end of the vessel and the compartment C' between the same. The compartments C are adapted to receive sand, while the compartment C', which is a water-chamber, receives water through a hole H in the bottom of the vessel. The bulk-heads B, which form the end walls of the water-compartment C', are each provided with the vertically-sliding gates G, through which communication is had between the said compartments C and C'. A suction-pipe P extends down into the water-compartment C', and at its lower end is provided with a reversible

foot F, whereby it can be inserted in either of the compartments C. The upper end of the pipe is supported upon a carriage C<sup>2</sup>, which travels upon the tracks C<sup>3</sup>, arranged above the compartments C and C', as clearly shown in the drawings. A capstan C<sup>4</sup> is arranged at each end of the vessel, and a cord or rope C<sup>5</sup>, which is wound around said capstan, is connected at its opposite end with the suction-pipe P. The vessel may have a deck or not; but in case a deck is used it is slotted longitudinally to permit the movement of the suction-pipe, which is operated by the capstan and cord. The suction-pipe is connected with any approved pattern of sand or other pumps. The compartments C being filled with sand and it being desired to remove the same, the compartment C' is filled with water entirely through the hole H. The suction-pipe P is then lowered, the foot F being turned toward the compartment it is desired to unload first, said foot resting against the gate G and on the bottom of the vessel, as clearly shown in Figs. 1, 3, and 4. The pump is then put in operation and the gate G slightly elevated, admitting water into the bottom of the compartment C, causing the sand to sink along the longitudinal center of the said compartment, and the pump being in operation the sand is drawn into the suction-pipe and discharged in the ordinary manner. In the meantime the gate G is gradually raised higher and higher, whereby all the sand in the portion of the compartment adjacent to said opened gate will be removed, and in order to remove the remainder of the sand the gate is entirely withdrawn and the suction-pipe made to follow the bottom of the compartment by means of the capstan and rope until the sand is entirely exhausted. When one compartment C is emptied, the suction-pipe P is drawn back, the foot F reversed, and operations begun upon the opposite compartment C. If desired, a separate pipe may be used for each compartment C.

Having thus described my invention, what I claim as new is—

1. In a sand-scow, the combination, with a water-compartment, of a sand-compartment, a vertical bulk-head separating the same, and a suction-pipe located in the water-compartment, having a curved foot extending through

the bulk-head into the said compartment, substantially as shown and described.

2. In a sand-scow, the combination, with a sand-compartment, of a water-compartment, a vertical bulk-head separating said compartments, a vertically-sliding gate arranged in said bulk-head, and a suction-pipe located in the water-compartment and having a foot adapted to extend through the gateway in the bulk-head, substantially as shown and described.

3. In a sand-scow, the combination, with a sand-compartment, of a water-compartment, a vertical bulk-head separating the said compartments, a vertically-sliding gate arranged in the bulk-head, and a vertical suction-pipe having a curved foot upon its lower end, said pipe being adapted to be moved through the gateway in a vertical position, substantially as shown and described.

4. In a sand-scow, the combination, with a sand-compartment, of a water-compartment, a suction-pipe arranged in the water-compartment, a track arranged upon the deck of the scow, a carriage mounted on said track and adapted to support the suction-pipe, a capstan located also on the deck, and the rope

connecting said capstan and carriage, whereby the latter is moved, substantially as shown and described.

5. In a sand-scow, the combination, with sand-compartments arranged at the ends of the vessel, of a suction-pipe having a reversible foot arranged between the said compartments, substantially as shown and described.

6. In a sand-scow, the combination, with a sand-compartment, of a water-compartment, a bulk-head separating the said compartments, a vertically-sliding gate arranged in the bulk-head, a suction-pipe located in the water-compartment and adapted to be moved into the said compartment through the gateway in the bulk-head, a track arranged upon the deck of the scow, a carriage upon the said track adapted to support and transport the suction-pipe, a capstan located also upon the deck, and a rope connecting the capstan and carriage, substantially as and for the purpose described.

WILLIAM OSBORN.

Witnesses:

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H. B. HILL.