

Aug. 22, 1944.

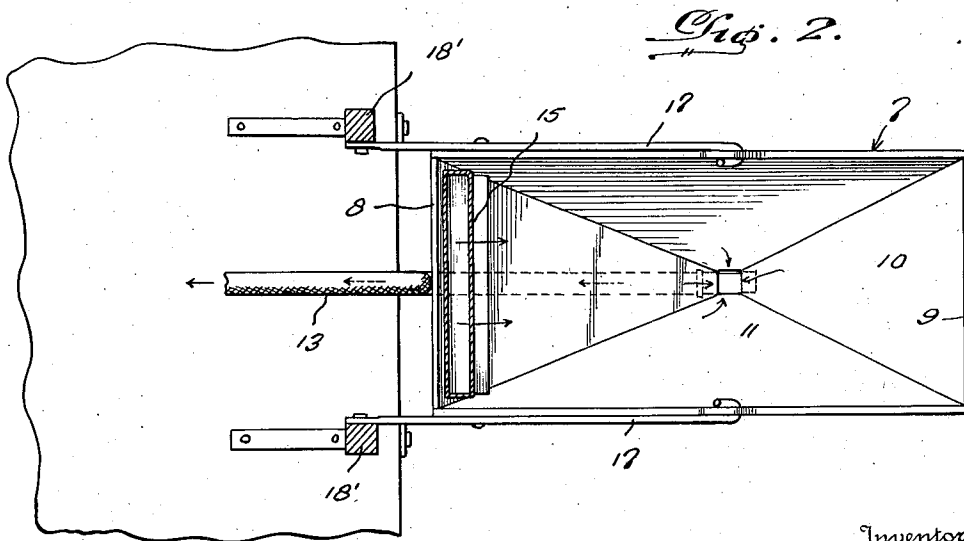
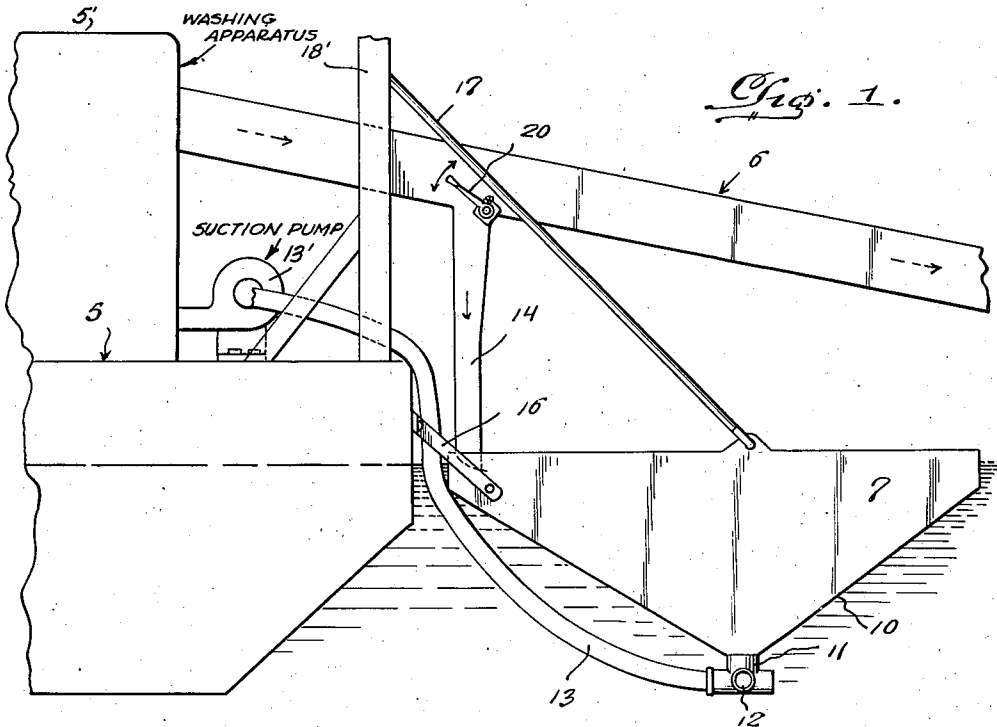
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ATTACHMENT FOR DREDGES AND SIMILAR DEVICES

Filed Jan. 7, 1942

2 Sheets-Sheet 1



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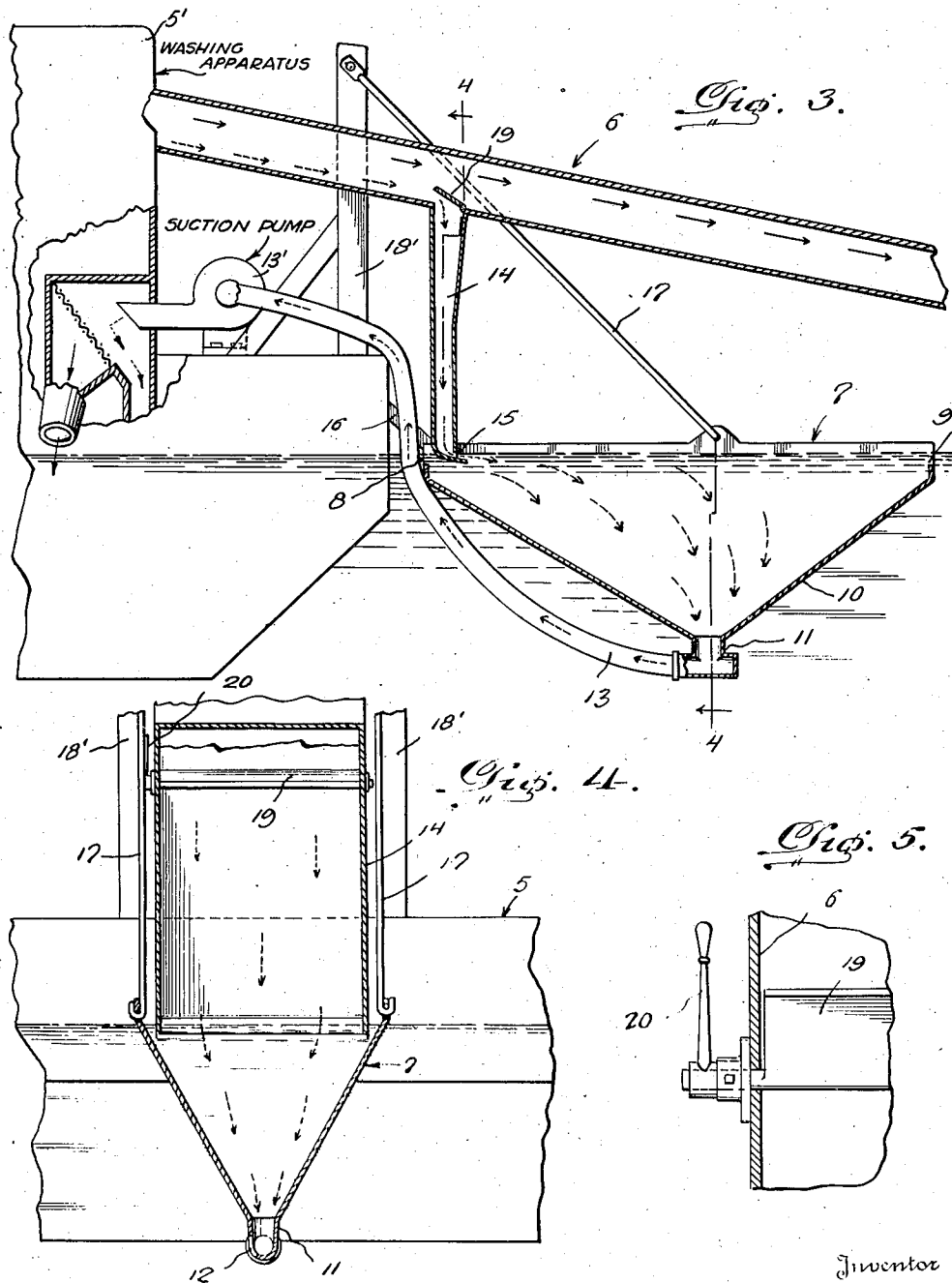
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ATTACHMENT FOR DREDGES AND SIMILAR DEVICES

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ATTACHMENT FOR DREDGES AND SIMILAR DEVICES

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Application January 7, 1942, Serial No. 425,932

4 Claims. (Cl. 210—57)

This invention relates to an attachment for dredges and similar devices, and has for the primary object the provision of an attachment which may be easily and quickly installed on a dredge and connected to the washwater exhaust thereof for reclaiming from the exhaust or washwater, fine shale or other desirable material heretofore lost in dredging operations of materials from the bottoms of bodies of water.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a fragmentary side elevation illustrating a portion of a dredge equipped with an attachment constructed in accordance with my invention.

Figure 2 is a top plan view partly in section illustrating the same.

Figure 3 is a vertical sectional view illustrating the attachment installed on a dredge.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is an enlarged fragmentary sectional view illustrating a portion of a control valve and its operating lever.

Referring in detail to the drawings, the numeral 5 indicates a fragmentary portion of a conventional dredge employed for reclaiming material from bodies of water. A dredge of this kind usually employs a means for excavating the material from the bottom of the water and delivering such material into a reclaiming apparatus indicated generally by the character 5' for the purpose of obtaining desirable materials by a washing method. The wash water of the apparatus is discharged through an exhaust conduit 6 for return to the body of water in which the dredge is located.

In a dredge operating as specified, considerable fine material or shale is lost by such material passing off with the wash-water through the exhaust conduit. To eliminate or reclaim this lost fine material or shale, the present invention is installed on the dredge and is in the form of an attachment which may be readily connected into the exhaust conduit for receiving therefrom the fine material or shale.

The attachment consists primarily of a catch basin 7 which is mounted on the dredge 5 so

that the upper edge of the basin is slightly above the surface of the water and opposite vertical end walls thereof are cut away to form inlet and outlet 8 and 9 so that the body of water may flow into and out of the basin adjacent its upper edges.

The bottom walls of the basin converge substantially centrally of said basin, as shown at 10, and are connected to a trap 11, including a port 12 and a suction conduit 13. The suction conduit 13 connects to a suction pump 13' on the dredge, the exhaust of which connects to the washing apparatus so that fine material or shale may be collected thereby, as shown in Figure 3 of the drawings.

A vertically arranged conduit 14 is tapped into the bottom wall of the exhaust conduit 6 and extends into the catch basin adjacent the inlet 8 in the form of a comparatively wide nozzle 15 which is disposed horizontally for directing the incoming flow of material from the exhaust conduit along with a certain amount of the washwater across the catch basin. This flow of material along with a certain amount of the washwater, will create a circulation of the water through the inlet 8 toward the outlet 9 and as the fine material or shale will settle in the catch basin, the sloping or converging bottom walls 10 thereof will direct the material into the trap 11 and the suction within the conduit 13 drawing water from the body of water will convey the trapped shale or fine materials and deliver the same to the reclaiming apparatus of the dredge.

The catch basin 7 is easily attached onto the dredge 5 at one end thereof or at either side of said dredge by braces 16 and hangers 17. The hangers 17 are pivotally connected to opposite side walls of the catch basin adjacent the upper edges thereof and to upper ends of uprights 18' mounted on the dredge. The braces 16 are connected to the dredge and to opposite side walls of the catch basin.

A control valve 19 is pivotally mounted in the exhaust conduit 6 adjacent the vertical conduit 14 and may have its position varied through the operation of a control lever 20.

By referring to Figure 3 it will be seen that the valve 19 may be positioned for directing the fine material or shale traveling along the bottom wall of the exhaust conduit into the conduit 14 for gravitation therethrough into the catch basin.

Thus it will be seen that a very efficient attachment has been provided which can be easily and quickly installed on a dredge for the purpose

of reclaiming fine material or shale normally wasted or lost in the exhaust wash-water from the reclaiming apparatus of the dredge.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of the invention as claimed.

Having thus described my invention, what I claim is:

1. In an attachment for dredges, a catch basin, means for mounting said basin on a dredge with the basin substantially submerged in water floating the dredge, an exhaust wash conduit of a reclaiming apparatus extending from the dredge, means to convey fine materials from the conduit into the basin, suction means connected to the basin to remove therefrom the fine materials collected by said basin, said basin including means to permit the water to flow into and out of the basin.

2. In an attachment for dredges, a catch basin, means for mounting said basin on a dredge with said basin substantially submerged in water floating the dredge, an exhaust wash conduit of a reclaiming apparatus extending from the dredge above the basin, said basin having an inlet and an outlet located adjacent the surface of the water to permit the latter to flow into and out of the basin, a conduit connected to the first-named conduit to receive therefrom shale and to direct said shale into the water of the basin, and a suction means to remove the shale collected by the basin.

3. In combination with a dredge having a reclaiming apparatus provided with an exhaust wash conduit, a catch basin mounted on the dredge and substantially submerged in the water floating the dredge and provided with sloping bottom walls forming a trap, said basin having an inlet and an outlet located in opposite walls thereof and arranged adjacent the surface of the water to permit the latter to flow into and out of the basin, a conduit connected to said exhaust wash conduit and terminating in a laterally disposed nozzle located in the basin adjacent the inlet, and a suction means connected to the trap to remove shale collected by the basin.

4. In combination with a dredge having a reclaiming apparatus provided with an exhaust wash conduit, a catch basin mounted on the dredge and substantially submerged in the water floating the dredge and provided with sloping bottom walls forming a trap, said basin having an inlet and an outlet located in opposite walls thereof and arranged adjacent the surface of the water to permit the latter to flow into and out of the basin, a conduit connected to said exhaust wash conduit and terminating in a laterally disposed nozzle located in the basin adjacent the inlet, a valve for controlling the second conduit and movable to extend into the exhaust wash conduit, and a suction means connected to the trap and to the reclaiming apparatus to convey shale from the trap and deliver the shale to the reclaiming apparatus.