

bunkers are so constructed as to make them individually watertight so that any leak, burst or other trouble, which might occur, can be localized to the room in which such trouble develops. These hulls have a registered displacement of 1,550 gross tons.

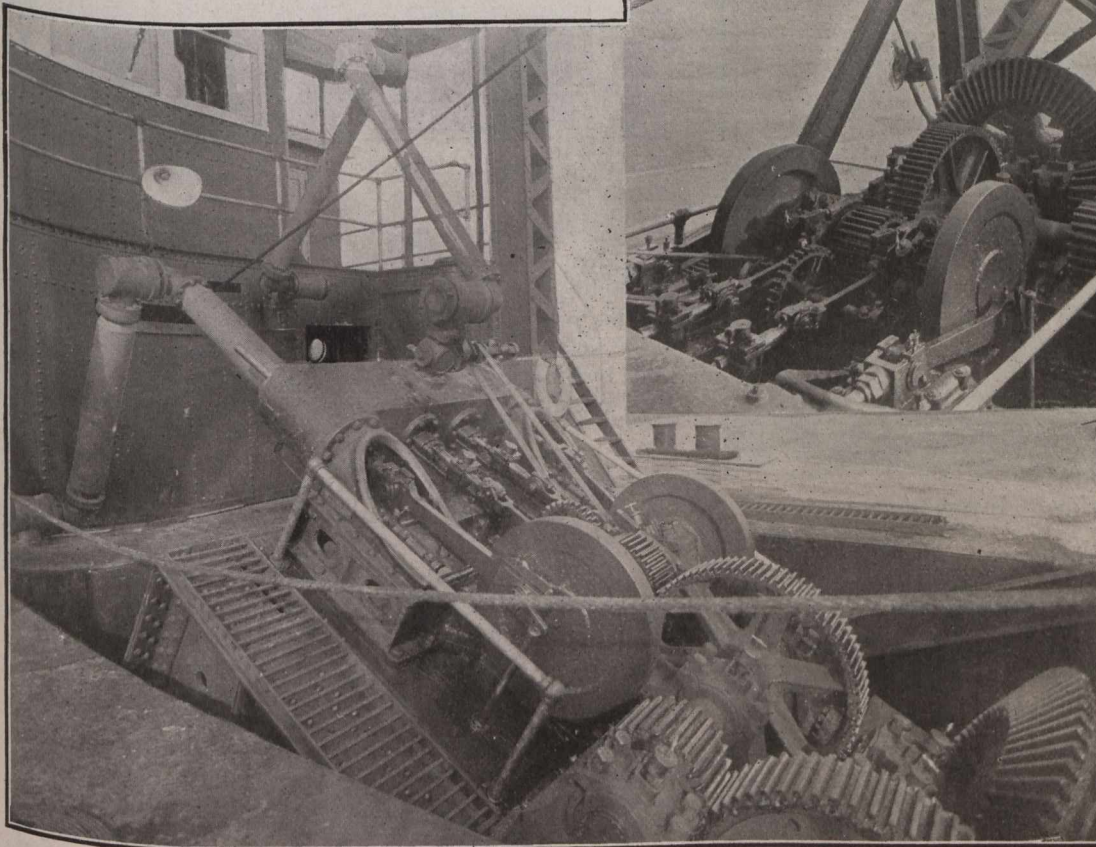
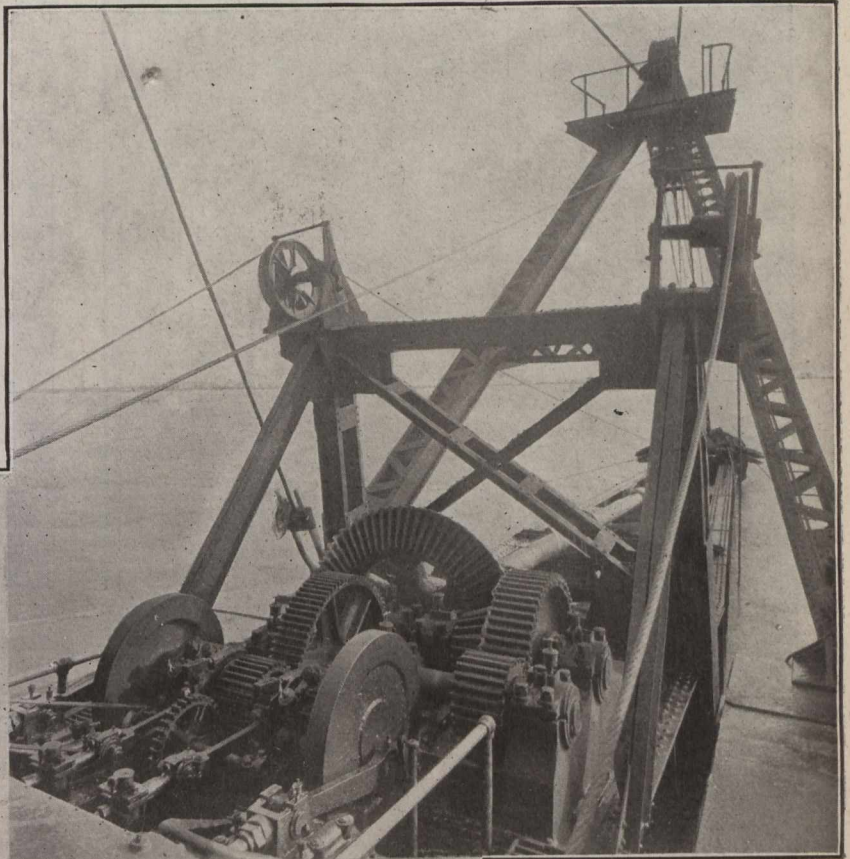
On the front of each dredge is hung the ladder, 87 feet in length overall, weighing complete 120 tons and so constructed as to dig to a depth of 50 feet, at which depth the ladder makes an angle of 37 degrees with the horizontal.

On the upper deck, immediately aft of the ladder is located the lever room from which the entire machinery of this floating industry is operated by the means of 21 levers, and by speaking tube and bells to the main engine room.

Immediately below the lever room is the pump room wherein is located the engine and three cable drums used for swinging the dredge and raising the ladder. This equipment is on the main deck and at the forward end of the pump room aft of the swinging engine, etc., and resting on the bottom of the boat is the main centrifugal pump 12 feet in height overall, which turns an impeller having a periphery

in the United States torpedo boats, as are the four Babcock & Wilcox marine type boilers. Three of these boilers are required for the operation of the dredge, leaving the fourth for reserve. The boiler room is also equipped with an hydraulic ash ejector. The boiler room is immediately aft of the engine room.

In addition to the main engine, there is in the engine room duplicate marine steam generator sets for generating



Views of the 150-h.p. Cutter Engine and Transmission Gearing.

speed of one mile per minute. The diameter of the pump runner is 96 inches.

Immediately aft of the pump room is located the engine room. The engine was built by the New York Ship Building Company, is a triple expansion, the diameter of the cylinders being  $18\frac{1}{4}$ , 28 and 46 inches, with stroke of  $20\frac{1}{4}$  inches operating at rate of 225 revolutions per minute and has indicated horse-power of 1,750. The low-pressure cylinder is equipped with a Lufkin assistant cylinder for operating the valve. The engine is directly connected with the pump and is of the type generally used

electricity for use on the dredge which is well lighted throughout, and also has two powerful search lights for use in making repairs on the pipe line, ten pumps to provide circulation in the condensers, bilge pumps, water ballast pumps, etc. A condenser is provided for the main engine and separate condenser for the auxiliary machinery.

On the main deck aft of the boiler room is located four drums and a Lambert hoisting engine. These drums are used for raising spuds on which the dredge is swung and for the control of two stern anchor lines onto which the dredge drops back in case of a heavy blow, and which