

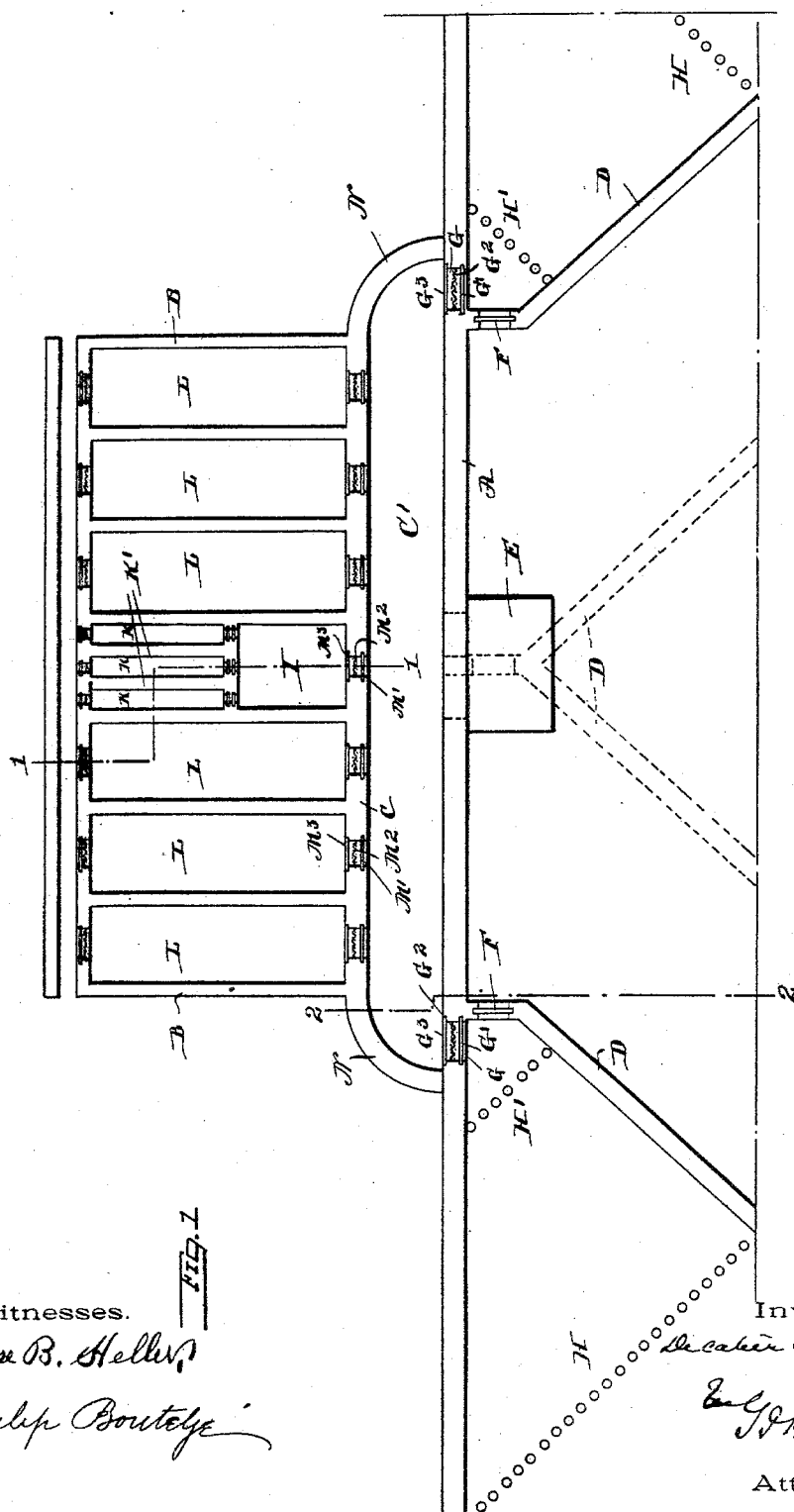
(No Model.)

3 Sheets—Sheet 1.

D. H. HIBBERT.
OYSTER BED.

No. 566,757.

Patented Sept. 1, 1896.



Witnesses.

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(No Model.)

8 Sheets—Sheet 2.

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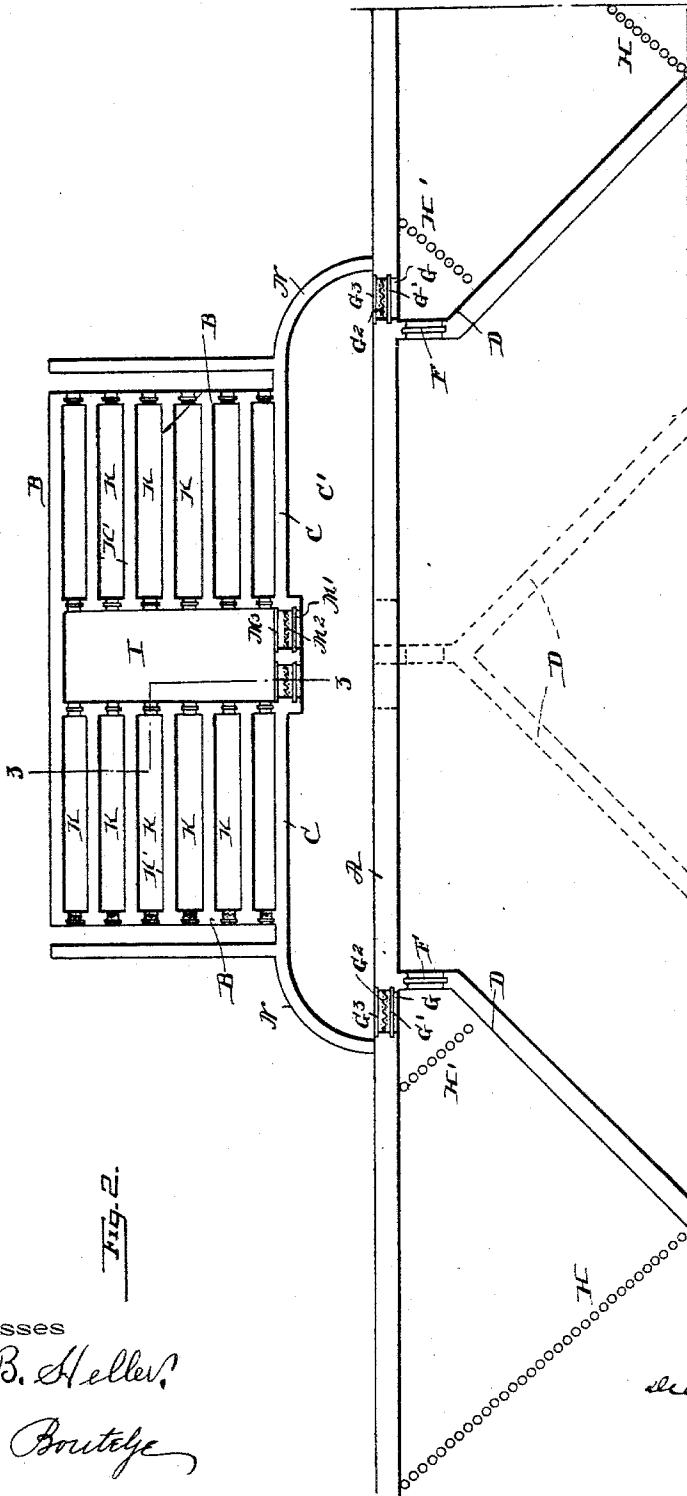


Fig. 2.

Witnesses

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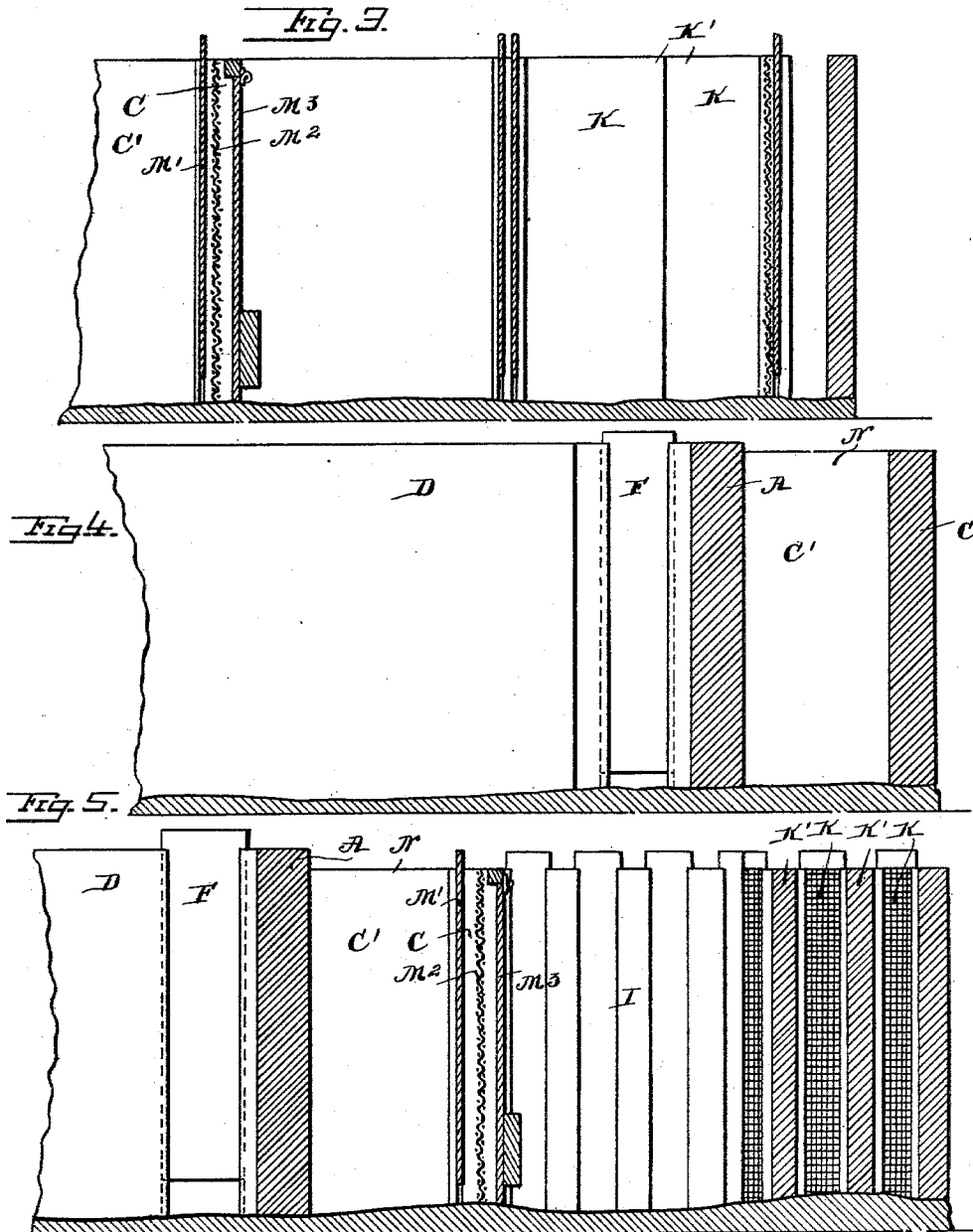
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3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

DECATUR H. HIBBERT, OF WALLINGFORD, PENNSYLVANIA.

OYSTER-BED.

SPECIFICATION forming part of Letters Patent No. 566,757, dated September 1, 1896.

Application filed March 2, 1895. Serial No. 540,273. (No model.)

To all whom it may concern:

Be it known that I, DECATUR H. HIBBERT, a citizen of the United States, residing at Wallingford, county of Delaware, and State of Pennsylvania, have invented a new and useful Improvement in Oyster-Beds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists of certain improved constructions relative to oyster-beds constructed in accordance with my application for Letters Patent filed October 18, 1894.

In the drawings, Figure 1 is a plan view. Fig. 2 is a plan view of a modified form. Fig. 3 is a section on the line 1 1 of Fig. 1. Fig. 4 is a section on line 2 2 of Fig. 1. Fig. 5 is a section on line 3 3 of Fig. 2.

The most advantageous location for my improved oyster-bed is along the coast of bays or the banks of rivers affected by the rise and fall of the tide. The bed extends longitudinally along the coast and the deflecting or gathering wings or walls extend seawardly from the outer or sea wall of the bed.

The foundation may be either the natural soil of the coast-land or an artificial foundation may be formed of pebbles. In tanks or beds adapted to the propagation of oysters from seed (propagating-tanks) the natural foundation is all that is necessary, while it may be found valuable to provide a pebble foundation in beds intended for the cultivation of young oysters to a marketable size, (oyster-raising beds.)

A B are the walls surrounding the bed, A being the sea-wall, which is adapted to extend along the coast, and is of such height that the water at high tide will not dash over it. This wall extends, preferably, some distance beyond the ends of the bed.

C is the inner wall separating the raising or propagating tanks from the storage tank or reservoir C'.

D D are the gathering wings or walls, which extend seawardly from the sea-wall and preferably in a diagonal direction. These may be located in front of the central part of the sea-wall, as shown in dotted lines; but preferably they are placed near the ends of the bed, as shown in full lines, whereby room is

left for the construction of a wharf E between the wings.

The first novel construction forming part of this invention consists in cutting away the wall or wing D near or at its point of departure from the sea-wall and building therein a sluice or guillotine gate F, the object of which is as follows: As the tide-water flows in it will be banked up between the sea-wall and the wing, and will rise to nearly the height of the sea-wall at the inlet G. Where the rise of the tide is excessive, as in flood-tide or during storms or high winds, unless means are provided to prevent it, the water will rise at the junction of the wing and sea-wall to a height greater than the height of the wall and will flow over the top of the wall, which it is desired to avoid, for reasons which will hereinafter be set out. By means of the gate F, which may be raised to any desired height, the water, instead of banking up to a great height, will flow out the opening between the wing and sea-wall. Ordinarily, however, the gate F will be closed. While the wall extends from the sea-wall in a diagonal direction, it is advisable to have the gate F placed at right angles to the sea-wall, so as to provide the largest practicable outlet for the water during the conditions above described.

The second novel construction consists in providing the inlet G with a sluice or guillotine gate G', a screen G², and a paddy-gate G³. The sluice-gate is similar in construction and operation to that between the wing D and sea-wall and is designed, first, to prevent further inflow of the water in case it is desired to clean out or repair the interior of the bed; secondly, to regulate the quantity of water in the reservoir at any time by closing or lowering the gate when the reservoir holds a sufficient supply of water. The screen G² is placed across the outlet for the purpose of excluding star-fish, borers, crabs, and any other form of marine life that would feed upon the oysters or prove deleterious to their growth. It is for this reason that it is important to guard against the overflow of water over the sea-wall, to prevent which I provide the sluice-gate F, previously described. The paddy-gate G³ is pivoted or hinged at the top to a removable framework spanning the top of the inlet, and is weighted at its bottom.

As the water pours through the inlet the gate G^3 will be lifted, and as the tide recedes the gate, by reason of its own gravity and the pressure of the water within the storage-tank, will fall and prevent the water in the reservoir from flowing out through the inlet. This gate, in short, acts as a huge check-valve, and is an important feature of my invention in view of the necessity of storing the tank with water during high tide, so as to insure during low tide a continuous and ample circulation of water through the oyster raising and propagating tanks.

Another feature of my invention consists in providing means for protecting the wing D from injury and possible destruction by masses of ice, floating logs, &c. To this end I drive a row of piles H, extending inwardly any desired distance, preferably as far as the sea-wall. The direction of extent of this row of piles is diagonally to the sea-wall and also to the general direction of flow of the tide, so that any logs or large masses of ice, upon striking the piles, will be deflected outwardly and be carried with the current beyond the wing. Should any large floating masses pass between the outer row of deflecting-piles H, a second interior row of piles H' is driven into the bed of the river near the inlet G. Logs, for instance, might pass between the outer row of piles endwise, but their farther passage will be obstructed by the inner row of piles. These piles are preferably stripped with iron, so as to increase their durability. When the inlets are placed near or at the ends of the bed, I construct the wall of the reservoir opposite to the inlet (the part marked N) in the shape of a curve, so that the entering water will not strike the opposite wall a direct blow and cause an immediate rebound of the water, but will strike the wall at an angle and flow in toward the center of the reservoir in a direction parallel with the curved wall. The inner wall C is of less height than the sea-wall and divides the bed, as before described, into two parts, one part constituting the storage tank or reservoir, and the other part being divided, as in Fig. 1, into a tank for the storage for ripe oysters, from which the seed or spawn is obtained for propagating purposes, the oyster-raising tanks and the propagating-tanks, or divided, as in Fig. 2, into merely a ripe-oyster-tank and propagating-tanks, when the bed is to be utilized solely for the purpose of cultivating oysters from the spawn.

Describing first the construction of Fig. 1, I is the ripe-oyster tank; K, the propagating-tanks, which consist of compartments formed by the interior walls K', which may be staggered or not, as desired, and L the oyster-raising tanks. Into these last-named tanks are placed oysters which have not yet attained their full growth. The seed or spawn from the ripe oysters in the tank I are carried by the tide into the propagating-tanks K,

where they fasten themselves upon the surrounding walls or upon upright twig or wire screens placed crosswise within the tank.

In the construction of Fig. 2 the oyster-raising tanks are omitted and the entire area devoted to the cultivation of the oyster from spawn, I being the ripe-oyster tank and K the propagating-tanks. The opening between the reservoir and the tanks is provided with a sluice-gate M', a screen M² and a paddy-gate M³ of construction similar to gate G', screen G², and paddy-gate G³, respectively. Where the tanks are oyster-raising tanks, there may be a plurality of openings from the reservoir, as in the construction of Fig. 1; but where the tanks are propagating-tanks it is desirable that they have no direct communication with the reservoir, but receive the supply of water through the ripe-oyster tank.

In both Figs. 1 and 2 I have shown a separate outlet from each compartment of both the raising and propagating tanks. This arrangement may be varied by cutting passages between adjoining compartments and staggering the walls and having only a single outlet, or any number of outlets may be provided. Each outlet is furnished with a gate and also with a screen, and the inlet to each compartment is similarly guarded, so that, if desired, the inlet to any one compartment of the series may be closed and the water allowed to drain off, enabling it to be cleaned or permitting necessary repairs to be made.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. The combination with an oyster-bed having an inlet for the water, of a screen covering the inlet, a sliding gate adapted to be operated to close and open said inlet, and a second gate at the inlet adapted to permit the inflow of water through the inlet to the bed but prevent the outflow.

2. The combination with an oyster-bed having an inlet in one of its walls, of a wing without but contiguous to said wall, there being an opening between said wing and said wall.

3. The combination with an oyster-bed having an inlet in one of its walls, of means for directing the flow of water toward said inlet, and an opening without said wall contiguous to said inlet adapted to receive a portion of the water directed toward said inlet, and means for closing said opening.

4. An oyster-bed one portion of which consists of a reservoir and the other portion of which contains the raising or propagating tank or tanks, there being an inlet from the reservoir to the other portion of said bed, said inlet being provided with a gate adapted to act as a check-valve.

5. An oyster-bed one portion of which consists of a reservoir and the other portion of which contains the raising or propagating tank or tanks, there being an inlet from the

reservoir to the other portion of said bed, said inlet being provided with a screen and a gate adapted to act as a check-valve.

5 6. An oyster-bed one portion of which consists of a reservoir and the other portion of which contains the raising or propagating tank or tanks, there being an inlet from the reservoir to the other portion of said bed, said inlet being provided with a screen, a gate
10 adapted to slide and a gate adapted to act as a check-valve.

7. The combination with an oyster-bed having an inlet in one of its walls, of a wing without but contiguous to said wall, there being
15 an opening between said wing and said wall, and a gate for closing said opening, said inlet being provided with a screen, a gate adapted to slide, and a gate adapted to act as a check-valve.

20 8. The combination with an oyster-bed hav-

ing an inlet in one of its walls, of a wing without but contiguous to said wall, there being an opening between said wing and said wall, and a gate for closing said opening, and a row or rows of piles without said bed and extending inwardly from said wing and adapted to protect the inlet. 25

9. An oyster-bed having an inlet in its sea-wall, and a wall adjacent to the sea-wall and the inlet therein, said wall being curved in order to deflect the water toward the center of the bed and to prevent its rebounding, substantially as described. 30

In testimony of which invention I have hereunto set my hand.

DECATUR H. HIBBERT.

Witnesses:

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PHILIP BOUTELJE.