(No Model.)

2 Sheets—Sheet 1.

R. D. HUME.

DREDGING APPARATUS FOR BARS.

No. 264,950. Patented Sept. 26, 1882.

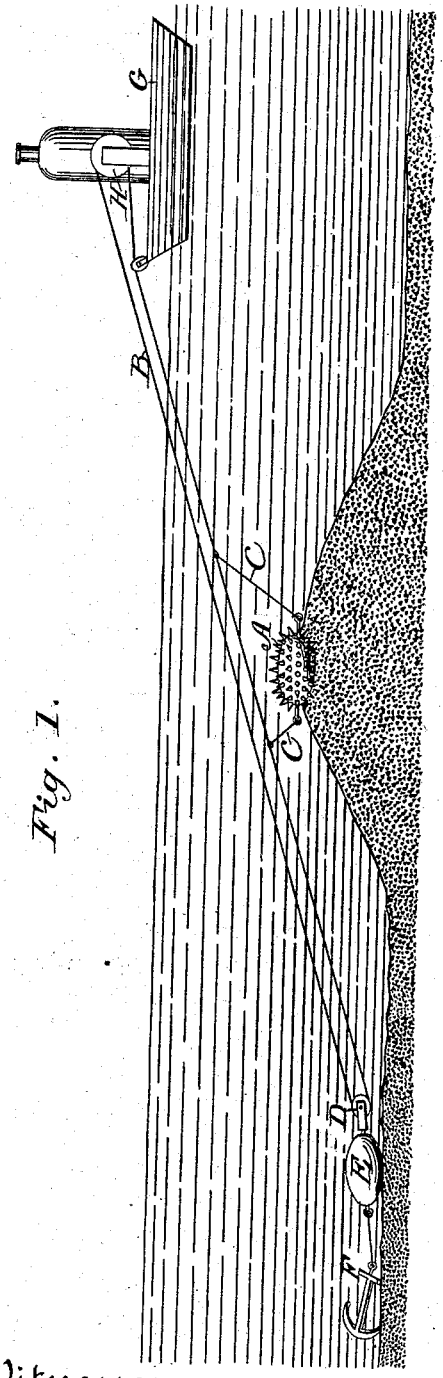

Fig. 1.

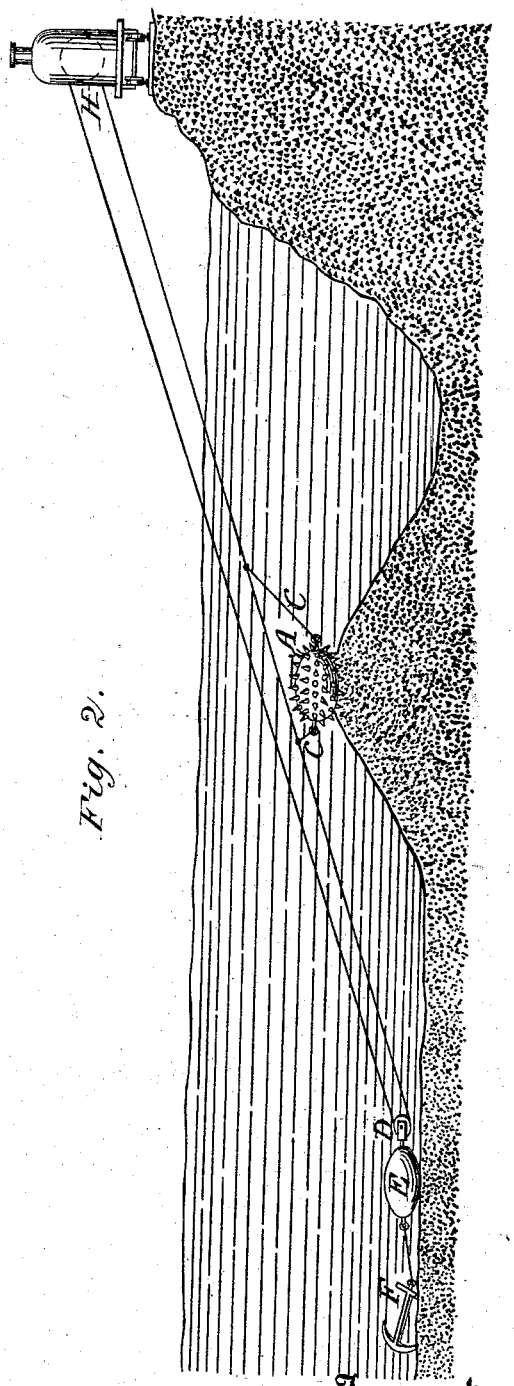

Fig. 2.

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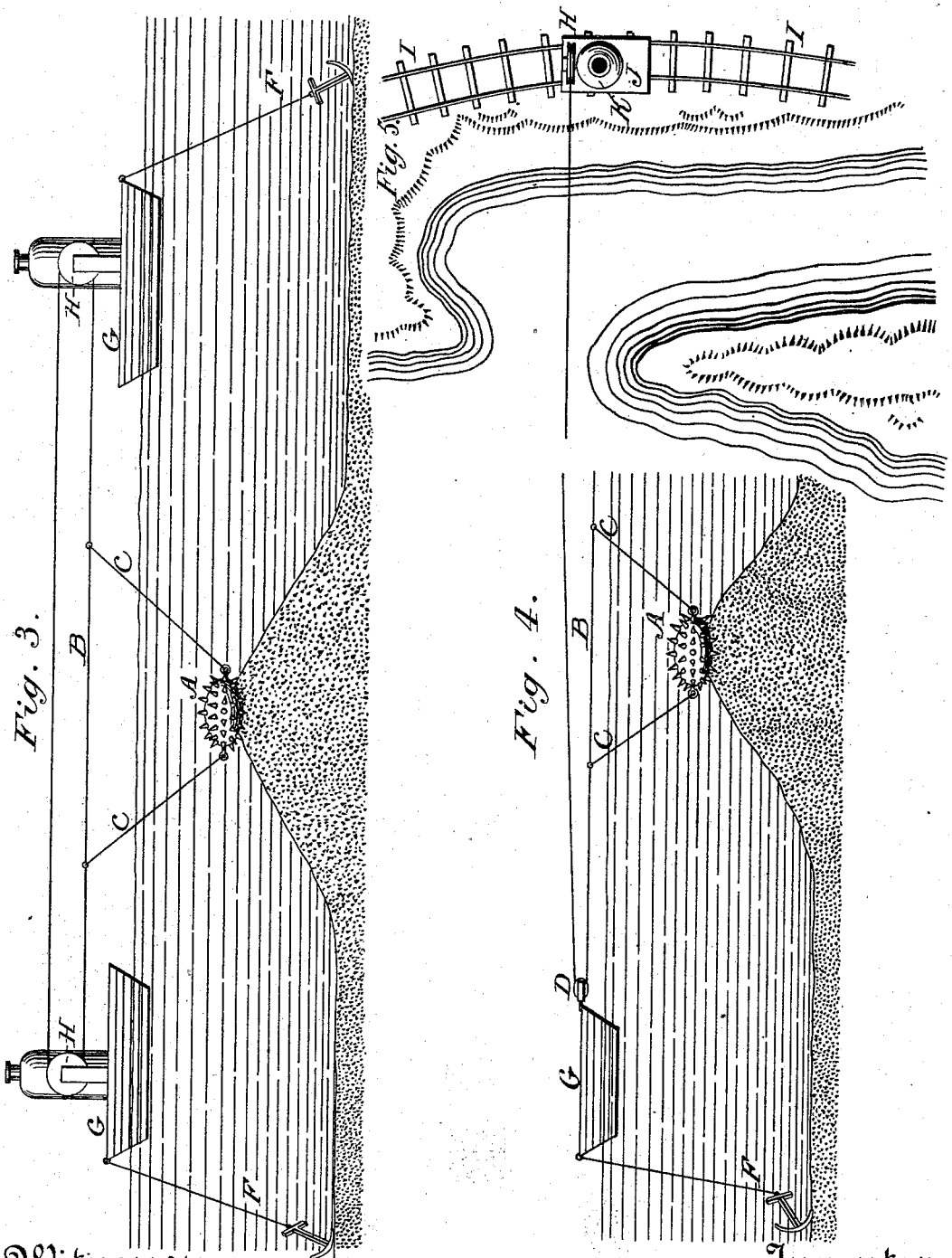

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UNITED STATES PATENT OFFICE.

ROBERT D. HUME, OF SAN FRANCISCO, CALIFORNIA.

DREDGING APPARATUS FOR BARS.

SPECIFICATION forming part of Letters Patent No. 264,950, dated September 26, 1882.

Application filed May 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, ROBERT D. HUME, of the city and county of San Francisco, State of California, have invented an Improved Dredging Apparatus for Bars; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an apparatus for dredging or clearing away bars, such as most frequently form at the mouths of harbors, estuaries, and the mouths of rivers which empty into the sea; and it consists in a combination and arrangement of devices, as hereinafter described, and specifically pointed out in the claims.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a side elevation, showing a bar with my apparatus anchored at one side and operated from a barge at the other. Fig. 2 is a similar view, showing the engine mounted upon a car on the shore. Fig. 3 is a view showing the drag operated from barges anchored on opposite sides of the bar. Fig. 4 is a section showing a shore attachment for one end of the rope and a barge for the opposite end. Fig. 5 is a plan view, showing the railway and shore attachment.

Many useful small harbors and river-mouths upon the coast are obstructed by bars which would not warrant removal by expensive means. These bars form at various short distances outside or just at the mouths of the harbor or estuary, and in many cases these estuaries are turned so as to run for a considerable distance parallel with and just inside the beach before discharging into the sea. In such cases my apparatus may be conveniently worked from the shore opposite to the mouth, as will be hereinafter described.

In carrying out my invention I use a drag of any suitable shape, size, and weight. In the present case I have shown it to be of an egg shape, as at A, and armed with knives, spikes, teeth, or any suitable projections which will dig into and loosen up the material. This drag is attached to or connected with a wire cable, B. When the water is shallow, or the distance between the anchorages of the ends of the cable considerable, it may be connected directly with the cable; but if the water is deep or the cable is short it may be found preferable to employ a supplemental connecting rope or cable, C, the ends of which are attached to the main cable at some distance apart, while the bight is connected with the drag. The cable or rope extends outward from the bar to a suitable distance and passes around a pulley or drum, D, which is anchored according to the character of the place. If a rough open roadstead, the pulley may be fixed to a support, E, which is anchored, as at F, so as to be held firmly in place, and at the same time keep the pulley sufficiently raised from the ground to prevent its being covered with sand, or otherwise fouled. In some cases it may be found preferable to fix this pulley to a barge, G, which is anchored outside the bar. From this pulley the rope or cable passes inward toward the shore and around a driving pulley or drum, H, which is connected with an engine. This engine is supported in various ways. If the bar is distant from the shore, or if it is otherwise not feasible to have the engine ashore, a barge may be anchored in the proper position, and the rope then passes around the pulleys D and H, having the drag A connected with one part of it, so that by rotating the driving-drum in one direction and then the other the drag will be moved back and forward across the bar, gradually cutting it away, so that the tide or current will carry it away.

In some cases, when a single channel has been cut, the sides will wash away without further assistance; but if the bar is tough it may be necessary to move the engine-barge or the outer anchorage, or both, so that the drag can be operated across the bar from end to end.

When the interior conformation of the harbor or estuary permits it, the engine may be mounted upon a rock, an island opposite the mouth, or, if not too wide, upon the shore opposite the mouth. In the latter case a railway, I, may be laid, having a curve or radius of which the outer anchorage is the center. Upon this railway a car, J, is placed, having the engine K and driving-drum H mounted upon it. This car may then be moved along the track at intervals, so that the drag can be operated over different portions of the bar from end to end, and thus clear it all away.

It will be seen that various modifications of the apparatus may be made to suit different circumstances without affecting the operation materially. In difficult harbors the cable may also be employed to tow barges or vessels out to a safe distance by detaching it from the drag and connecting it to the vessel.

By this construction I am enabled to clear away bars in a cheap and efficient manner.

I am aware that drags have been towed across shoal places or bars by tugs or other vessels; but this method can only be employed where there is already water enough for the vessel, and in comparatively calm water.

My invention may be used in the shoalest and roughest water.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a dredging device, the combination of an anchored pulley-carrying device, said pulley adapted to sustain an endless cable, B, said cable driving machinery provided with pulley H, and an intervening drag, A, adapted to be moved back and forth over the obstruction to be removed, substantially as set forth.

2. The drag A, the operating rope or cable C, and the fixed or anchored pulley D, in combination with a track or tramway, I, the car J, upon which is mounted the engine K, and the driving-pulley H, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

ROBERT DENISTON HUME.

Witnesses:
S. H. NOURSE,
G. W. EMERSON.