

No. 773,337.

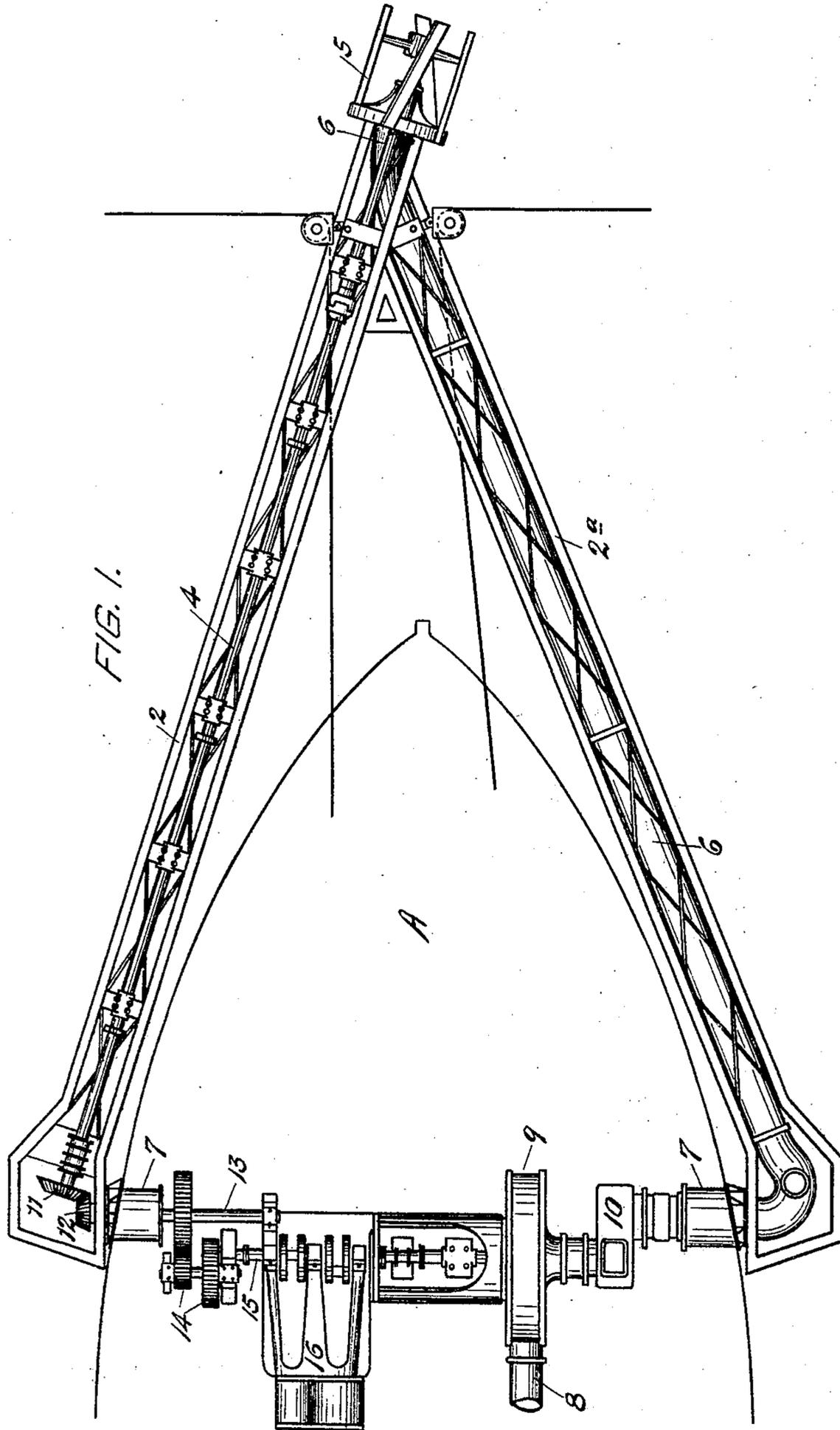
PATENTED OCT. 25, 1904.

R. A. PERRY.
DREDGER.

APPLICATION FILED APR. 18, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES,
Chas. E. Chapin.

J. A. Morse

INVENTOR,
Raymond A. Perry
By *Geo. H. Strong* atty.

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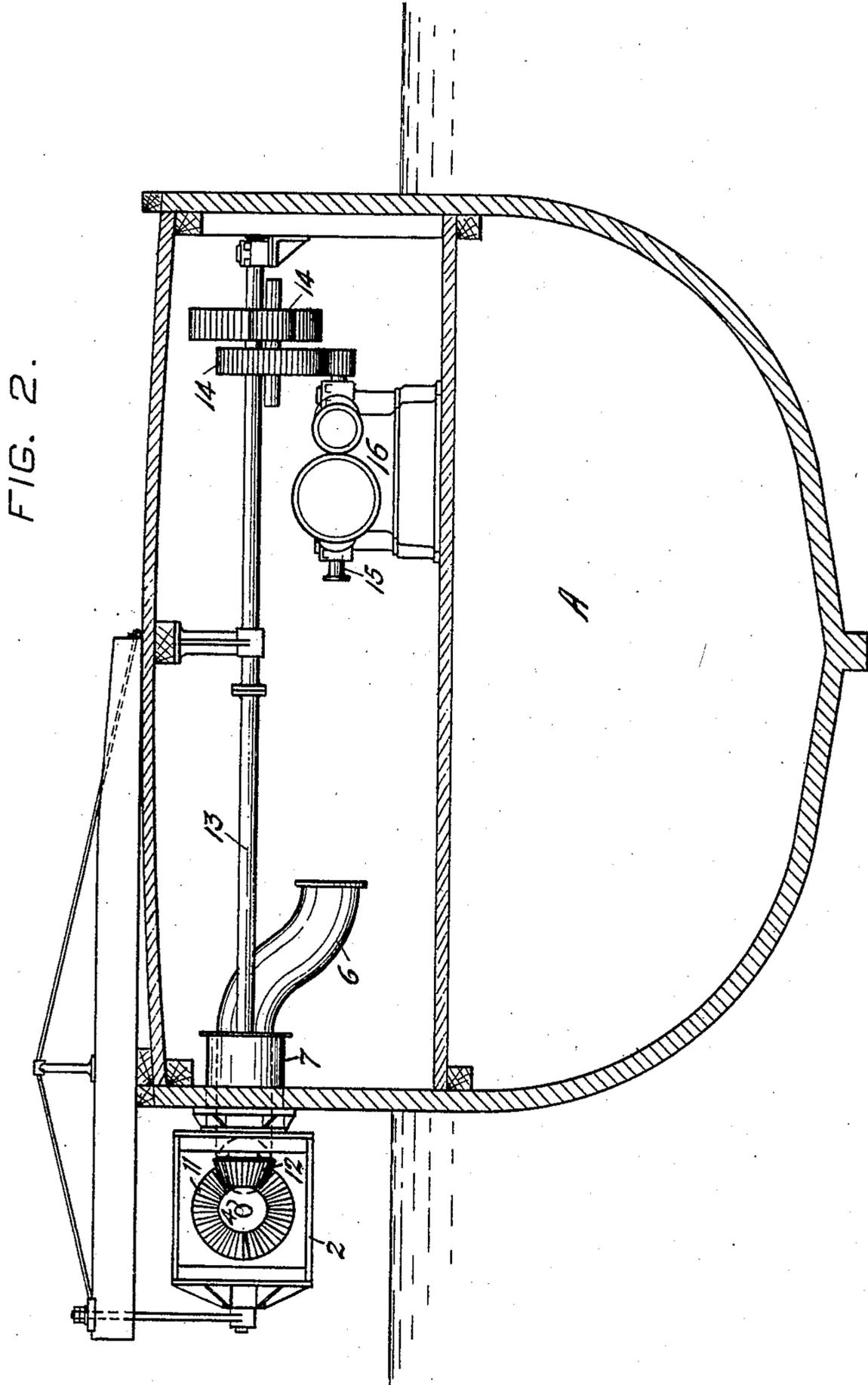
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

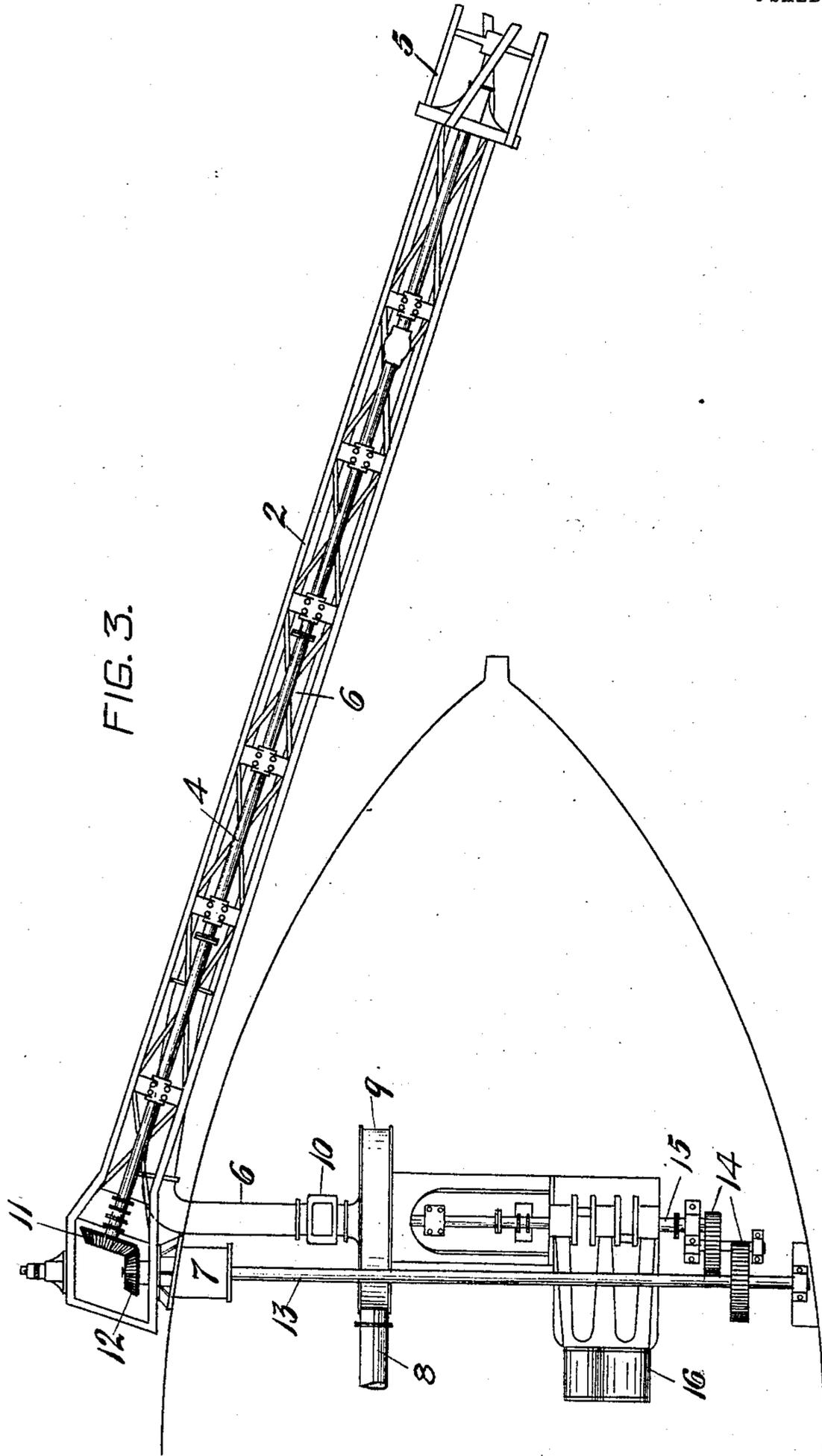


FIG. 3.

WITNESSES,
Chas. E. Chapin.

J. Morse

INVENTOR,

Raymond A. Perry
By *Geo. H. Strong* atty

UNITED STATES PATENT OFFICE.

RAYMOND A. PERRY, OF OAKLAND, CALIFORNIA.

DREDGER.

SPECIFICATION forming part of Letters Patent No. 773,337, dated October 25, 1904.

Application filed April 18, 1904. Serial No. 203,638. (No model.)

To all whom it may concern:

Be it known that I, RAYMOND A. PERRY, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Dredgers, of which the following is a specification.

My invention relates to improvements in dredging apparatus.

10 It consists in a novel construction of a ladder or support for the excavating and transmitting devices, which latter is carried upon the front of the vessel, and in the direct application of an independent engine to the
15 digging and transmitting apparatus.

It also comprises details of construction, which will be more fully explained in the accompanying drawings, in which—

Figure 1 is a plan view of my invention.

20 Fig. 2 is a transverse section showing an apparatus employing a single frame 2. Fig. 3 is a plan view of the apparatus shown in Fig. 2.

In a former patent issued to me, dated January 13, 1903, No. 718,276, I have described
25 a structure comprising a Y-shaped ladder or support upon which the digging and transmitting apparatus are supported, and which ladder is movably carried upon the front of the vessel, from which it projects. In that
30 construction the ladder was made in three parts, united at the junction of the angular portions with the straight central extension, and in order to make the proper driving connection the shaft was made with a universal
35 joint-coupling to enable it to follow the form of the frame.

In my present invention, A represents the bow of the vessel, which may be of any suitable form, but which is preferably that of an
40 ordinary vessel having the usual bow and stern, and such vessel may be any one already in service which is suitable for this work.

The ladder consists of the parts 2 and 2^a. The part 2 is made of sufficiently strong
45 frame and extends from one side of the bow of the vessel in a direct line to the point where the excavating or digging device 5 is carried upon its front end. This digging device has a shaft 4, by which it is operated, and this
50 shaft extends in a continuous line along the

part 2 of the ladder without any necessity of making a turn or a universal or equivalent joint in its length. The other branch, 2^a, of the ladder is suitably connected and united with the part 2 at the desired distance from
55 the outer end of said part 2, and this part 2^a extends to the other side of the vessel's bow and substantially opposite to the corresponding end of the part 2. These branches are
60 united to the vessel by any suitable swivel-joint, as shown at 7, and the suction-pipe 6, which leads from the excavating apparatus, may be carried up along the part 2^a of the
65 ladder, and by suitable coupling passing through the swivel-joint it connects with a suction-pump at 9 and through this pump with the inboard and discharge-pipe 8, through
70 which the material is conveyed after leaving the pump.

Intermediate between the pump and the pipe
75 6 I have shown a box or receiver 10, into which any large stones or substances unsuitable for passing through the pump may be deposited and from which they can be removed from time to time.

The upper end of the shaft 4 has upon it a bevel-gear 11, which engages with a similar
80 bevel-gear 12 upon the shaft 13. By means of suitable intermediate gears, as at 14, power is transmitted to this shaft from the engine-shaft 15, which, as shown in the present case, is directly driven by engines, as at 16.

The vessel may be provided with its usual engines and means of propulsion, and my
85 present apparatus is designed to provide a means for attaching my dredge to any vessel suitable for the purpose without material alteration in its structure and to provide for
90 the independent propulsion of all parts of the dredge and its connections without disturbing or interfering with the main engines of the vessel.

While the excavator driving-shaft is here shown upon one branch of the frame or ladder and the suction-pipe upon the other, it
95 should be understood that both shaft and pipe may be carried upon one part, as 2, and the whole apparatus may be carried and supported at one side of the vessel's bow, thus avoiding
100 any change of direction of the pipe until it

reaches the vessel. It will also be understood that the engines (shown at 16) are intended to represent any suitable motor which may be installed and capable of doing the work.

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

1. A sea-going vessel having a projecting hydraulic dredging apparatus extending to
10 the front thereof, said apparatus having a Y-shaped ladder, one arm of which extends from its junction with the vessel in a straight line diagonal to the longitudinal axis of the vessel, and the other arm extends from the oppo-
15 site side of the vessel and intersects the first-named arm at a point between the vessel and the outer end of said arm.

2. A sea-going and self-propelling vessel, in combination with a hydraulic dredging ap-
20 paratus having a forked ladder or support swiveled upon opposite sides of the vessel's bow and extending forwardly therefrom, one of the arms of said ladder being continuous in a straight line from its junction with the
25 vessel to the outer end, and the other intersecting said first-named arm at a point between the outer end of said arm and the vessel.

3. A sea-going vessel having a forked ladder or support, the open end of which is swiveled
30 upon the vessel's bow, one of the arms extending continuously in a straight line and to a point beyond its intersection with the other arm, a shaft extending in a substantially straight line journaled upon said arm, an ex-
35 cavating apparatus fixed to the outer end of said shaft and mechanism connected with the inner end of the shaft whereby power is transmitted to drive the excavator.

4. A sea-going vessel, a forked ladder or
40 frame swiveled upon each side of the vessel's bow, one of the arms of said ladder extending continuously beyond its intersection with the other arm, and having a substantially straight continuous shaft journaled thereon, an exca-
45 vator carried upon the outer end of the shaft,

means connecting the inner end of the shaft with a motor carried upon the vessel, and a suction-pipe disposed to receive the material excavated, said pipe extending along one arm of the ladder, and having its inner end con-
50 nected with a suction-pump upon the vessel.

5. A sea-going vessel having an excavating apparatus, a forked ladder swiveled to oppo-
55 site sides of the vessel's bow projecting forwardly therefrom and carrying the excavating apparatus upon one arm and the suction-pipe upon either, a pump located upon the vessel, connections between the suction-pipe and the pump, and a receiver located between
60 said pipe and the pump.

6. A sea-going self-propelling vessel, a frame or ladder swiveled to the end of the ves-
sel extending outwardly therefrom, an exca-
vating device and driving-shaft carried upon
65 one arm of the forked ladder, a suction-pipe carried upon either arm, mechanism through which motion is communicated to the inner end of the excavating-shaft, a suction-pump
70 connecting with the inner end of the suction-pipe and an independent motor located upon the vessel with connections by which the ex-
cavator-shaft and suction-pump are driven.

7. The combination with a vessel, of a frame or ladder extending from one side of the ves-
75 sel's bow in a line diagonal to the vessel's length and terminating substantially on a pro-
longation of said central line, a shaft journaled upon the frame, an excavator fixed to the outer end of the shaft, a motor and con-
80 nections between it and the inner end of the excavator-shaft, a suction-pipe and a suction-pump upon the vessel with which said pipe is connected.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
85 nesses.

RAYMOND A. PERRY.

Witnesses:

S. H. NOURSE,
JESSIE C. BRODIE.