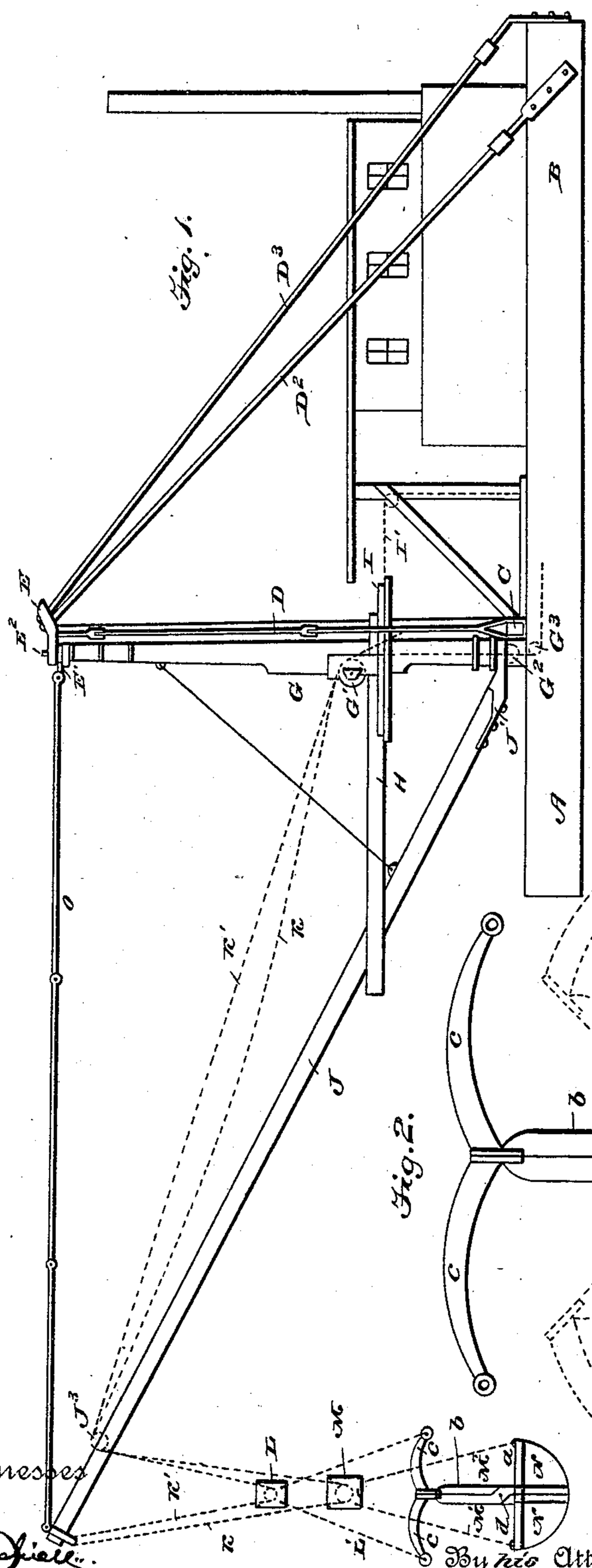
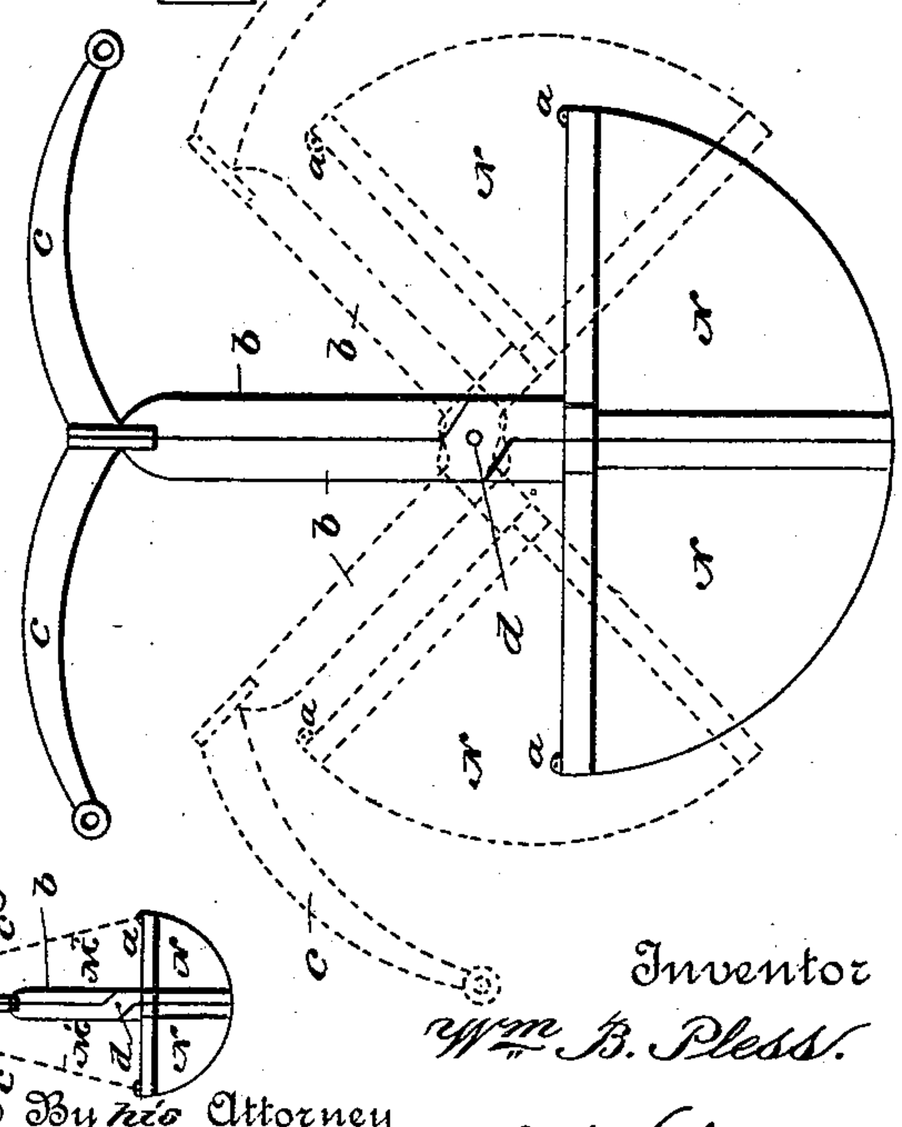
(No Model.)

W. B. PLESS.

DREDGING MACHINE.

No. 426,681. Patented Apr. 29, 1890.





Witnesses

Inventor
Wm B. Pless.
By his Attorney
Joshua B. Webster

UNITED STATES PATENT OFFICE.

WILLIAM B. PLESS, OF SAN FRANCISCO, ASSIGNOR OF ONE-HALF TO ROSWELL C. SARGENT, OF SAN JOAQUIN, CALIFORNIA.

DREDGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 426,681, dated April 29, 1890.

Application filed November 18, 1889. Serial No. 330,687. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. PLESS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Dredging-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of dredging-machines which are located on a floating vessel, the same to be used in connection with my invention set forth in application for Letters Patent, Serial No. 305,269, for an improvement in derricks for dredging-machines, which application was allowed on the 22d day of July, 1889, and the novelty will be fully understood from the following description, when taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my complete dredging-machine and its vessel. Fig. 2 is a side elevation of the dipper, showing in dotted line the position of the parts when open.

In order to better illustrate and render my improvements more easy of comprehension, I shall describe specifically a portion of a vessel to which said improvements are to be attached, together with the machinery for operating the same.

In said drawings, to which letters of reference are made, A B represent the hull of the vessel, upon which are located the operating devices and machinery.

C is a cross-beam, whose ends extend beyond the hull of the vessel.

G is the derrick-mast, which is hollow and has at its lower end a ball-joint composed of a ball G^2, stepped in a socket F in the beam C. At the head of the mast G, properly secured thereto, is a gudgeon E^2, over which is placed the eye E′ of a trace O, to the outer end of which is attached the swinging boom J of the derrick, which has its foot attached in jaws J′, secured to the foot of the mast G. A large iron block E, having an eye, is also placed over the gudgeon E^2. To this block are attached the aft braces D^2 and D^3 of the mast, the lower ends of which are attached to the rear of the hull. Side braces D and D′ are also attached to the block E at their upper ends and at their lower ends to the ends of the beam C.

A turn-table I is attached about the mast G, and is operated by means of a rope I′, leading to the engine or other motive power within the hull. Forwardly-extending jaws H are attached to the turn-table and embrace the boom J.

I shall now give a detailed description of the construction and operation of my improvements as employed in connection with the vessel and its operating mechanism.

N N are the jaws of the dipper, which is of a clam-shell pattern. *a* and *b* are the handles, to which are attached lever-arms *c*, having eyes at their outer ends. The handles *c* and *b* are pivoted at a working center upon a shaft *d*. The dipper is suspended by chains M′ attached thereto and to a pulley M, and by chains L′, attached to the eyes of the arm *c* and to a pulley L.

A hoisting-chain K′ is attached at the outer end of the boom J, passes through the pulley L, over a sheave at J^3 in boom J, also over a sheave at G′ in the mast G, then extends downward inside of the mast G, over a sheave G^3 at the bottom of the beam C, and is suitably connected to the motive power within the hull. A chain K is likewise attached to the outer end of the boom J and passes through the pulley M and upward over a sheave at J^3, and extends rearwardly and downward over sheaves at G′ and G^3 to the motive power. When both the chains K and K′ are wound up and the dipper is pendent, both chains may be slacked at once and the dipper lowered. When the dipper is upon the mud, chain K′ may be wound up, causing the jaws of the dipper to close and take its load, which having taken place it is elevated. When the desired elevated position has been reached, the derrick, by means of the turn-table mechanism, is swung around to the desired point of delivery, the chain K′ is slacked, the jaws of

the dipper open, its load is discharged, the derrick is swung back, the chain K is slacked, the jaws of the dipper close, and it descends for another load.

Having thus fully described my invention, what I claim is—

In combination with the swinging derrick constructed substantially as described, the hoisting and operating chains K and K′, the pulleys L M, and the clam-shell dipper N, suitably suspended from the pulleys L and M, provided with the handles *b*, having the lever-arms *c* attached thereto, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM B. PLESS.

Witnesses:
JOSHUA B. WEBSTER,
JAS. T. SUMMERVILLE.