(No Model.)

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W. B. PLESS.

DERRICK.

No. 418,221. Patented Dec. 31, 1889.

Fig. 4.

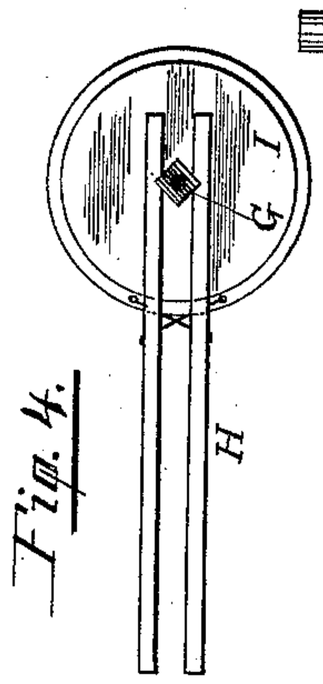

Fig. 1.

Witnesses.

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2 Sheets—Sheet 2.

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Fig. 2.

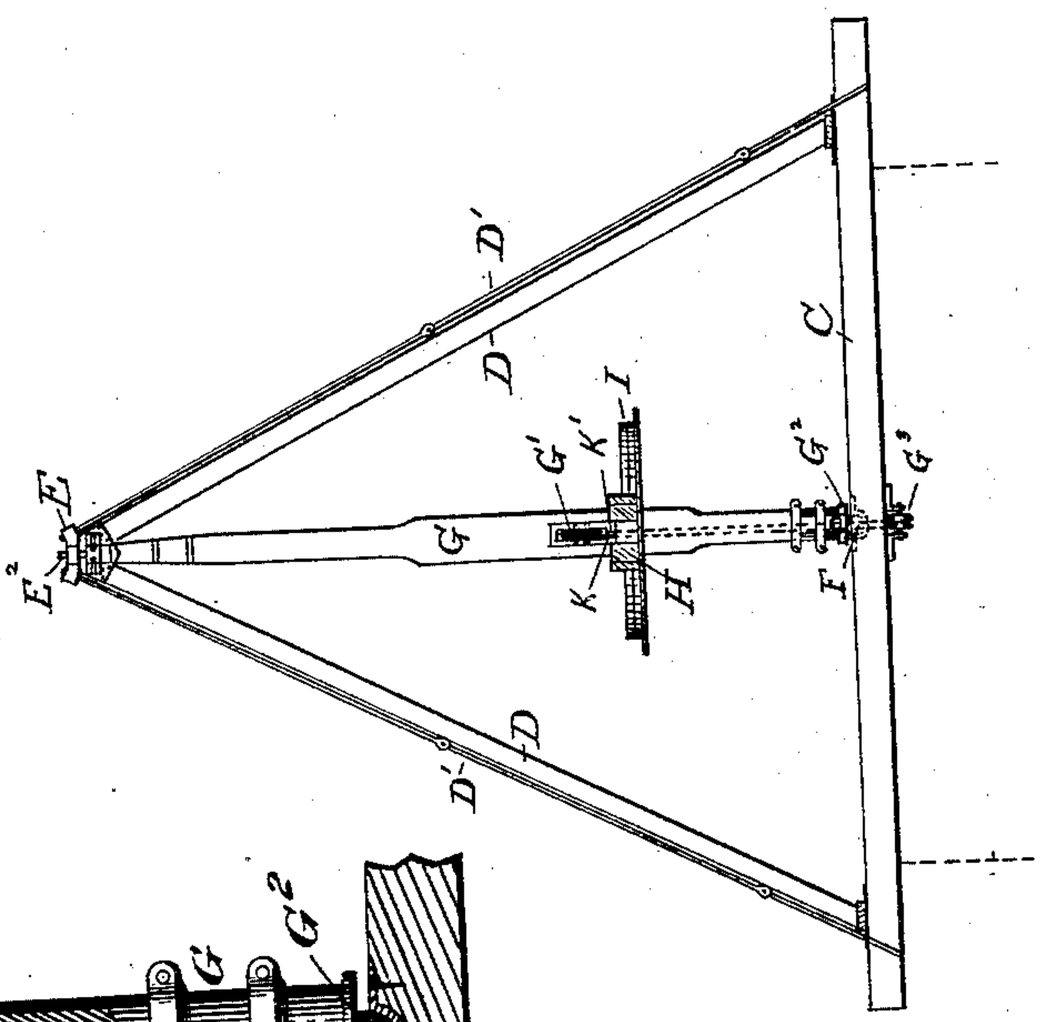
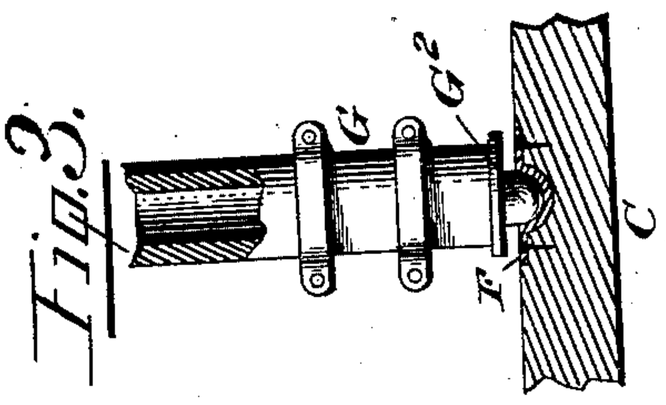


Fig. 3.



Witnesses.
Elihu B. Stowe,
J. Lewis Dennis

Inventor.
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UNITED STATES PATENT OFFICE

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

DERRICK.

SPECIFICATION forming part of Letters Patent No. 418,221, dated December 31, 1889.

Application filed March 28, 1889. Serial No. 305,209. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. PLESS, a citizen of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented certain new and useful Improvements in Derricks; 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 and figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of dredgers which are located upon a floating vessel, and the novelty will be fully understood from the following description and claims, 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 section of the derrick through line X X of Fig. 1. Fig. 3 is an enlarged sectional detail view of the derrick-mast and ball-joint. Fig. 4 is a detached plan view of the derrick, turn-table, and its arms.

A B represents 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 brace *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.

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 *a* 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 arms *c* and to a pulley L. A hoisting-chain K′ is attached at the outer ends of the boom J, passes through the pulley L, over a sheave J^3 in boom J, also over a sheave G′ in the mast G, then extends downward inside of the mast G, over a sheave G^3 at the bottom of the beam G, 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 L′ and upward over the sheave J^3, extends rearwardly and downward over the sheaves 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, both chains may be wound, causing the jaws of the dipper to close and take its load, which having taken place, it is elevated. When the desired elevated position is 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.

What I claim as new and of my invention is—

1. The combination, substantially as described, of the hull A B, the hollow mast G, provided with the ball-joint F G^2 at one end and the gudgeon E^2 at the other, the turn-table I, provided with the jaws H and rope I′, the boom J, attached to the mast G, and the block E, attached to the gudgeon E^2 and provided with the braces D^2 and D^3, D and D′.

2. The combination, substantially as described, of the hull A B, the cross-beam C, the

sheave G^3 beneath the beam C, the sheave G′ in the mast G, the mast G, provided with the turn-table I, with the jaws H, and operating-rope, the gudgeon E^2 at the top of the mast, and the ball-joint F G^2 at its foot, the block E, engaging with the gudgeon E^2 and carrying the supporting-braces, the brace *o*, with its eye E′ engaging with the gudgeon E^2, and the boom J, attached to the jaws J′, attached to the foot of the mast G.

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

WILLIAM B. PLESS.

Witnesses:
JOSHUA B. WEBSTER,
MAY HOLT.