W. P. LEWIS.

PNEUMATIC DREDGING-TUBES.

No. 195,293. Patented Sept. 18, 1877.

Fig. 1.

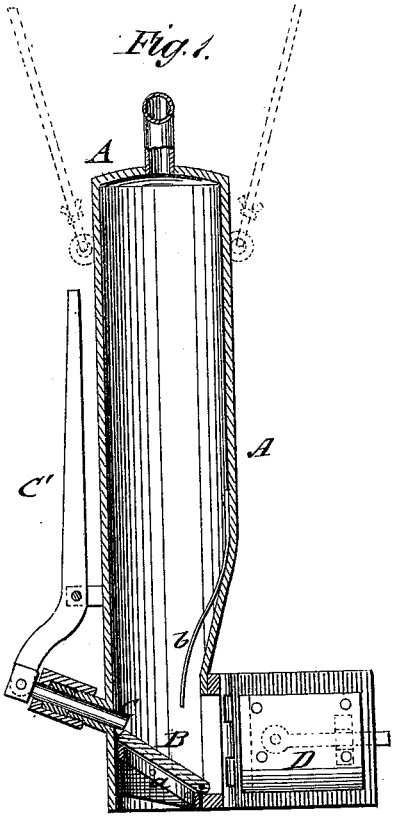
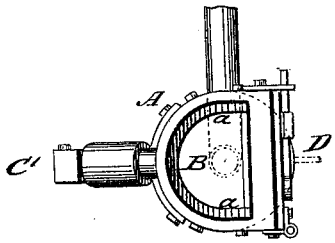


Fig. 2.



WITNESSES:

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BY

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UNITED STATES PATENT OFFICE.

WILLIAM P. LEWIS, OF OROVILLE, CALIFORNIA.

IMPROVEMENT IN PNEUMATIC DREDGING-TUBES.

Specification forming part of Letters Patent No. **195,293**, dated September 18, 1877; application filed June 11, 1877.

To all whom it may concern:

Be it known that I, WILLIAM P. LEWIS, of Oroville, in the county of Butte and State of California, have invented a new and Improved Pneumatic Dredging-Tube, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a vertical central section of my improved pneumatic dredging-tube, and Fig. 2 a bottom view of the same.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved pneumatic tube for dredging, mining, and wrecking purposes, the tube being worked by creating a vacuum and drawing the sand, earth, or other matter into the same; and it consists of a tube lowered by guys or other devices to the bottom of the river or sea, and provided with a hinged inclined bottom valve, locked by a sliding key or bolt, for creating the vacuum by an air-pump, and having a hinged side discharge-valve.

In the drawings, A represents a tube of suitable size, which is connected, by a rubber or other tube at the top, with an air-pump on the vessel or float from which the tube is lowered to the river or other body of water.

The lower end of the tube A is provided with a hinged inclined valve, B, that is fitted by rubber packing, hermetically, to a seat, *a*, and locked rigidly, when the tube has been lowered to the bottom, by a sliding bolt or key, C, which is guided in a stuffing-box and operated by a lever, C′.

A discharge-door, D, is hinged to the side of tube A near the bottom valve, which is inclined toward the discharge-door. The door D is also lined with rubber packing, and locked by a latch until opened for discharging the sand. A spring, *b*, at the inside of the tube A, above the side door D, serves to cushion the bottom valve when the same is opened for drawing in the sand or earth.

After the tube A has been lowered and placed into position on the bottom of the river, the bottom valve being closed, and the air pumped out by the air-pump until a vacuum is created, the key C is then withdrawn by the lever C′, and the sand or earth drawn into the tube until the same is nearly filled. The tube is then raised, and the contents discharged by opening the side door, the inclination of the bottom valve facilitating the discharge. The tube is then lowered again, pumped out, and charged in the same manner, forming an effective and powerful pneumatic apparatus for dredging and other purposes.

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

A pneumatic tube for dredging, mining, and other purposes, consisting of a main tube, A, connected to air-pump, and having inclined bottom valve B, with sliding lock-key and hinged side discharge D, the lock-key being withdrawn after the vacuum is created, to fill the tube by drawing in the sand or other matter, substantially in the manner and for the purpose set forth.

WILLIAM PERRY LEWIS.

Witnesses:

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