

No. 631,168.

Patented Aug. 15, 1899.

F. B. LANGSTON.
MOORING DEVICE.

(Application filed Nov. 16, 1898.)

(No Model.)

FIG. 1.

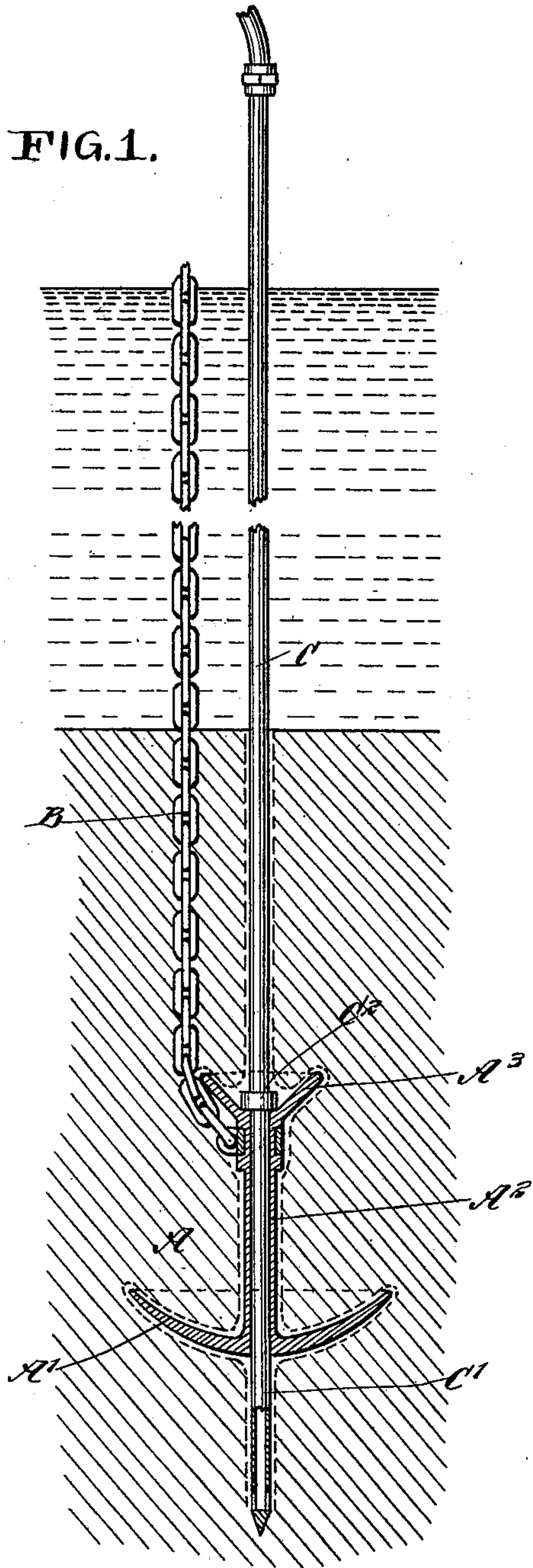
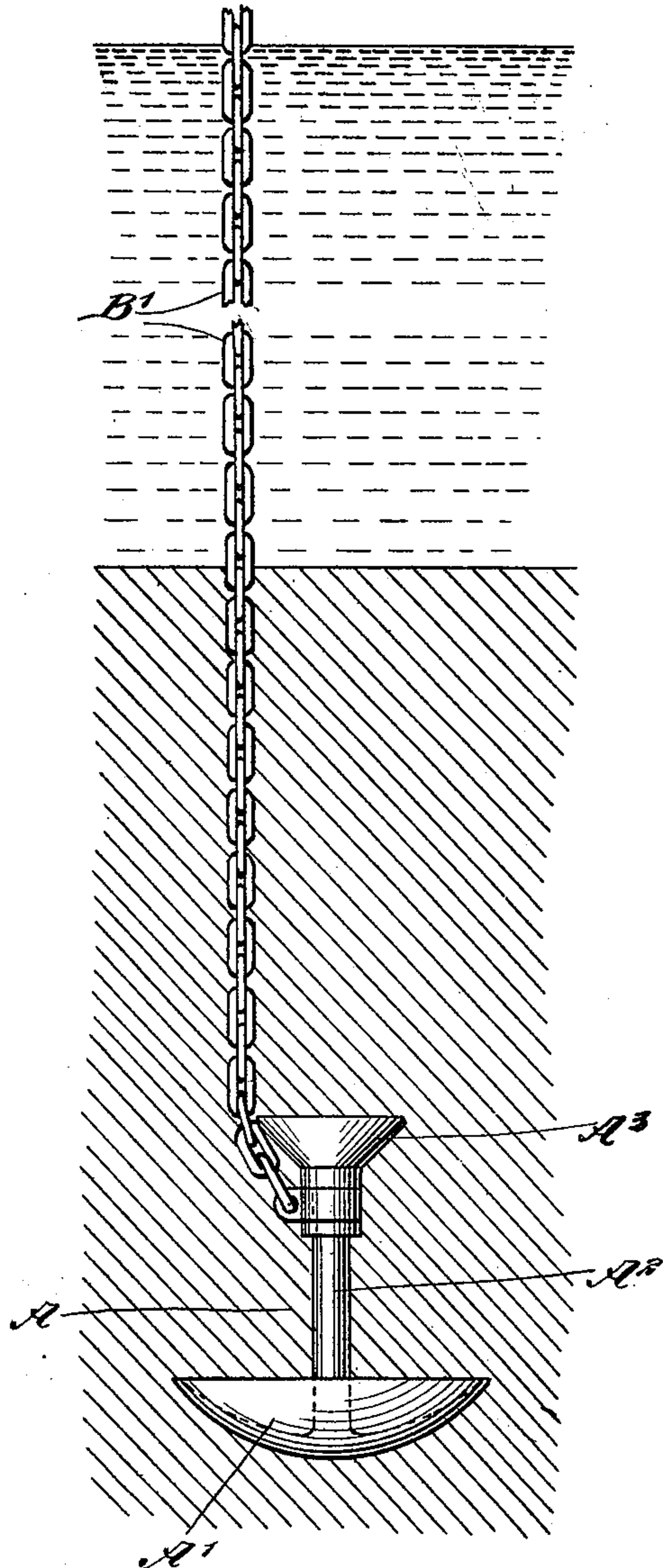


FIG. 2.



WITNESSES:

Donn Twitchell
Rev. J. Foster

INVENTOR
F. B. Langston
BY *Mumford*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FREDERICK B. LANGSTON, OF NEW YORK, N. Y.

MOORING DEVICE.

SPECIFICATION forming part of Letters Patent No. 631,168, dated August 15, 1899.

Application filed November 16, 1898. Serial No. 696,642. (No model.)

To all whom it may concern

Be it known that I, FREDERICK B. LANGSTON, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Mooring Device, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved submarine mooring device designed for securely anchoring or mooring marine vessels, floats, buoys, or the like and arranged to be quickly embedded in the sand or mud to any desired depth to prevent the device from shifting, no matter how heavy a strain is exerted upon it by the moored vessel, buoy, or the like.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a sectional side elevation of the improvement as applied, and Fig. 2 is a side elevation of the same after being lowered to a final position.

The improved mooring device is provided with an anchor A, preferably of the mushroom pattern, having a dished disk A' and a hollow shank A², to the front of which is secured, in any desired manner, one end of a chain B, extending to the marine vessel, float, buoy, or other like article to be moored.

In the hollow shank A² of the anchor A fits the lower end C' of a pipe C, connected at its upper end by a hose with an air-pump, water-pump, or other similar apparatus for forcing a fluid under pressure through the pipe C from a vessel, float, or the like located over the place where the anchor A is to be embedded in the sand or mud. The extreme lower end of the pipe C extends a suitable distance below the bottom of the disk A', so that when the anchor has been lowered upon the bed of the river-bed, stream, or sea, with the pipe inserted in the hollow shank A² of the anchor, then the fluid under pressure issuing at the lower end of the pipe C loosens the sand or mud and causes said sand or mud to pass in an upward direction with the escaping air or

water to allow the anchor A to settle partly by its own weight, but mainly by the operator pressing the pipe C down with the anchor by the action of a collar C², secured on the pipe and seated on the upper end of the shank A².

It will be seen that by the arrangement described the operator located on the buoy or vessel can readily press the pipe C down and wiggle the pipe and anchor to insure a rapid settling of the anchor in the loosened ground or mud. When the anchor has reached a desired depth, the pipe C is withdrawn and the marine vessel, buoy, or the like to be moored and attached to the chain B is not liable to break loose, as the anchor is securely embedded in the sand or mud and is not liable to shift, no matter how much strain is exerted by the marine vessel, buoy, or the like on the chain B and anchor A.

If desired, the extreme upper end of the shank A² is provided with a funnel A³ to form a guide for the lower end of the pipe C when it is desired to relocate the anchor A and to remove the same from the sand or mud in case the marine vessel, buoy, or the like is to be shifted to another place. In this case the operator drives the pipe C into the sand until the extreme lower end of the pipe passes into the funnel A³, which now guides the said pipe to the opening of the shank A² to permit of passing the lower end of the pipe through said shank until the collar C² rests on the upper end of the shank. Air or water is now again forced through the pipe C into the sand, so as to loosen the same both below and above the disk A' of the anchor, as it is evident that the rising air or water in passing through the sand loosens the same around the anchor to permit of gradually drawing the anchor A up by winding or pulling up the chain B.

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

1. A mooring device, comprising an anchor, and a pipe detachably connected with said anchor and extending below the bottom thereof, to permit of forcing a fluid under pressure through the pipe into the sand or mud below the anchor, to loosen the sand or mud, the pipe being provided with means to push the anchor down in the loosened sand or mud, substantially as shown and described.

2. A mooring device, comprising an anchor, a pipe detachably connected with said anchor and extending below the bottom thereof, to permit of forcing a fluid under pressure through the pipe into the sand below the anchor, to loosen the sand, and a collar on said pipe and adapted to be seated on a fixed part of the anchor, to maintain the extreme lower end of the pipe below the bottom of the anchor, and to permit of pushing the anchor down into the loosened sand, substantially as shown and described.

3. A mooring device, comprising an anchor having a hollow shank, a pipe, the lower end of which is fitted into said hollow shank and extends below the bottom of the anchor, and a collar on said pipe and adapted to be seated on the upper end of said shank, to permit of pushing the shank down into the sand by the pipe, substantially as shown and described.

4. A mooring device, comprising an anchor having a hollow shank, a pipe, the lower end of which is fitted into said hollow shank and extends below the bottom of the anchor, a collar on said pipe and adapted to be seated on the upper end of said shank, to permit of

pushing the shank down into the sand by the pipe, and a funnel formed on the upper end of said shank, to act as a guide for inserting the lower end of the pipe in the hollow shank, substantially as shown and described.

5. A mooring-anchor, having a shank with a passage extending through it from end to end, and a fluid-pressure pipe fitted in said passage and having means above the anchor for engaging the anchor to push the anchor downward, the fluid from the pipe being adapted to disturb the earth beneath the anchor, whereby to permit the sinking of the anchor.

6. A mooring device having a mooring-anchor with a shank formed with a passage extending through it from end to end, and a fluid-pressure pipe fitted in said passage and extended below the anchor, the fluid-pressure pipe being adapted to disturb the earth beneath the anchor whereby to permit sinking the anchor.

FREDERICK B. LANGSTON.

Witnesses:

THEO. G. HOSTER,

JNO. M. RITTER.