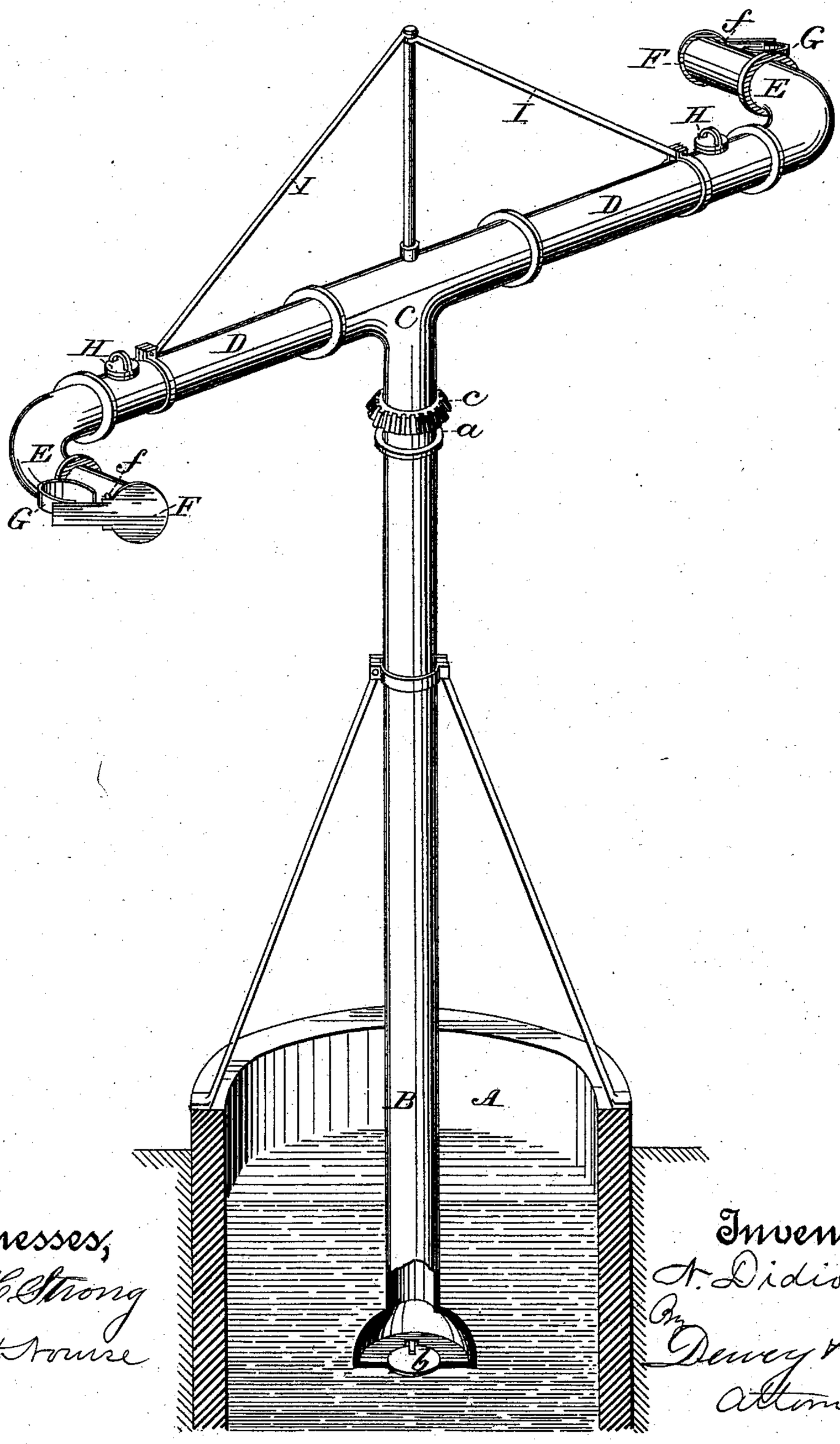
(No Model.)

N. DIDIOT.

CENTRIFUGAL PUMP.

No. 287,508. Patented Oct. 30, 1883.



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NICHOLAS DIDIOT, OF BAKERSFIELD, CALIFORNIA.

CENTRIFUGAL PUMP.

SPECIFICATION forming part of Letters Patent No. 287,508, dated October 30, 1883.

Application filed April 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS DIDIOT, of Bakersfield, county of Kern, State of California, have invented an Improved Centrifugal Pump; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to that class of centrifugal pumps in which rapidly-rotating arms filled with water discharge a portion of their water and draw up more from the water-source with which they are connected; and it consists in the combination, with said arms, of valves adapted to close the ends of oppositely-extended spouts, connected to said arms and the spouts when they are at rest, in order to confine the water, and to open them when revolved to permit its discharge, as will be hereinafter fully explained, reference being made to the accompanying drawing, in which the figure is a view of my centrifugal pump.

A is a well or other water-source.

B is a pipe let down therein, and having its lower end, which is provided with an inwardly-opening clack-valve, *b*, immersed in the water.

C is a T-connection mounted on top of pipe B, on a flange or bearing, *a*, thereon, in such a manner as will enable it to be revolved by means of power transmitted through the bevel-gear *c*.

D D are arms fitted into the T.

E E are spouts extending oppositely from the end of each arm.

F F are valves covering the ends of the spouts. These are pivoted or hinged at *f* on one edge of the spouts, and are held closed when the arms are at rest by means of the bent springs G G.

H H are removable caps covering openings, through which all the parts are filled with water upon starting the pump.

I represents the braces by which the arms are sustained.

The operation of this pump is as follows: The caps H being removed, water is poured in the arms D until their spouts E and the pipe B are all filled. The water will remain in because of the valve *b* at the bottom and the valves F at the ends. Revolution is imparted to the arms, and the centrifugal force of the water therein will be sufficient to press open valves F, and thus escape. The arms and pipe B being air-tight, this escape of the water from the arms will of course suck up more from the well, and thus the operation continues. The water thrown out may be collected in any suitable reservoir.

I am aware that pumps working upon this principle have been heretofore known; but some difficulty has been experienced in keeping in the water which fills all the parts in order to start it. If the ends of the arms are left open, the water will not stay in, and the air being admitted, the pump will not operate. A casing has been made which surrounds the arms and into which they discharge; but, besides the extra cost of such a device, the increased power necessary to turn the arms therein would prove an objection to it. In my pump I accomplish the result by means of the end valves, F F, the springs of which are strong enough to keep them closed against the ordinary pressure of the water when the arms are at rest, but not against its centrifugal force. The arms may be easily and rapidly revolved in the air, and the operation takes place as well as if they were inclosed.

In this pump I have shown the oppositely-extending spouts E E for two purposes—namely, to collect the discharged water within a smaller radius and to assist in the revolution of the arms upon the principle of Barker's Mill; but I could place the valves directly upon the ends of the arms, and the operation of the pump in drawing water would be the same, though it would be scattered more in its discharge.

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

In a centrifugal pump, the suction-pipe B, having a bottom valve, *b*, in combination with the arms D D, mounted upon top of said suction-pipe, means for revolving said arms, the oppositely-extending spouts E E at the ends of the arms, the outwardly-opening hinged valves F F, covering the ends of the spouts, and the springs G G, keeping the valves closed when the arms are at rest and allowing them to open when the arms are revolved, substantially as herein described.

In witness whereof I hereunto set my hand.

NICHOLAS DIDIOT.

Witnesses:
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