(No Model.)

A. BOSCHKE.

HYDRAULIC DIRT CONVEYER.

No. 321,573. Patented July 7, 1885.

Fig. 1.

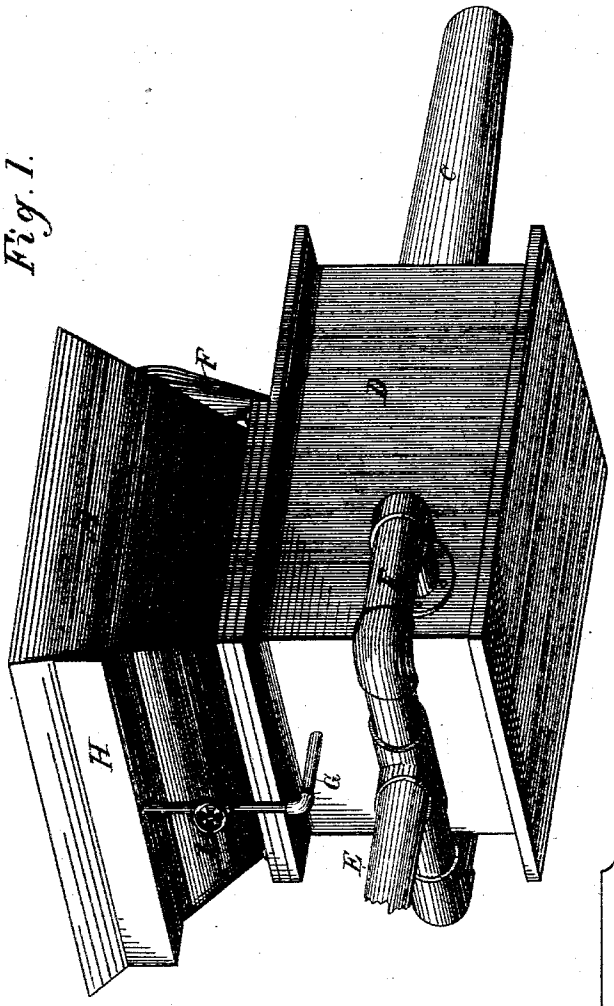
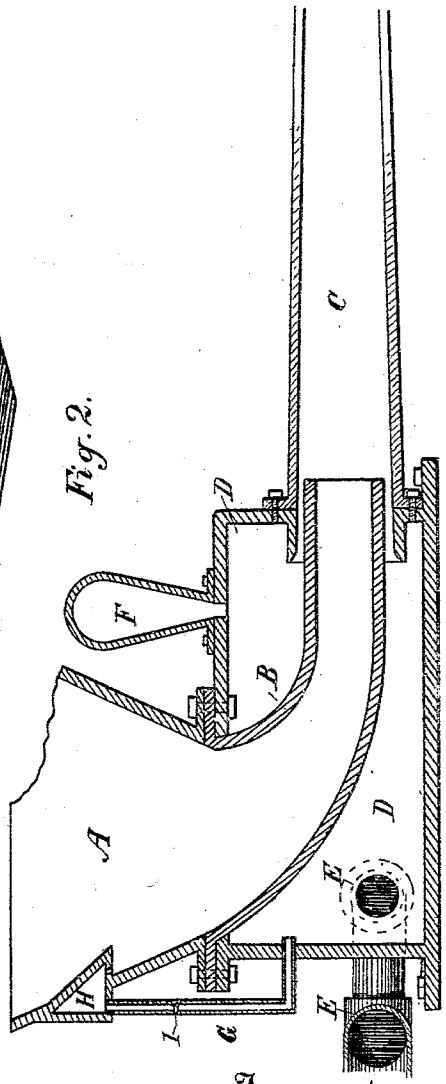


Fig. 2.



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UNITED STATES PATENT OFFICE.

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HYDRAULIC DIRT-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 321,573, dated July 7, 1885.

Application filed April 1, 1885. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BOSCHKE, of San Pedro, Los Angeles county, State of California, have invented an Improvement in Hydraulic Dirt-Conveyers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for conveying earth or other material which has been excavated by a dredger or other mechanical appliance, and which it is desired to carry for considerable distance in pipes.

It consists of a hopper or receiver into which the material is placed, an elbow or pipe connecting with the bottom of the hopper, through which the material may pass, a secondary pipe of larger diameter, into which the end of the first pipe opens, so as to leave an annular space around it, and a casing connected with a pump or means by which the water is supplied and forced out through the annular opening, as will be more fully described by reference to the accompanying drawings, in which—

Figure 1 is a view of my apparatus. Fig. 2 is a vertical section taken through the hopper, pipes, and casing.

A is a hopper or receiver into which earth or material may be discharged, and B is a curved elbow or pipe connected with the bottom of the hopper, and having its discharge end made to enter the conveying-pipe C. This conveying-pipe is of larger diameter than the exterior of the pipe B, and is bolted to a casing or pressure-chamber, D, which may also serve to support the hopper and the elbow. The casing D has one or more pipes, E, opening into it; and connecting it, with a pump or other means for supplying water under considerable pressure, and it may have an air-chamber, F, connected with it. A pipe or pipes, G, extend from the pressure-chamber D to a transverse pipe or chamber, H, fixed at the rear of the hopper A, and small holes or jets are made in the lower side of this chamber, through which water may pass to the interior of the hopper, for the purpose of aiding dry material which may be placed in the hopper to pass freely through the elbow B. A stop-cock, I, in the pipe G regulates and controls the supply of water to the jets.

The operation will then be as follows: Water, being supplied to the casing D under considerable pressure, will pass out through the annular opening *b* around the exterior of the pipe B, and between it and the interior of the pipe C. This produces a hollow cylindrical or cone-shaped stream, and the material or earth which is discharged into the hopper A passes out through the elbow B within this stream of water, by which it is carried along a considerable distance, and finally becomes intermingled and blended with it, so that the material is caused to move easily through the pipe C, and it may thus be discharged at any desired distance from the point where it is received.

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

1. A receiver and a discharge pipe or elbow, in combination with an exterior pipe surrounding its mouth, so as to form an annular space between the two, and a means for discharging an annular stream of water through this space, so as to surround the material which is passing out of the discharge-pipe, substantially as herein described.

2. A receiver having a discharge pipe or elbow, and a second pipe of larger diameter, into which the first one enters, so that an annular space is formed between the two, and a casing or pressure-chamber connecting with this annular space, and having pipes through which water may be brought into it under pressure, substantially as herein described.

3. The receiving-hopper with its discharge-pipes and water-pressure chamber, as shown, in combination with a pipe or chamber having jet-openings into the hopper, and a pipe connecting the same with the pressure-chamber, substantially as herein described.

In witness whereof I have hereunto set my hand.

ALBERT BOSCHKE.

Witnesses:
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