

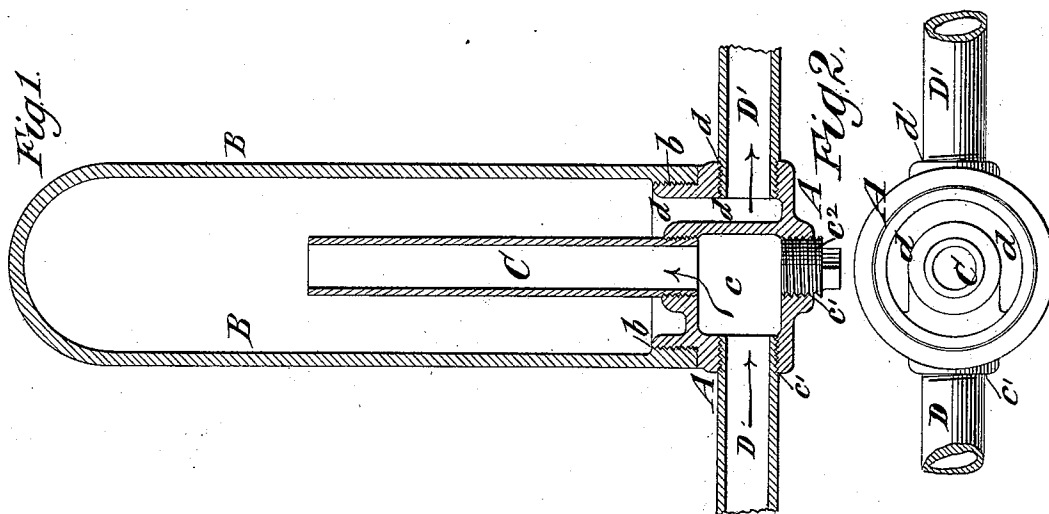
(No Model.)

T. J. RIDER.

AIR CHAMBER FOR PUMPS, &c.

No. 361,649.

Patented Apr. 19, 1887.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS J. RIDER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO CORNELIUS H. DE LAMATER, GEORGE H. ROBINSON, AND WILLIAM DE LAMATER, ALL OF SAME PLACE.

AIR-CHAMBER FOR PUMPS, &c.

SPECIFICATION forming part of Letters Patent No. 361,649, dated April 19, 1887.

Application filed August 14, 1886. Serial No. 210,874. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. RIDER, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Air-Chambers for Pumps and other Purposes, of which the following is a specification.

My invention relates to those air-chambers in which the inlet-passage for water at the bottom of the air-chamber is prolonged upward by means of a pipe extending into the upper part of the air-chamber, while the outlet-passage leading from the air-chamber is at or near the bottom thereof. Such a construction of air-chamber is desirable, because the water is compelled to pass directly upward into the air-chamber, which it sometimes will not do when it flows swiftly past the inlet-opening provided at the bottom of an ordinary air-chamber, and is further desirable because ample opportunity is afforded for the ready separation of air from the water and the air-chamber will be maintained charged with air.

In the accompanying drawings, Figure 1 represents a vertical section of an air-chamber embodying my invention, and which may be either placed upon the end of an upright pipe or placed in a horizontal line of pipe; and Fig. 2 is a plan view of the base portion of such air-chamber.

Similar letters of reference designate corresponding parts in all the figures.

A designates a base piece or portion, which may be of cast metal, and which is surmounted by a body portion, B, constituting the air-chamber proper. The base portion and body portion A B are both represented as made of cast metal, and are united by a screw-threaded joint, *b*; but may be united in any other suitable manner. In this example of my invention the base-piece A in reality constitutes a plug of special construction, which is screwed into the body portion B.

In the base-piece A is an inlet-passage, *c*, from which a pipe, C, extends upward into the air-chamber B to a suitable distance above its bottom, and at the side of the inlet-pas-

sage *c*, and entirely independent thereof, is an outlet-passage, *d*, also constructed in the base-piece, and which, as shown in Fig. 2, may partly surround the inlet-passage *c*. The passages *c d* are both below the point of attachment of the body B to the base portion, and the discharge *d* is in open communication with the body, while the pipe C affords the only communication between the inlet-passage *c* and the body.

I have represented the inlet-passage *c* as constructed with inlet-openings or pipe-sockets *c'* both in its side and bottom, and with either of which a supply-pipe, D, may be connected; and I have also shown the outlet or delivery passage *d* as provided with a similar side-opening or pipe-socket, *d'*, into which is inserted an outlet-pipe, D'.

As shown in the drawings, the air-chamber is designed for use in a horizontal line of pipe, and the pipe portions D D' are both in line, the pipe portion D communicating with the side opening or pipe-socket *c'* of the inlet-passage *c*, and the bottom opening or pipe-socket *c'* being closed by a plug, *c''*.

The water entering through the pipe D flows in the direction of the arrow through the inlet-passage *c*, and upward through the vertical pipe C, being discharged directly into the body B of the air-chamber, and such water passes from the bottom of the air-chamber through the outlet-passage *d* and the pipe D'.

The air-chamber might be used either for pressure purposes or as a vacuum-chamber, communicating with the suction of the pump, and in the latter case the pipe D would lead directly to the water-supply, while the pipe D' would communicate with the suction of the pump.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, in an air-chamber, of the body portion B, a cast-metal base portion, A, screwed into the body portion and having the novel construction herein described, said base portion being formed with cored passages *c d* below the point of attachment of the body portion, and arranged side by side, the pas-

sage *c* serving for the inlet of water and having one or more inlet-openings *c'*, and the passage *d* serving as an outlet-passage and having open communication with the body B and
5 the outlet-opening *d'*, and the pipe C, made separate from the base portion and extending upward from the base portion into the body

portion and forming the sole communication between the inlet-passage *c* and the body portion, substantially as herein described.

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Witnesses:

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