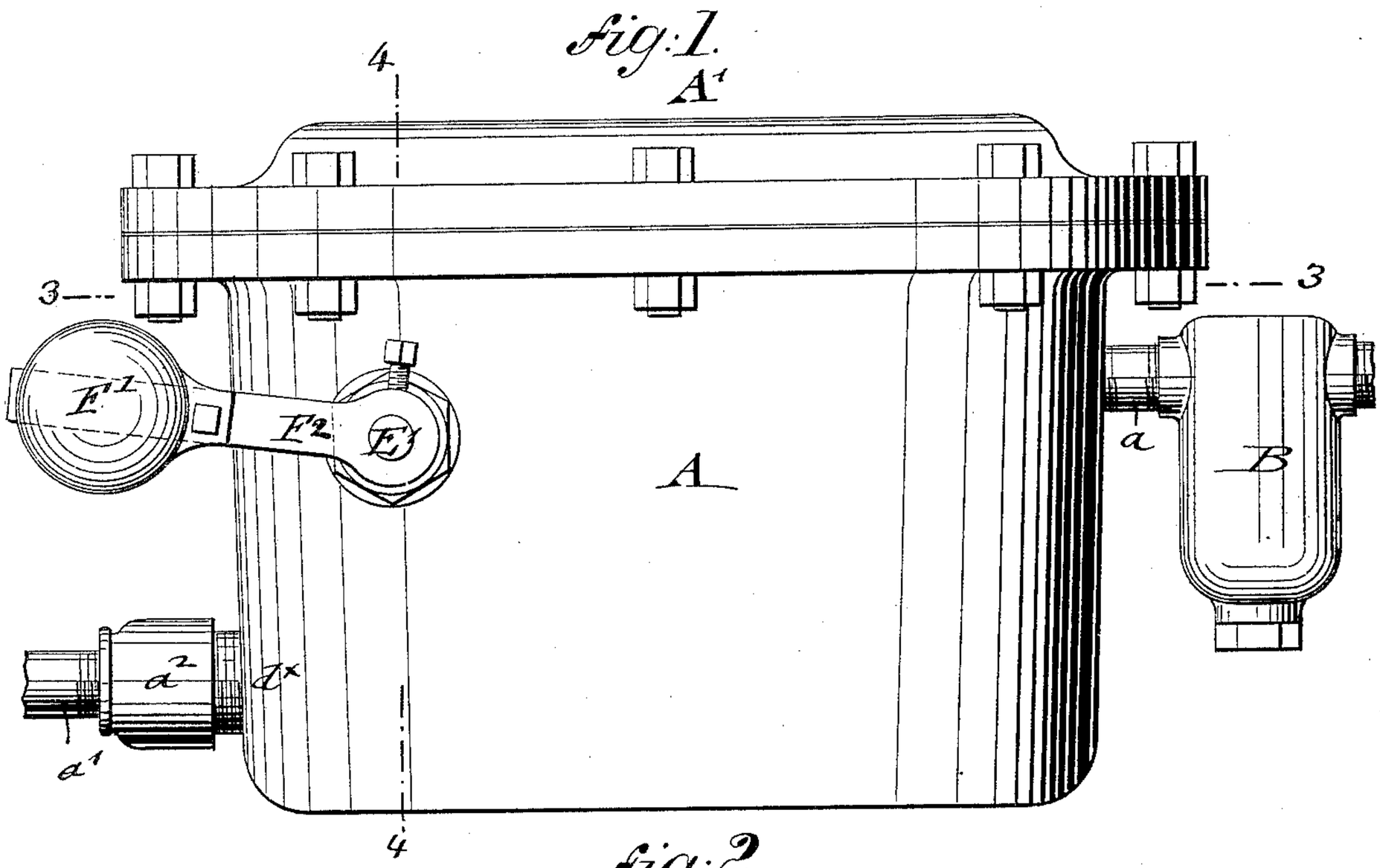
(No Model.) 2 Sheets—Sheet 1.

L. HUSSEY & E. McCANN.

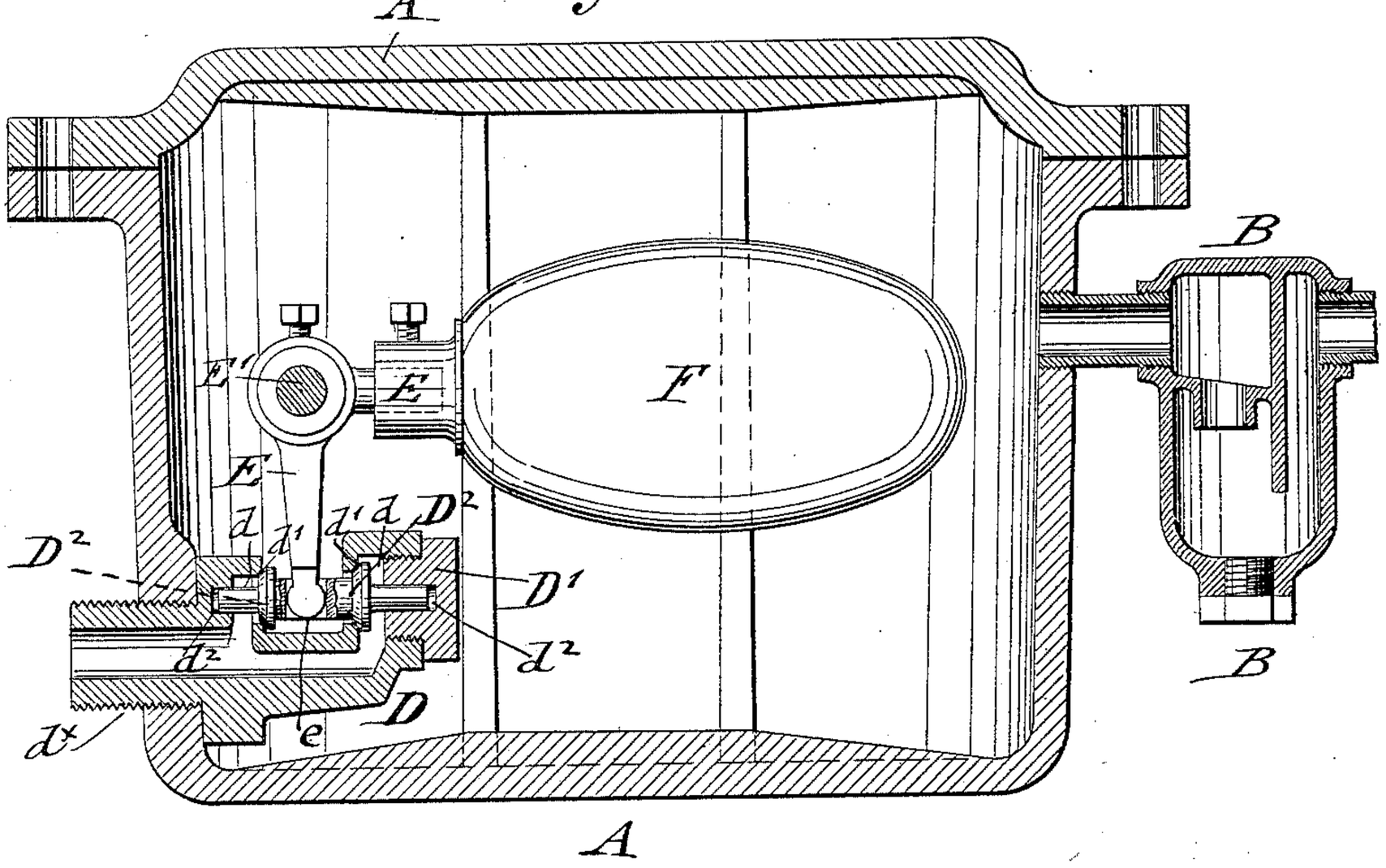
STEAM TRAP.

No. 462,798. Patented Nov. 10, 1891.

Fig. 1.



A1 Fig. 2.



WITNESSES:
A. Schehl.
Martin Petry

INVENTORS
Levi Hussey and
BY Edward McCann
Goepel & Raegener
ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

L. HUSSEY & E. McCANN.

STEAM TRAP.

No. 462,798. Patented Nov. 10, 1891.

Fig. 3.

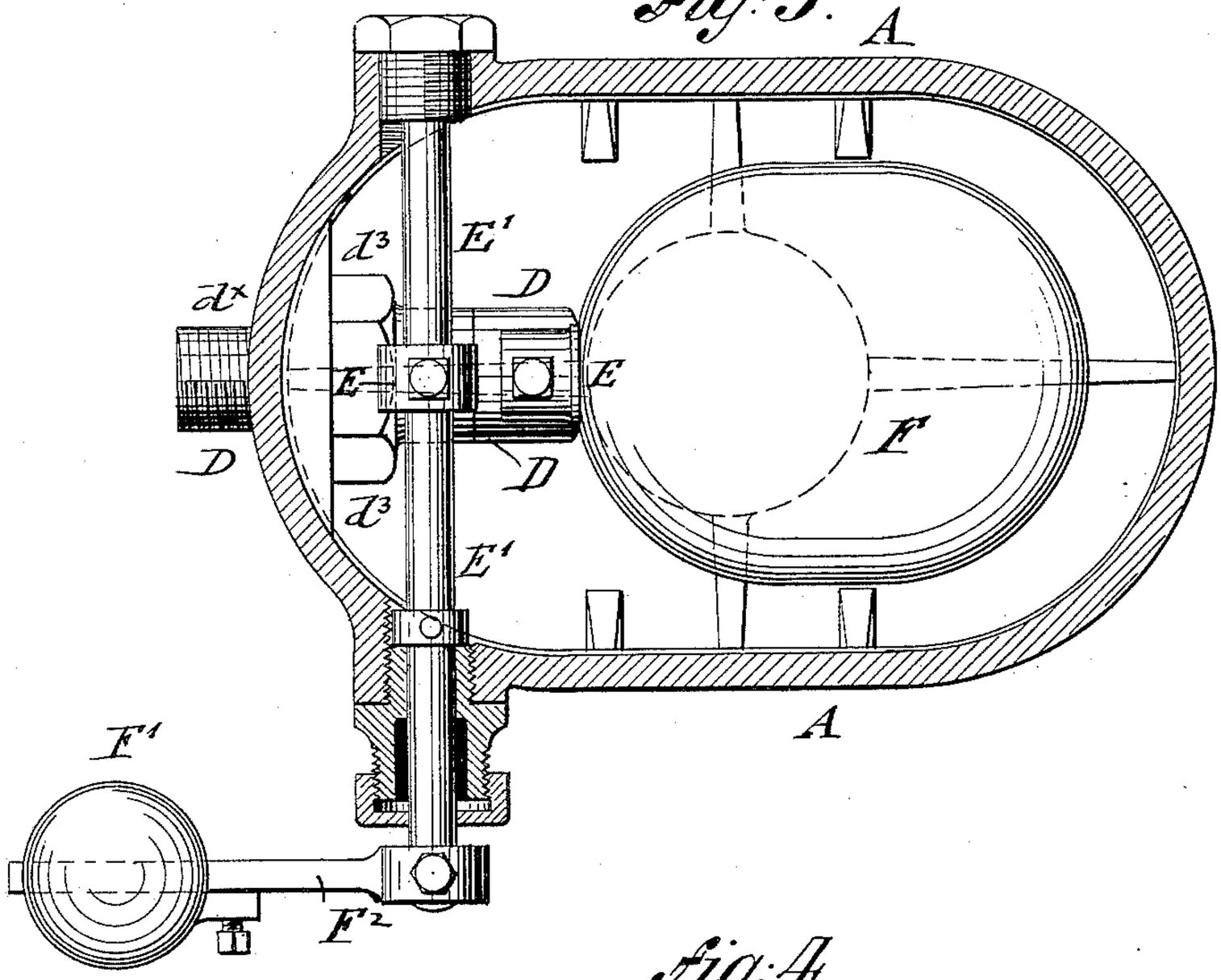
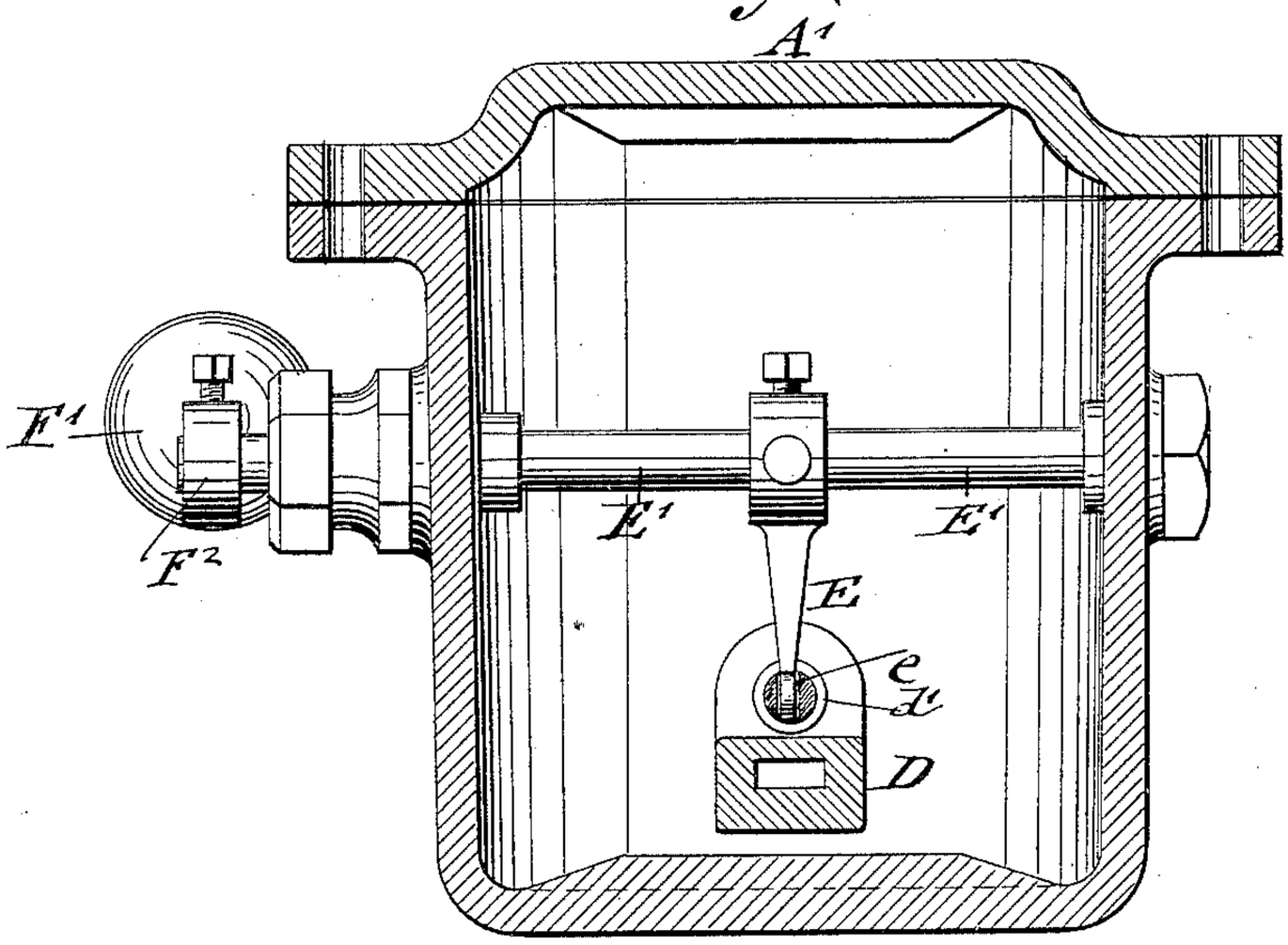


Fig. 4.



WITNESSES:
A. Schehl
Martin Petry.

INVENTORS
Levi Hussey
and Edward McCann
BY
Howson & Sayegner
ATTORNEYS.

UNITED STATES PATENT OFFICE.

LEVI HUSSEY AND EDWARD McCANN, OF NEW YORK, N. Y.

STEAM-TRAP.

SPECIFICATION forming part of Letters Patent No. 462,798, dated November 10, 1891.

Application filed October 8, 1890. Serial No. 367,396. (No model.)

To all whom it may concern:

Be it known that we, LEVI HUSSEY and EDWARD MCCANN, both of the city, county, and State of New York, citizens of the United States, have invented certain new and useful Improvements in Steam-Traps, of which the following is a specification.

This invention has reference to an improved steam-trap, in which the water of condensation from steam-pipes and other steam-vessels is readily collected and intermittently discharged; and the invention consists of a steam-trap which comprises an exterior casing or pot having a supply-pipe for the water of condensation, and a double discharge-valve, the stem of which is engaged by the downwardly-extending arm of a fulcrumed elbow-lever, to the upper arm of which a fulcrumed float is attached. The double valve is guided in a bracket-shaped valve-casing that communicates with the discharge-pipe of the pot and that is provided with two vertical ports, which are opened or closed by the lateral motion of the double valve as produced by the float, according to the rise and fall of the water in the trap.

In the accompanying drawings, Figure 1 represents a side elevation of our improved steam-trap. Fig. 2 is a vertical longitudinal section of the same; and Figs. 3 and 4 are respectively a horizontal section on the line 3 3, Fig. 1, and a vertical transverse section on the line 4 4, Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the exterior casing or pot of our improved steam-trap, and A′ the cover of the pot. At one end of the pot A is arranged the inlet-pipe *a*, to which a sediment-chamber B of any improved construction is applied, in which any impurities carried along by the water of condensation are collected, so that they do not pass to the interior of the pot. The pot A is provided at the inside with re-enforcing ribs, which serve as guides for a float C in the pot, so as to prevent the lateral motion of the same. At the lower part of the pot A is arranged the outlet-pipe *a*′, which is attached by a coupling a^2 to the threaded outer end $d^\times$ of a bracket-shaped valve-casing D, that is screwed into the wall of the pot and provided with two vertical ports *d* and valve-seats *d*′. In line with the center of the ports *d* and valve-seats are arranged guide-holes d^2, respectively in the valve-casing D and in the closing-plug D′ at the inner end of the same, said holes d^2 serving to guide the stem of the double valve D^2. The beveled valve-disks of the valve D^2 fit accurately on the valve-seats *d*′, so as to close the ports *d d*. The stem of the valve D^2 is provided between the valve-disks with a longitudinal recess *e*, that is engaged by the rounded-off end of the lower arm of an elbow-lever E, that is attached to a transverse spindle E′, which is supported in suitable bearings of the side walls of the casing or pot A. To the upper arm of the elbow-lever E is applied a float F, which is balanced by a weight F′, applied to an arm F^2 at the outer end of the spindle E′, as shown in Fig. 1. Both vertical discharge-ports *d*′ of the valve-casing D are connected with the horizontal part of the same and with the outlet-pipe, so that when the water of condensation is gradually filling the interior of the pot A the float is raised and thereby both valves opened simultaneously, so that an immediate discharge of the water of condensation through both ports takes place.

The bracket-shaped valve-casing D is provided with an octagonal boss d^3 next to its threaded end, so that it can be readily taken hold of by the wrench when screwing it into the pot or for removing the same. The plug or cap D′, that screws into the opposite end of the valve-casing D, can also be readily removed by means of a wrench, so that the double valve D^2 can be readily removed for repairing the same. By the arrangement of two vertical ports the valve-disks do not obstruct the free exit of the water, so that sediments and scales may pass out freely with the water of condensation. By arranging two valve-disks and balancing the float the valve is rendered very sensitive and is easily operated under high pressure. The opening or closing of the vertical ports is readily obtained, and thereby the full area of the main discharge-pipe available for the outflow of the water of condensation by a very small movement of the valve, which is relia-

bly governed by the differences in the levels of the water of condensation in the pot and the action of the balanced float on the valve.

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

The combination of a casing, an inlet-pipe near the top thereof, a shaft extending through said casing, an elbow-lever on said shaft within said casing, a balanced weight on said shaft, a float attached to one end of said elbow-lever, a bracket-shaped valve-casing screwed into the lower part of said casing and provided with a horizontal outlet-channel and with two vertical ports having valve-seats on their inner faces and sockets in their outer faces, and a valve-spindle adapted to slide in said sockets and provided with valves adapted to rest on said valve-seats, said spindle being connected with the other arm of said elbow-lever, substantially as described.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

LEVI HUSSEY.
EDWARD McCANN.

Witnesses:
W. REIMHERR,
PAUL GOEPEL.