

No. 763,326.

PATENTED JUNE 21, 1904.

J. ROCHE.
FILTERING BOAT.

APPLICATION FILED OCT. 19, 1903.

NO MODEL.

Fig. I.

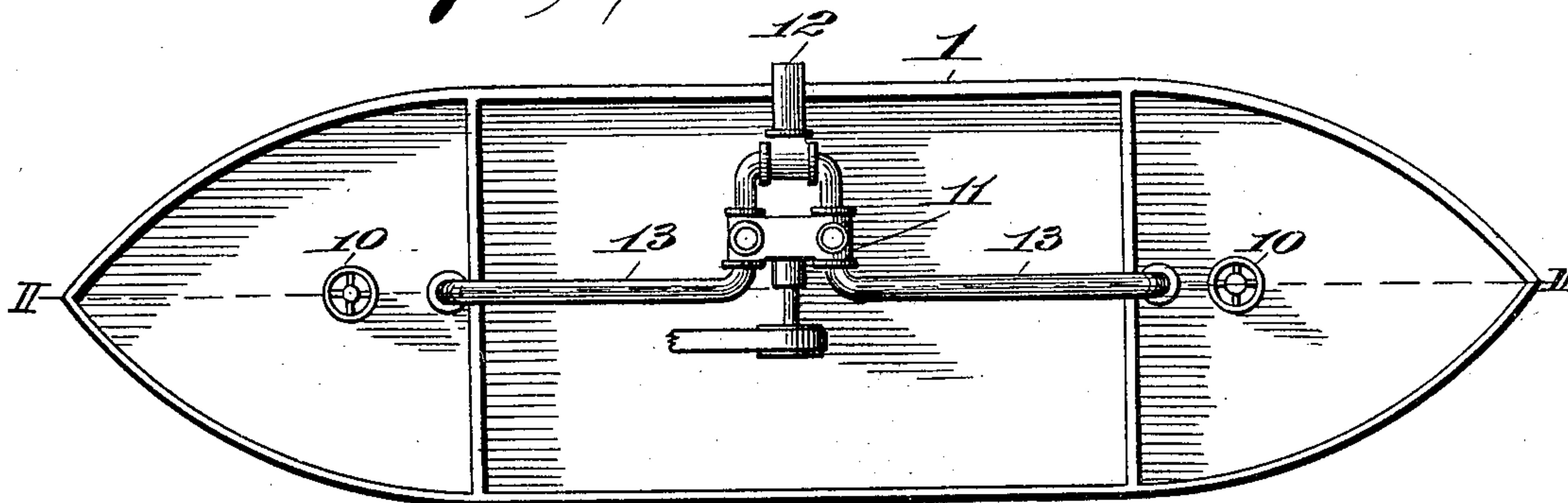


Fig. II.

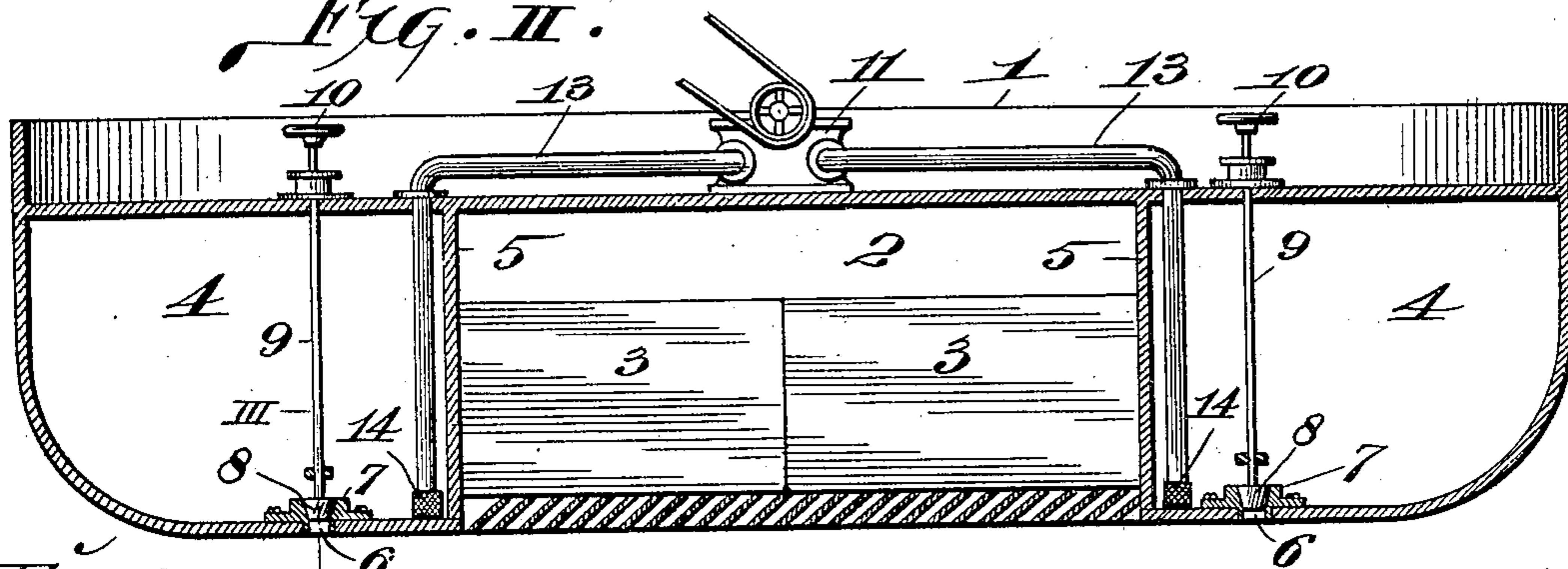


Fig. III.

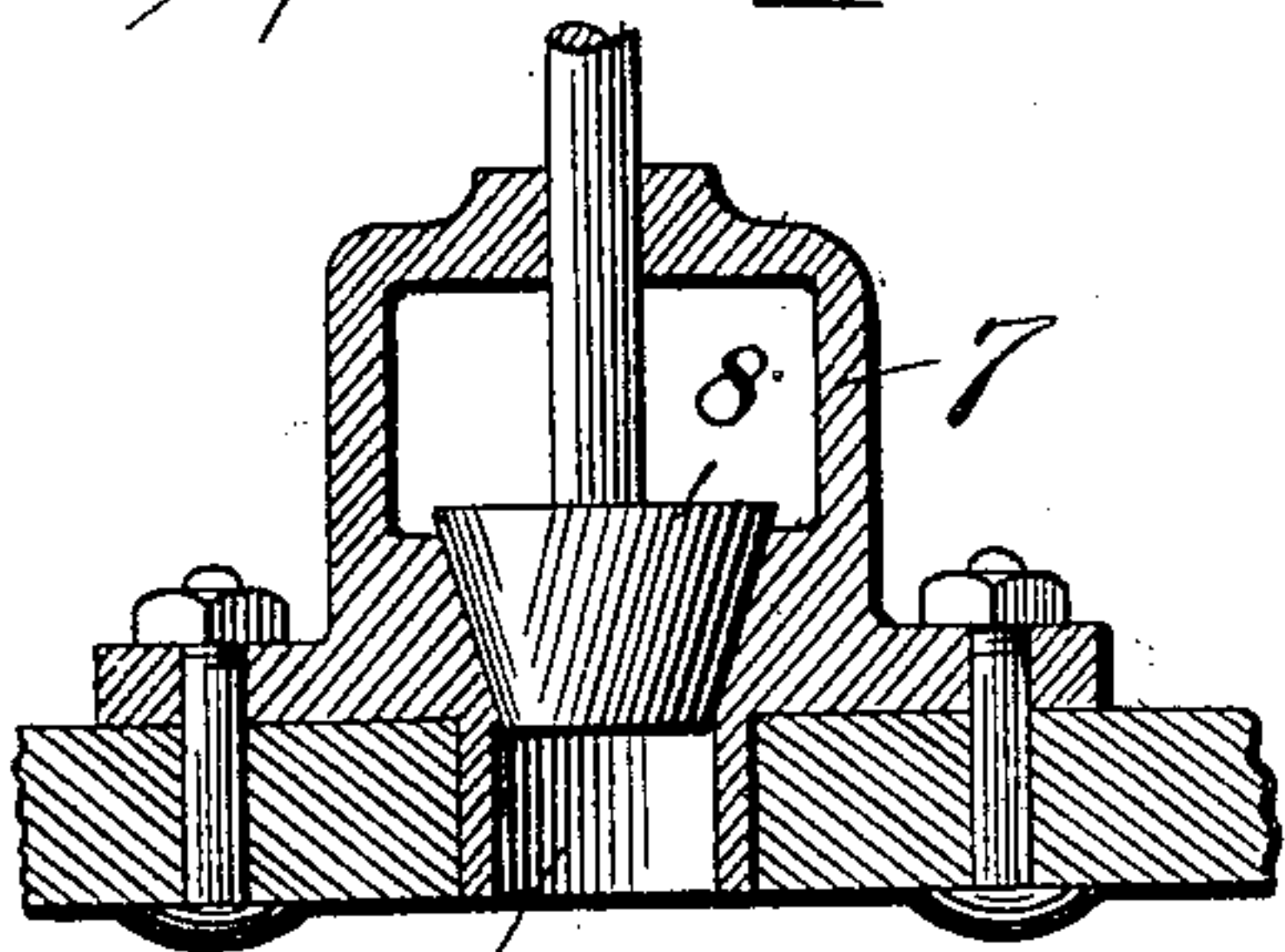


Fig. IV.

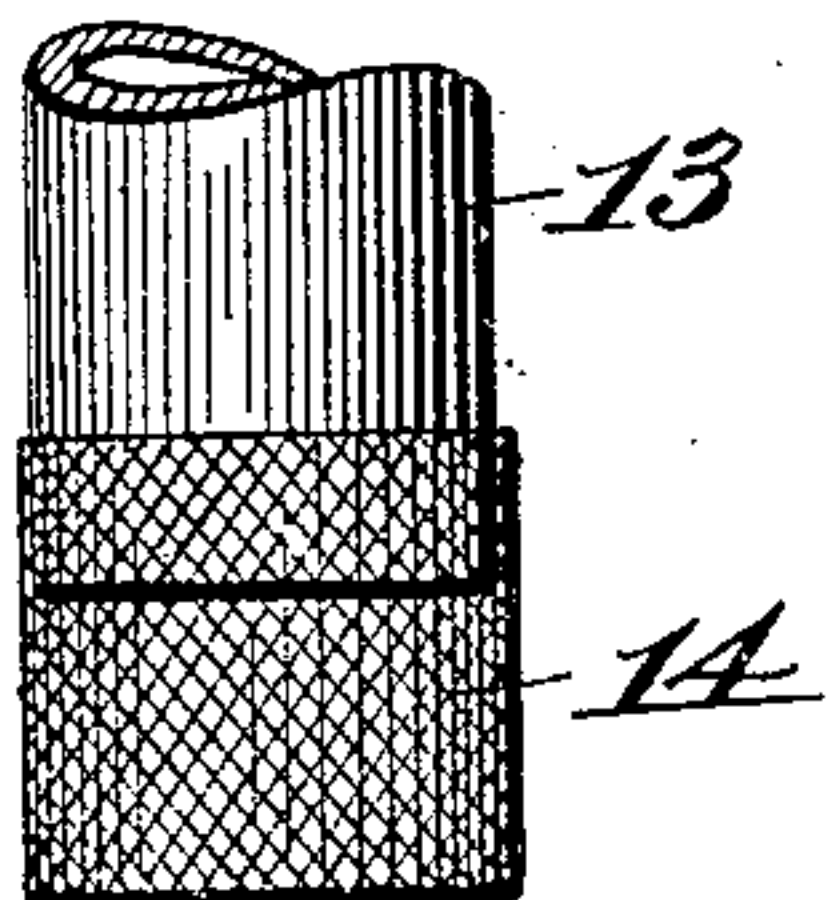
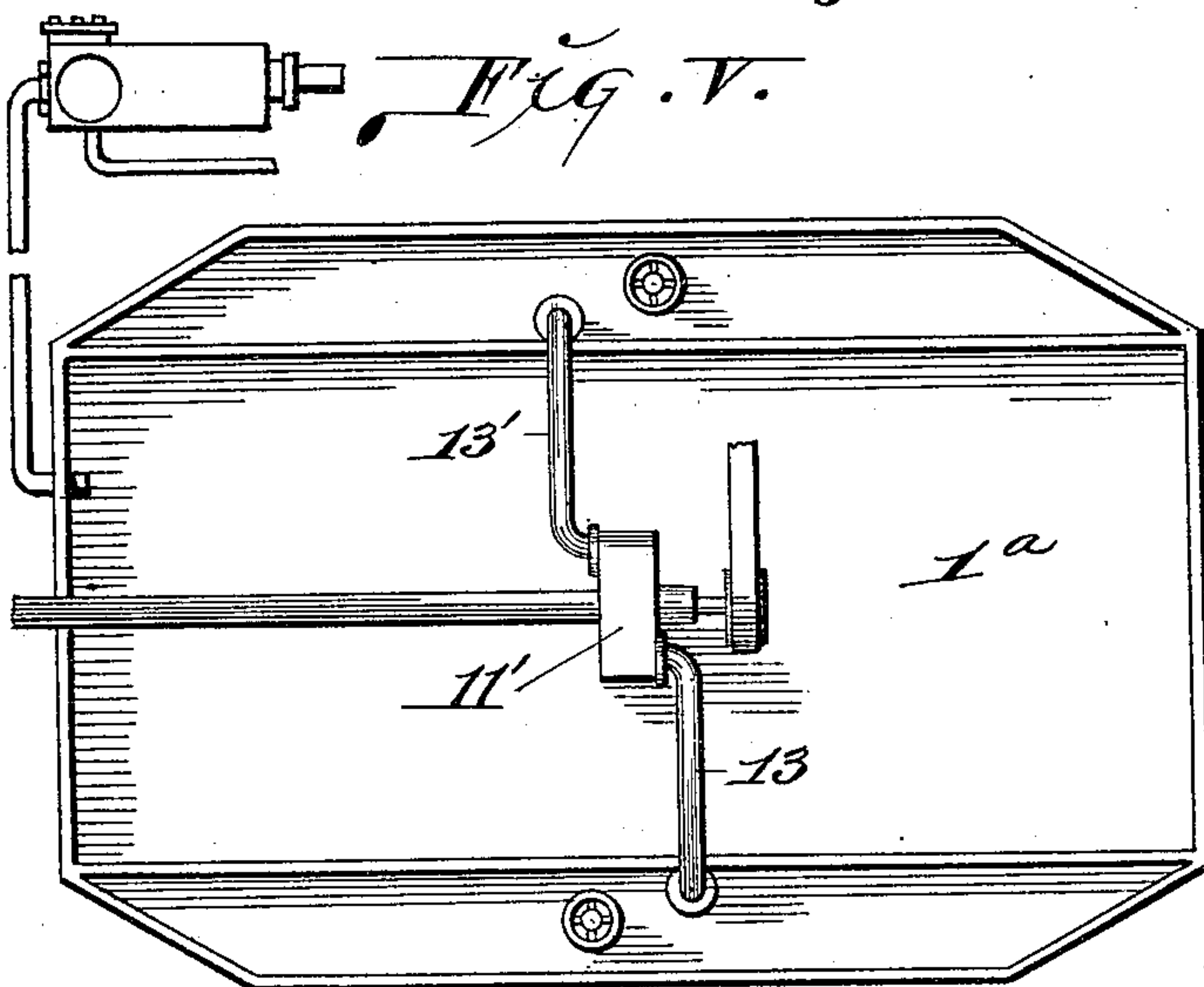


Fig. V.



Attest: —
M. Smith,
A. V. Alexander

Inventor: —
John Roche.
By *Knight Bros.*
Atty's.

UNITED STATES PATENT OFFICE.

JOHN ROCHE, OF MONETT, MISSOURI, ASSIGNOR OF THREE-FIFTHS TO
GEORGE A. HANCOCK, OF SPRINGFIELD, MISSOURI, AND ERNEST L.
THESIERES, OF ST. LOUIS, MISSOURI.

FILTERING-BOAT.

SPECIFICATION forming part of Letters Patent No. 763,326, dated June 21, 1904.

Application filed October 19, 1903. Serial No. 177,617. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROCHE, a citizen of the United States, residing in Monett, in the county of Barry and State of Missouri, have
5 invented certain new and useful Improvements in Filtering-Boats, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to a floating filtering-boat, and has for its object to provide for the raising and lowering of the boat in order that it may be elevated whenever necessary to cleanse the filtering medium therein or for re-
15 pairs and thereafter lowered and partly submerged in the water during the filtering service for which the boat is primarily intended.

The present improvement relates to the same character of filters as that shown and described
20 in my application for patent filed September 4, 1903, under Serial No. 171,901.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

25 Figure I is a top or plan view of my filter-boat. Fig. II is a longitudinal vertical section taken on line II II, Fig. I. Fig. III is an enlarged vertical section taken on line III III, Fig. II, through one of the inlet-valves
30 that control the inlets to the water-compartments of the boat. Fig. IV is a view illustrating the lower end of one of the pump-pipes through which the water is removed from the water-compartment. Fig. V is a top
35 or plan view of a modified form of my boat.

1 designates my filter-boat, which is provided with a central filter-chamber 2, that contains boxes 3, in which filtering medium is located and through which the water to be fil-
40 tered percolates to enter the chamber 2 in a filtered and clarified condition. The water after filtration and clarification is drawn from said chamber in any desirable manner.

At each end of the boat 1 is a water-compartment 4, that is situated between the hull-walls
45 of the boat and transverse partitions 5. These compartments are designed to receive water from the body of water surrounding the boat

1 through inlet-orifices 6 in the bottom of the boat's hull. The inlet-orifices are surmounted
50 by valve-housings 7.

8 designates valves that control the inlet-orifices and are carried by valve-rods 9, which extend upwardly to the top of the boat and are equipped with hand-wheels 10, by which the
55 valves may be unseated or seated in the housings 7 to open a passage-way through the inlet-orifices to the water-compartments or to close said orifices.

11 designates a pump having a nozzle 12 and
60 mounted on the boat 1.

13 designates suction-pipes leading from the pump 11 into the water-compartments 4 and terminating near the bottoms of said compartments. Each of these pipes is furnished at its
65 termination with a strainer 14.

In the practical use of my filter-boat when it is desired to perform filtration and clarification of water through the filtering medium in the boat the boat is lowered in the body of water
70 in which it is present by simply unseating the valves 8 to permit the ingress of water through the inlet-orifices 6 to the water-compartments 4, thereby filling said compartments and adding the weight of the water therein to the
75 weight of the boat, and thereby causing the boat to descend the desired distance in the water. The valves 8 may then be closed and the water retained in the compartments 4 during the filtering action in the boat. When
80 the boat is to be elevated for any reason the pump 11 is placed in operation and the water in the compartments 4 is withdrawn therefrom through the suction-pipes 13 and discharged
85 through the nozzle 12, thereby lightening the boat, so that it will rise in the water of its own accord by reason of increased buoyancy, therefore rendering it possible to gain access to all parts of the boat that were previously sub-
90 merged in water during the filtering operation.

In Fig. V, I have shown a modification in which the water-compartments are located at the sides of the hull of the boat instead of at the ends thereof, it being obvious that such change in the location of the compartments
95 may be made without departing from the spirit

of my invention. In this construction the suction-pipes 13' of the pump 11' lead into the side water-compartments in the same manner as that explained in connection with the end
5 water-compartments, and the utility of the construction is in all respects identical with that hereinbefore described.

I claim as my invention—

1. The combination with the floating filter;
10 of means for varying the buoyancy of same.

2. In a floating filter, the combination with the boat, and the filter in said boat, said filter being in communication with the water surrounding the boat, of water-compartments in
15 said boat, means for withdrawing water therefrom, and means for controlling the supply of water to said compartments.

3. In a floating filter, the combination with the boat, and the filter contained therein, said
20 filter being in communication with the water surrounding the boat, of a water-compartment in said boat, an orifice in said compart-

ment for admitting water thereto from the water surrounding the boat, means for withdrawing the filtered water, and a valve controlling the entrance of water thereto. 25

4. In a floating filter, the combination with the boat, and the filter contained therein, said filter being in communication with the water surrounding the boat, of a water-compart- 30 ment in said boat, means for withdrawing water from said compartment, an orifice in the bottom of said compartment for admitting water thereto from the water surrounding the boat, a valve in said orifice, and means controlling said valve. 35

5. A floating filter provided with water-compartments isolated therefrom, and means for regulating the volume of water in said compartments.

JOHN ROCHE.

In presence of—

NELLIE V. ALEXANDER,
BLANCHE HOGAN.