

No. 685,040.

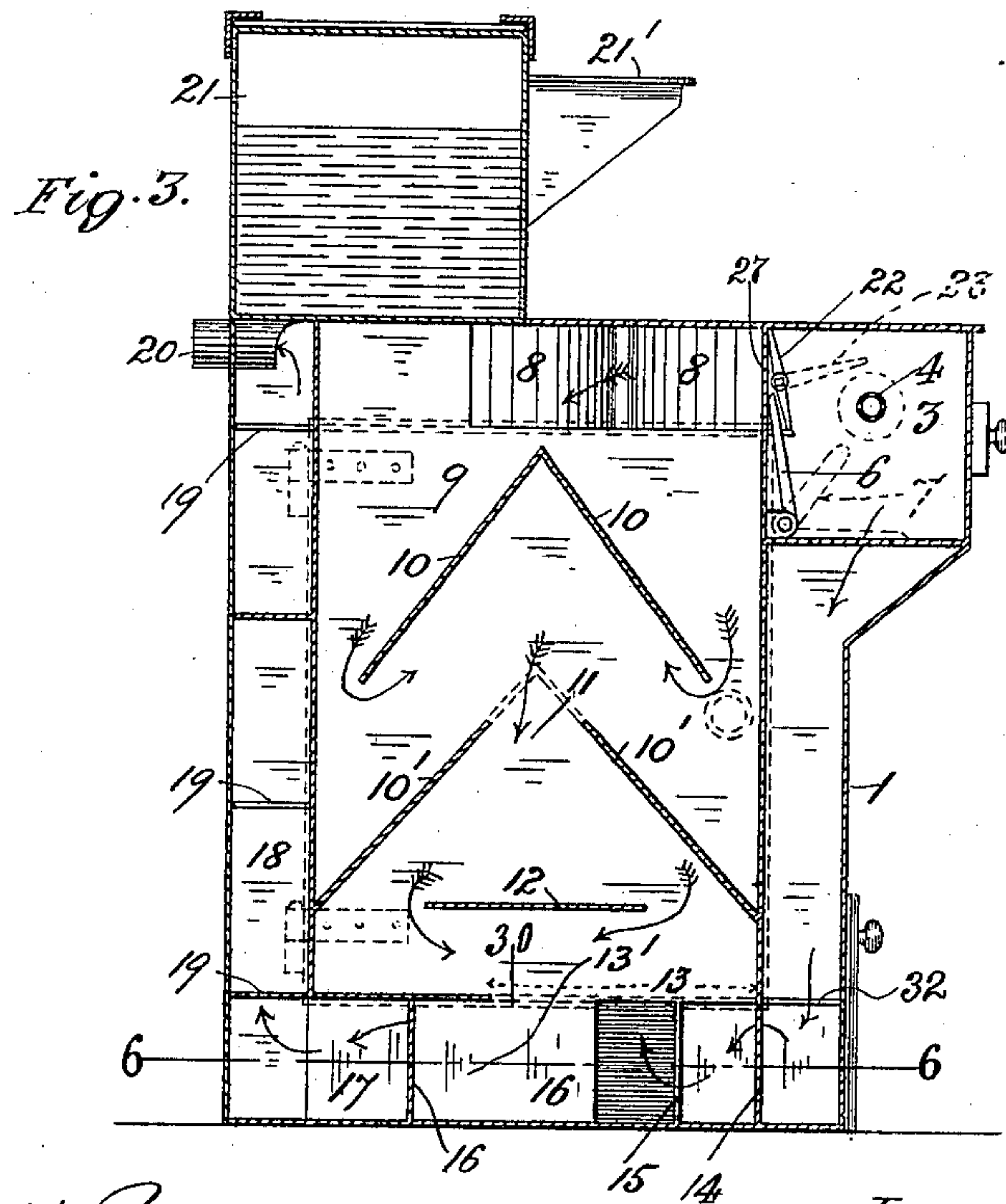
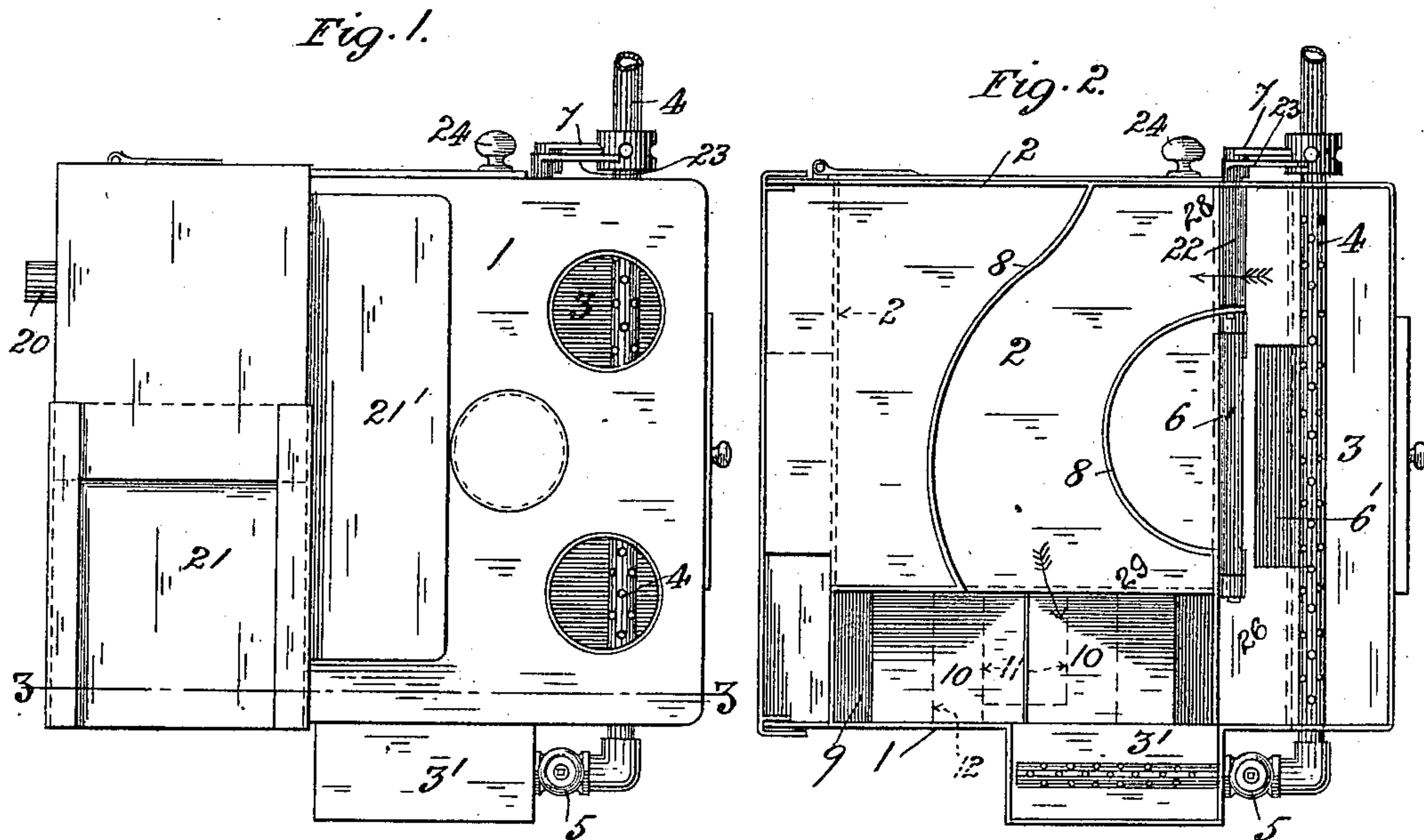
Patented Oct. 22, 1901.

J. GARY.
STOVE.

(Application filed Dec. 17, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 4.

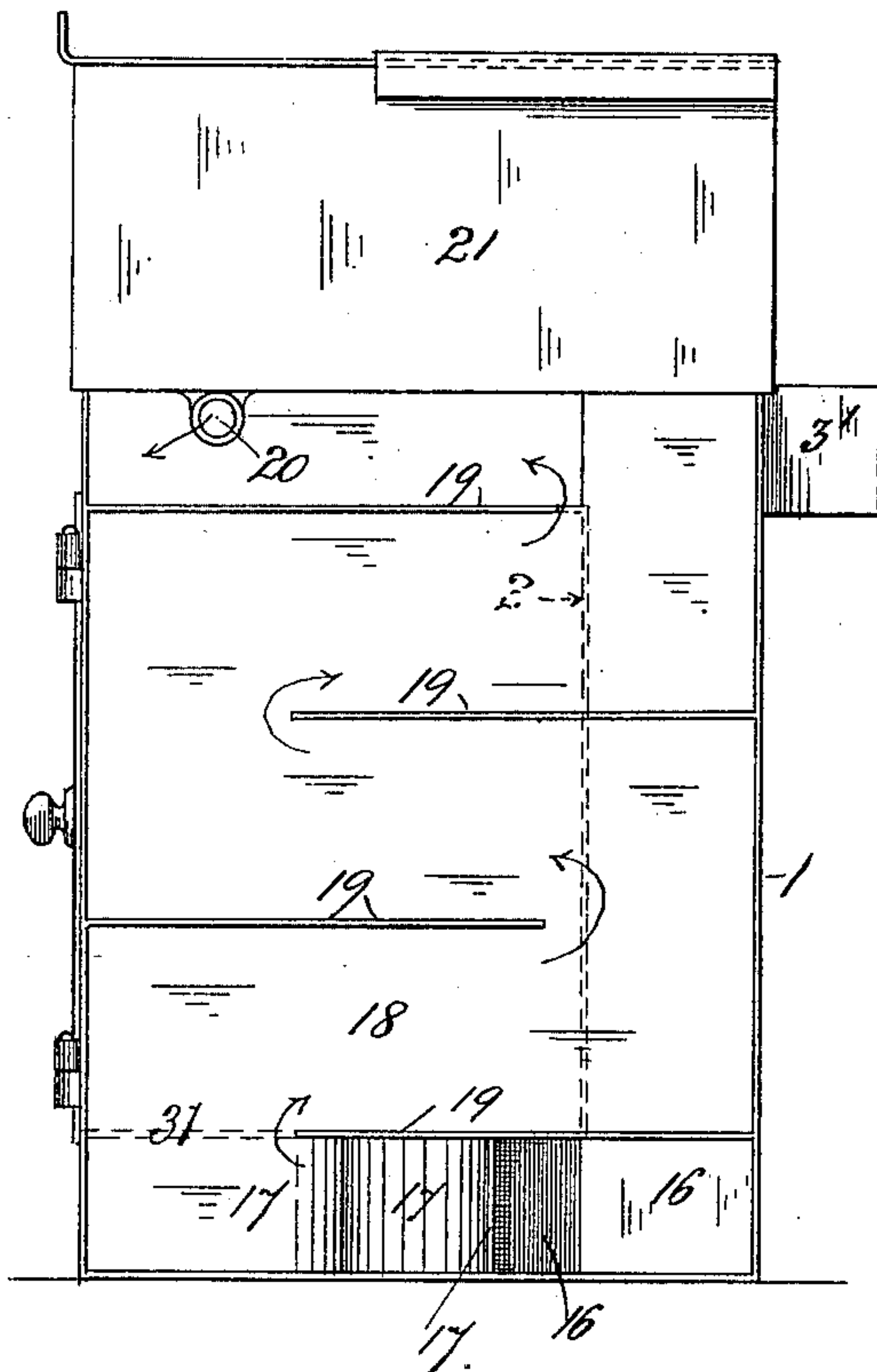


Fig. 5.

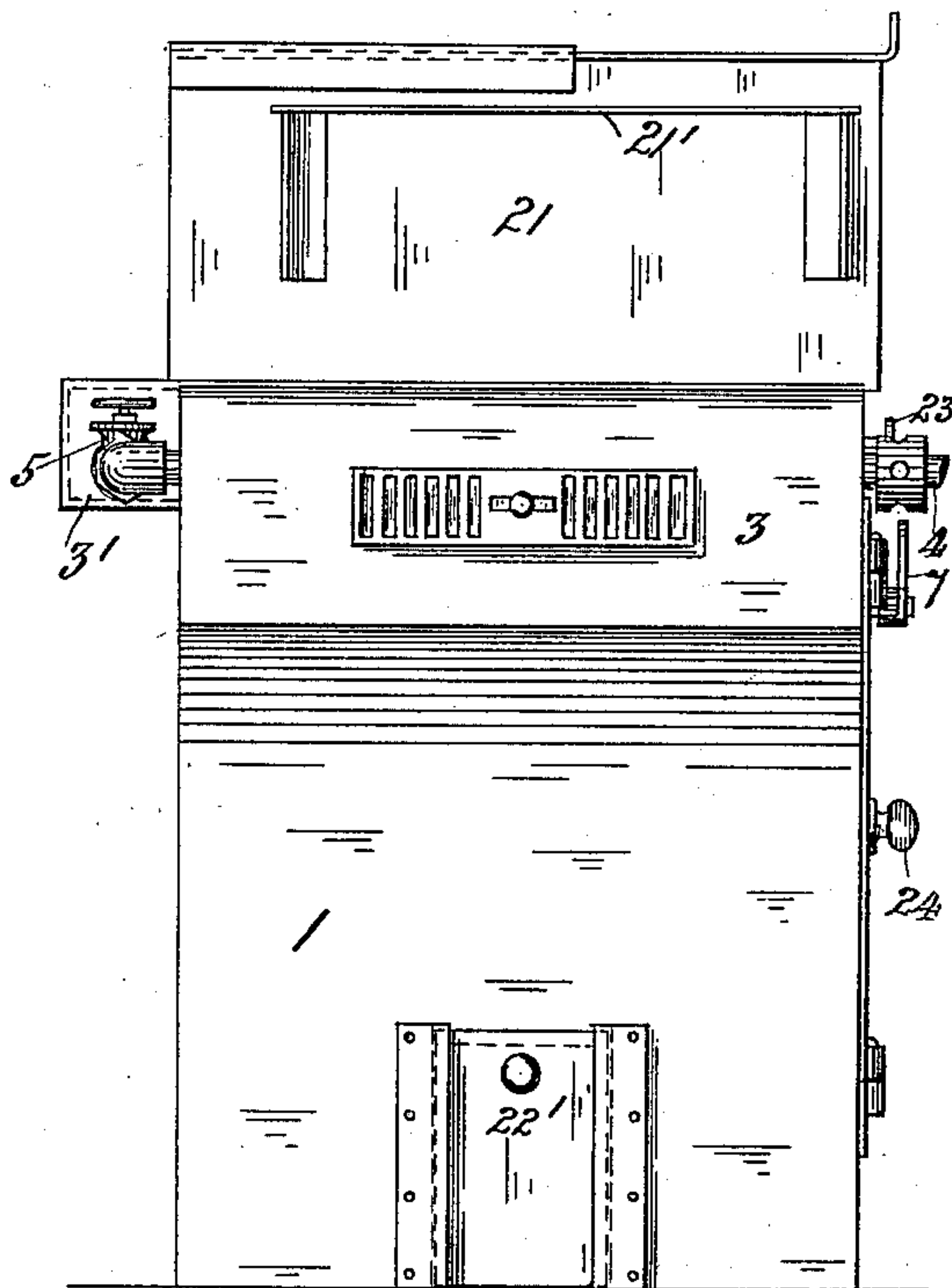
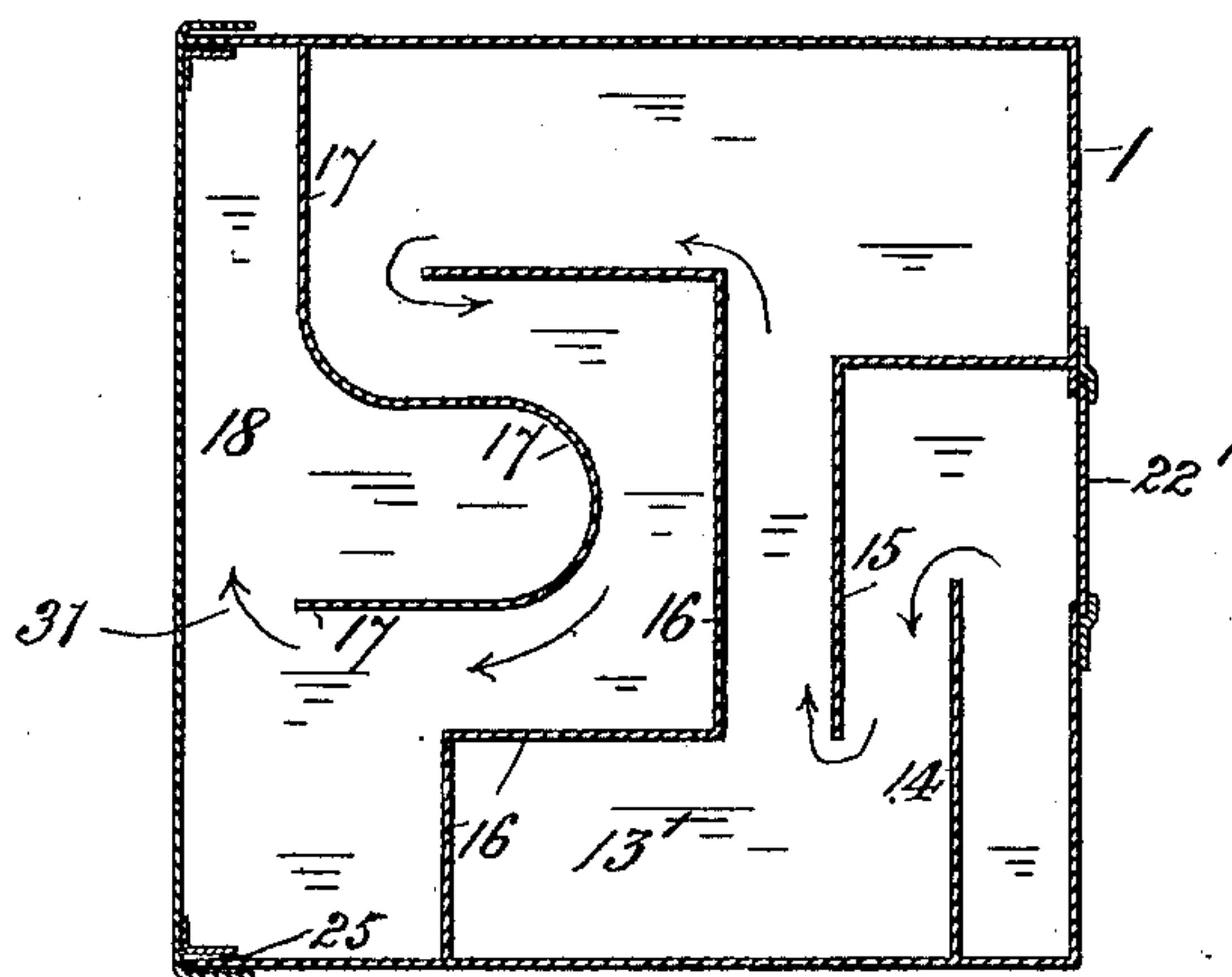


Fig. 6.



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JEFFERSON GARY, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
CHRISTOPHER K. ROBINSON, OF ST. LOUIS, MISSOURI.

STOVE.

SPECIFICATION forming part of Letters Patent No. 685,040, dated October 22, 1901.

Application filed December 17, 1900. Serial No. 40,153. (No model.)

To all whom it may concern:

Be it known that I, JEFFERSON GARY, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in heating and cooking stoves; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a top plan of the stove with two of the lids removed. Fig. 2 is a top plan with the top of the stove and the water-tank removed. Fig. 3 is a side sectional elevation on line 3 3 of Fig. 1. Fig. 4 is a rear elevation with the rear wall removed. Fig. 5 is a front elevation; and Fig. 6 is a horizontal section on line 6 6 of Fig. 3, taken below the bottom of the oven.

The object of my invention is to construct a vapor-burning heating and cooking stove which can be brought to the desired temperature in a minimum amount of time, one which will develop a maximum degree of efficiency for the quantity of fuel consumed, one which will be cheap in construction and durable, one which can be readily taken apart for cleaning purposes, and one possessing further and other advantages better apparent from a detailed description thereof, which is as follows:

Referring to the drawings, 1 represents the body portion or outer casing having a preferably flat top, beneath which is disposed at a suitable distance the top of the oven 2, the latter being so disposed within the casing that the products from the fire-chamber 3 can circulate in front, beneath, to one side, and in the rear of said oven. The fire chamber or pot 3 is supplied with fuel through the gas-pipe 4, the chamber having a lateral extension 3', which the pipe 4 enters, and where upon the opening of the cock 5 the gas may be ignited should occasion demand the use of such extension for broiling or other purposes. The bottom of the fire-chamber 3 is controlled

by a hinged damper 6, operated from the outside of the casing by a handle or arm 7, secured to the pivotal axis of said damper. Disposed about the top of the outer wall of the oven are the curved deflecting plates or walls 8 8, between which is formed a flue which leads to the chamber 9, included between one of the side walls of the oven and the adjacent wall of the casing. In this chamber 9 are disposed a series of V-shaped deflecting-plates 10 10', one beneath the other, the lower set being provided with a central opening 11, the outer ends of the plates terminating at the front and rear walls of the oven, respectively, the apex of the upper deflecting-plate 10 being substantially opposite the middle of the discharge end of the flue formed between the walls 8 8. Below the set 10' is a plate 12, the bottom wall of the chamber 9, directly beneath the plate 12, being provided with an opening 13, communicating directly with the passage 13' of the flues formed by the series of deflecting-plates 14 15 16 17 beneath the bottom wall of the oven and to the rear of the lower extension of the front wall thereof. The discharge end of the flues just mentioned opens into the rear chamber 18, formed between the rear wall of the oven and the rear wall of the casing, said chamber 18 being provided with a series of overlapping deflecting-plates 19, the discharge end of the flues formed thereby opening directly into the exit-flue 20, secured to the bottom of the water-tank 21, resting on top of the casing and partially overlapping the upper edge of the rear plate 8, so as to derive a portion of the heat from the products passing between the plates 8 8. The forward end of the flue formed between the plates 8 8 opens into the fire-pot above and to one side of the damper-opening 6', formed in the partition 26, such open end being controlled by a hinged damper 22, operated by an arm 23, disposed on the outside of the casing and secured to the pivotal axis of such valve. When the damper 22 is closed, as shown by full lines in Fig. 3, the products of combustion pass downward through opening 6' along the front of the oven, as shown

by the plain arrows, circulating below the oven, (see Fig. 6,) thence passing directly upward through chamber 18 and out through the exit-flue 20. When the damper 6 is closed, as shown by dotted position in Fig. 3, and damper 22 open, then the products take the path of the feathered arrows, passing between the plates 8 8, down the chamber 9, thence upward through chamber 18, as before. In the former case the products pass in front, beneath, and to the rear of the oven. In the latter case they pass above, to one side, and to the rear of the oven. Thus it is that the oven may be heated in any manner, according to the requirements of the service it is to perform. The stove is thus both a heater and cooker. When both dampers are open, the products may circulate promiscuously, according to the draft. Leading to the chamber beneath the oven is a damper-plate 22' for admitting air to cool the parts, if necessary. The front of the water-tank is provided with a ledge 21' for dishes and the like. 24 represents the handle of the oven-door. The side walls of the casing are connected to the rear wall by grooves 25, formed in the opposite edges of the latter, so that the rear wall can be withdrawn and the interior of the casing made accessible for cleaning purposes. It is of course apparent that the details may be departed from without affecting the spirit of my invention.

By following the products of combustion, as indicated by the arrows in the several views, it will be seen that the oven-walls and the several deflecting plates or partitions heretofore referred to form a flue in front of, above, at one side, on the bottom, and in the rear of the oven, the fire-chamber being formed by the partitions 26 27, extending between the outer casing and oven, the partition 27 having an opening 28, controlled by damper 22, providing communication between the fire-chamber and top flue. The top flue has an opening 29 communicating with the side flue. The side flue has an opening 30 communicating with the bottom flue. The bottom flue has an opening 31 communicating with the rear flue. The partition 26 has an opening 6' leading to the front flue, and the latter has an opening 32 communicating with the bottom flue, the dampers 6 and 22 controlling the openings from the fire-chamber, as already indicated, and the casing being provided with an outlet 20 from the rear flue.

Having described my invention, what I claim is—

1. A stove comprising a casing, an oven within said casing having its top, front and rear walls and one side wall spaced from corresponding walls of the casing, partitions extending between said casing and oven and forming in connection with the casing and oven a fire-chamber, and a flue in front of, above, at one side, on the bottom and in the

rear of said oven, the said partitions and flues having openings providing communication between the fire-chamber and the top flue, the top flue and side flue, the side flue and bottom flue, and the bottom flue and rear flue and also between the fire-chamber and the front flue and between the latter and the bottom flue, and dampers controlling the openings from the fire-chamber, the said casing being provided with an outlet from the rear flue, substantially as set forth.

2. A stove comprising a casing, an oven within said casing having its top, front and rear walls and one side wall spaced from corresponding walls of the casing, partitions extending between said casing and oven and forming in connection with the casing and oven, a fire-chamber, and a flue in front of, above, at one side, on the bottom, and in the rear of said oven, the top flue being formed by curved deflecting-plates disposed between the oven and casing, the side flue by V-shaped deflecting-plates disposed between the oven and casing, the lower plate being perforated and having its ends terminating at the front and rear walls of the casing respectively, the rear flue being formed by overlapping deflecting-plates disposed between the oven and casing, the bottom flue being formed by deflecting-plates disposed below the oven, the front flue being formed between the front wall of the oven and casing, the said partitions and flues having openings providing communication between the fire-chamber and the top flue, the top flue and side flue, the side flue and bottom flue, and the bottom flue and rear flue, and also between the fire-chamber and the front flue, and between the latter and the bottom flue, and dampers controlling the openings from the fire-chamber, the casing being provided with an outlet from the rear flue, substantially as set forth.

3. A stove comprising a casing, an oven within said casing having its top, front and rear walls and one side wall spaced from corresponding walls of the casing, partitions extending between said casing and oven and forming in connection with the casing and oven, a fire-chamber, and a flue in front of, above, at one side, on the bottom, and in the rear of said oven, the top flue being formed by curved deflecting-plates disposed between the oven and casing, the side flue by V-shaped deflecting-plates disposed between the oven and casing, the lower plate being perforated and having its ends terminating at the front and rear walls of the casing respectively, the rear flue being formed by overlapping deflecting-plates disposed between the oven and casing, the bottom flue being formed by deflecting-plates disposed below the oven, the front flue being formed between the front wall of the oven and casing, the said partitions and flues having openings providing communication between the

5 fire-chamber and the top flue, the top flue and side flue, the side flue and bottom flue, and the bottom flue and rear flue, and also between the fire-chamber and the front flue, and between the latter and the bottom flue, dampers controlling the openings from the fire-chamber, the casing being provided with an outlet from the rear flue, and a water-

heater closing the top of the rear flue or chamber, substantially as set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

JEFFERSON GARY.

Witnesses:

EMIL STAREK,
G. L. BELFRY.