

No. 768,326.

PATENTED AUG. 23, 1904.

W. A. DISOTELL.
TANK HEATER.

APPLICATION FILED APR. 20, 1903.

NO MODEL.

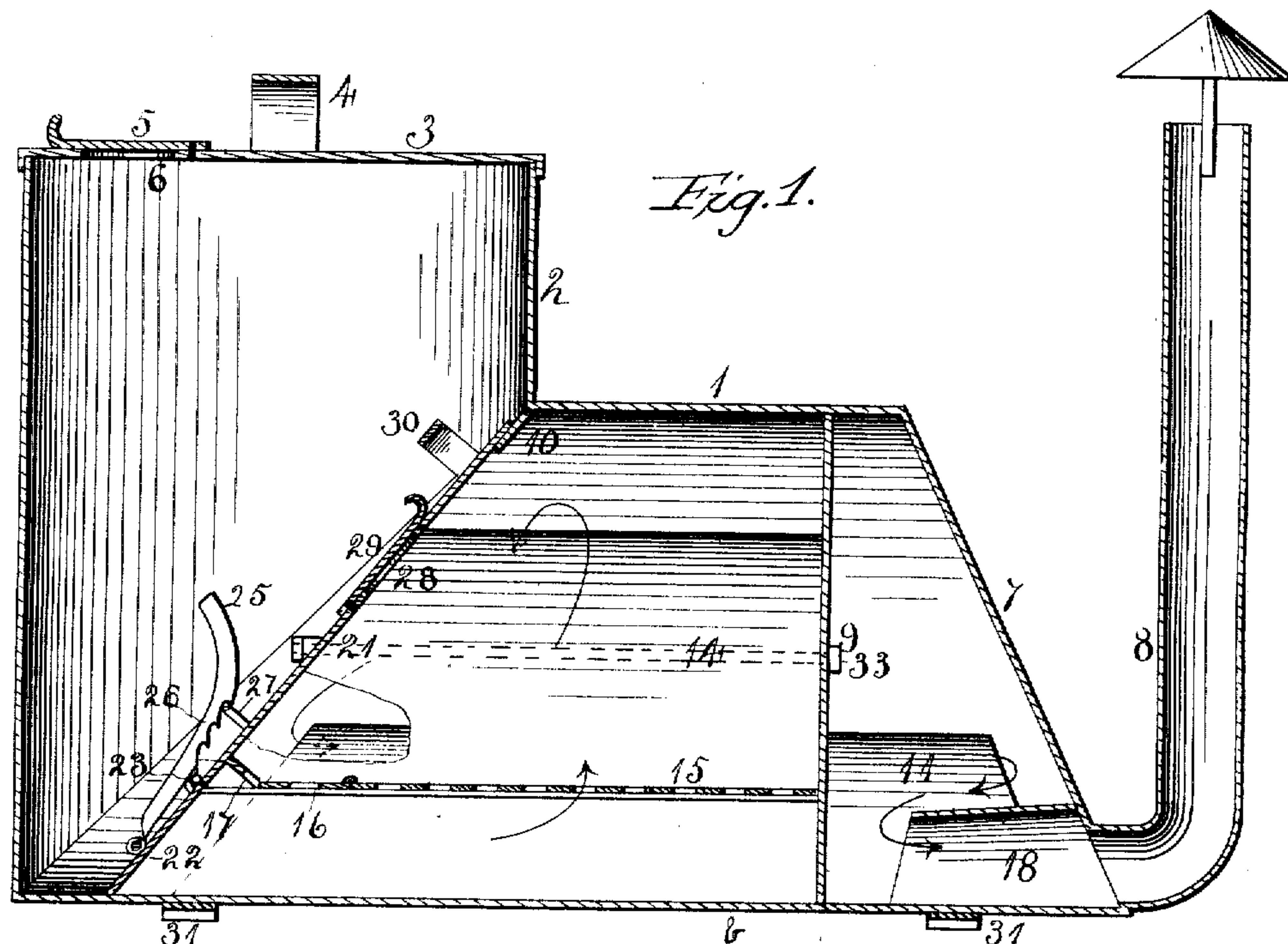


Fig. 2.

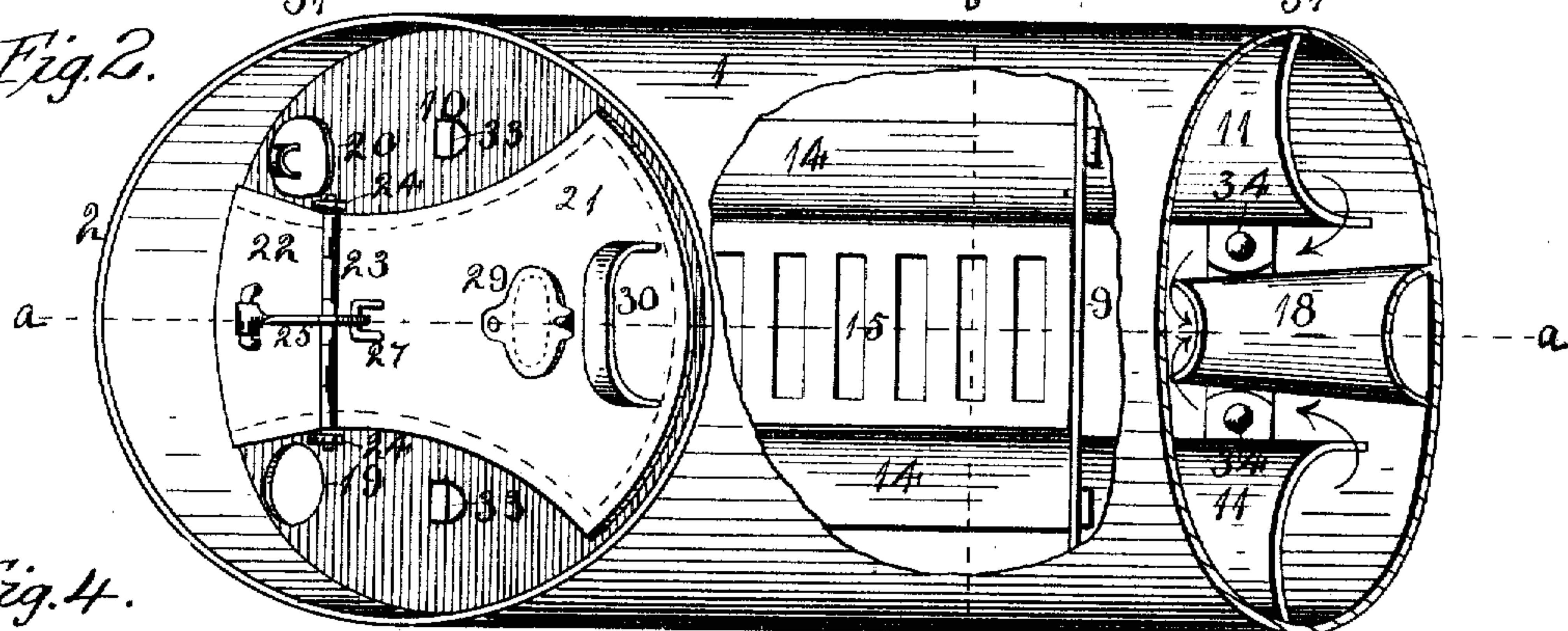


Fig. 4.

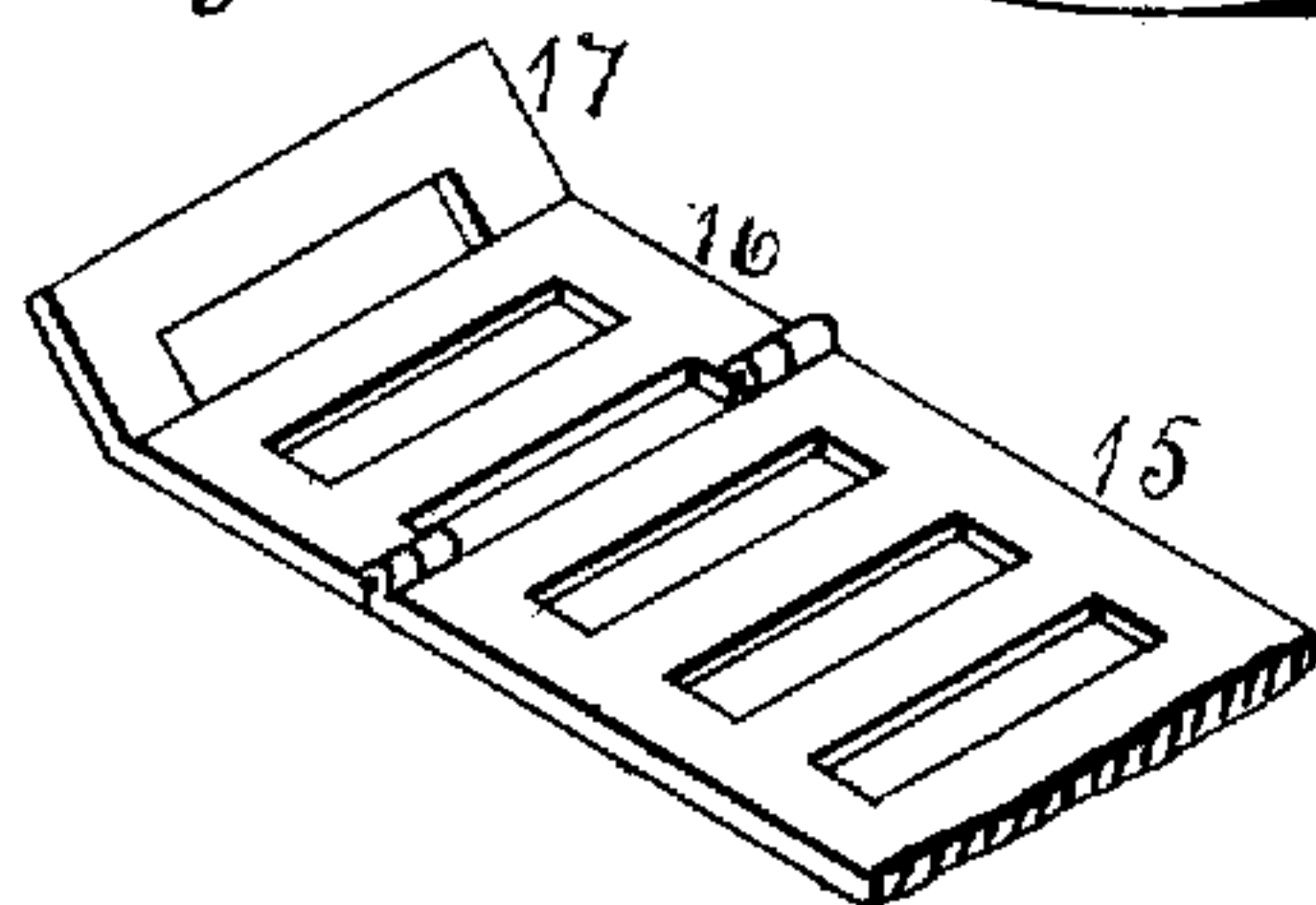
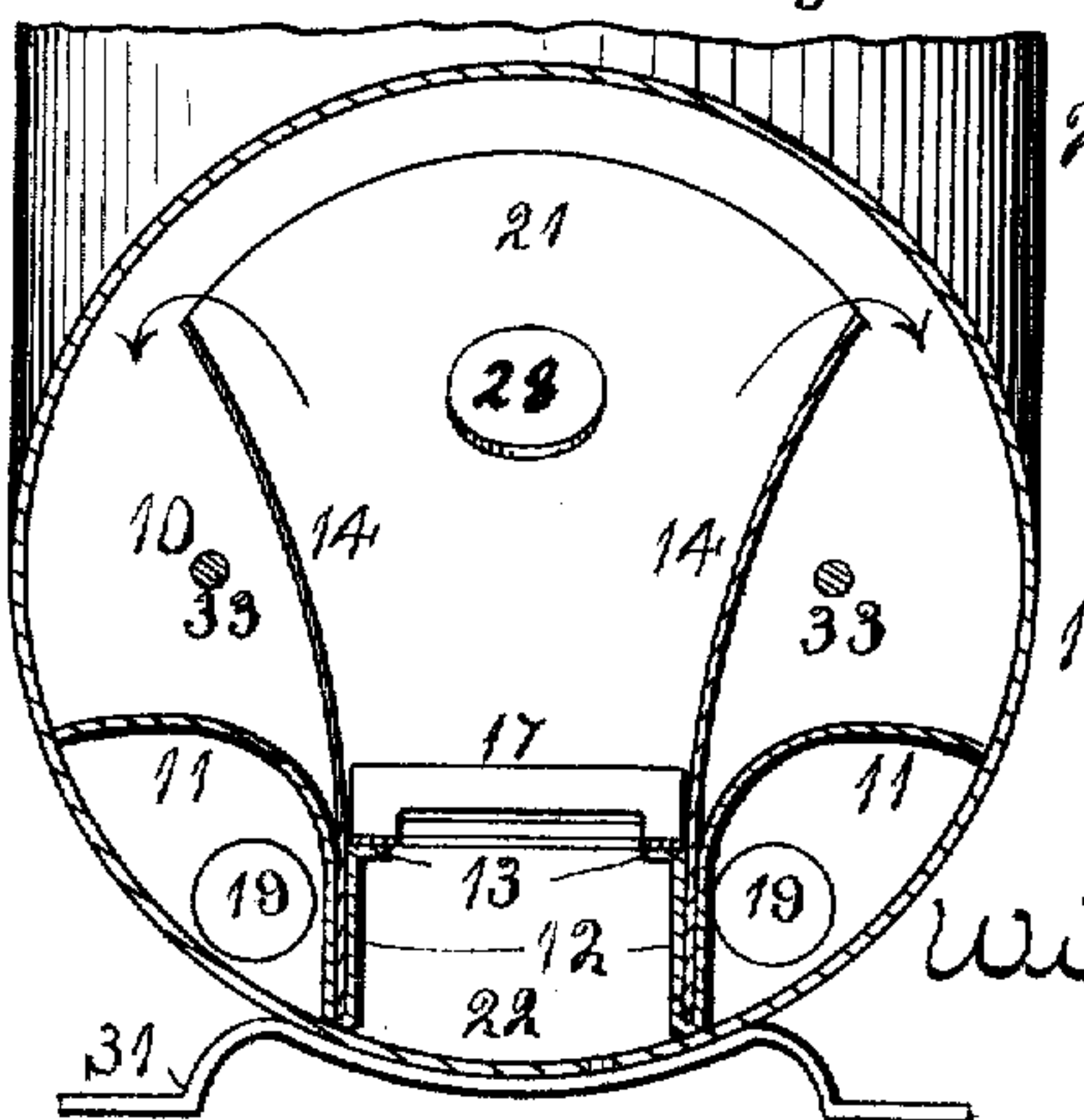


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM A. DISOTELL, OF BELVIDERE, ILLINOIS.

TANK-HEATER.

SPECIFICATION forming part of Letters Patent No. 768,326, dated August 23, 1904.

Application filed April 20, 1903. Serial No. 153,535. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. DISOTELL, a citizen of the United States, residing at Belvidere, in the county of Boone and State of Illinois, have invented certain new and useful Improvements in Tank-Heaters, of which the following is a specification.

The object of this invention is to construct a tank-heater all parts of which are readily accessible and in which great radiating-surface is had, thereby utilizing all the heat.

In the accompanying drawings, Figure 1 is a vertical central section on broken line *a*, Fig. 2. Fig. 2 is a plan view in which the cover is removed, one end and a portion of the fire-chamber broken away to more clearly show the internal construction. Fig. 3 is a transverse section on dotted line *b*, Fig. 2. Fig. 4 is an isometrical representation of a portion of the grate.

The outer casing of my improved tank-heater comprises the horizontal section 1 and vertical section 2, in this instance of cylindrical form. A cover 3 is provided for the upper end of the vertical section and has a handle 4 and damper 5 for closing the opening 6. The end 7 of the horizontal section has a smoke-pipe 8 connected to its lower portion. Within the horizontal section is located a vertical partition 9 and a partition 10, the partition 10 separating the horizontal and vertical sections of the casing. Side flues 11 are located along each side of the horizontal section and extend short of the partition 10 and the end 7. The metal forming these flues has the lower portion provided with a return-bend 12, having its upper end 13 turned in toward the center of the heater forming a support for a grate. Between the main portion of the flues 11 and the return-bend 12 is located the lower edge of the plate 14, one for each flue, forming a fire-chamber and extends between the partitions 9 and 10 and extends near to the top of the horizontal section. A grate is located on the outer bends 13 and is composed of the main section 15, having a section 16 hinged thereto. The hinged section has its free end 17 turned up. A short flue 18 is located in the space between the end 7 and partition 9 and communicates with the smoke-

pipe 8. Openings 19 are formed in the partition 10 near its lower edge and communicate with the side flues 11. A stopper 20 is provided for each of the openings. The partition 10 has a central opening the size of the ash-pit and fire-chamber which is closed by a removable door in two sections 21 and 22, having a connection by the hinge 23. The pintle of the hinge is supported by the hooks 24, extending from the partition 10 and supporting the door. To the hinged section of the door near its free end is pivotally connected a bar 25, having a series of teeth 26, which engage a loop 27, extending from the main portion of the door. The main portion of the door has an opening 28, closed by a damper 29, and also has a handle 30 secured thereto.

Fire is started on the grate, and the hinged section of the door is opened sufficiently to give the required draft. The direction of the draft is indicated by the arrow and passes through the grate over the top edge of the plates 14 into the forward ends of the side flues, and thence through the side flues and into the short flue 18, and finally up the smoke-pipe. The damper 29 serves to check the fire by admitting air over the fire. By removing the door the hinged section of the grate can be raised, which will allow access to the ash-pit below the grate. The side flues can be cleaned through the openings 19.

By this construction the fire is near the bottom of the heater and the heat passes along the sides of the heater on its passage to the smoke-pipe, thereby bringing the heat in contact with the water near the bottom of the tank.

The supports 31 hold the tank-heater in its upright position. The partitions 9 and 10 may be connected in any suitable manner.

I claim as my invention

1. A tank-heater comprising a vertical section and a horizontal section, a grate supported within the horizontal section, two vertical divisions separating the fire-chamber above the grate into a center chamber and two side chambers, and a smoke-pipe communicating with the side chambers.

2. A tank-heater comprising a vertical section and a horizontal section, a grate support-

ed within the horizontal section, two partitions, in connection with the walls of the horizontal section forming a fire-chamber, flues extending in the lengthwise direction of the horizontal section, one end communicating with the fire-chamber and the other end extending through one of the partitions, and a smoke-pipe communicating with the flues.

3. A tank-heater comprising a vertical section and a horizontal section, a grate supported within the horizontal section, two partitions, in connection with the walls of the horizontal section forming a fire-chamber, flues extending in the lengthwise direction of the horizontal section, one end communicating with the fire-chamber and the other end extending through one of the partitions, a smoke-pipe communicating with the flues, one of the partitions having an opening communicating with the ash-pit and fire-chamber, a door for the opening in two sections having a hinge connection and a toothed rack secured to the

lower section engaging a projection on the upper section.

4. A tank-heater comprising a vertical section and a horizontal section, two partitions in connection with the walls of the horizontal section forming a fire-chamber, two vertical divisions separating the fire-chamber into a center chamber and two side chambers, a grate for the center chamber, flues located along the sides of the partitions having openings communicating with the last-mentioned flues.

5. A tank-heater comprising a vertical section and a horizontal section, two vertical partitions, in connection with the walls of the horizontal section forming a fire-chamber, a grate located in the horizontal section, an ash-pit between the grate, and two flues located at the sides of the ash-pit.

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