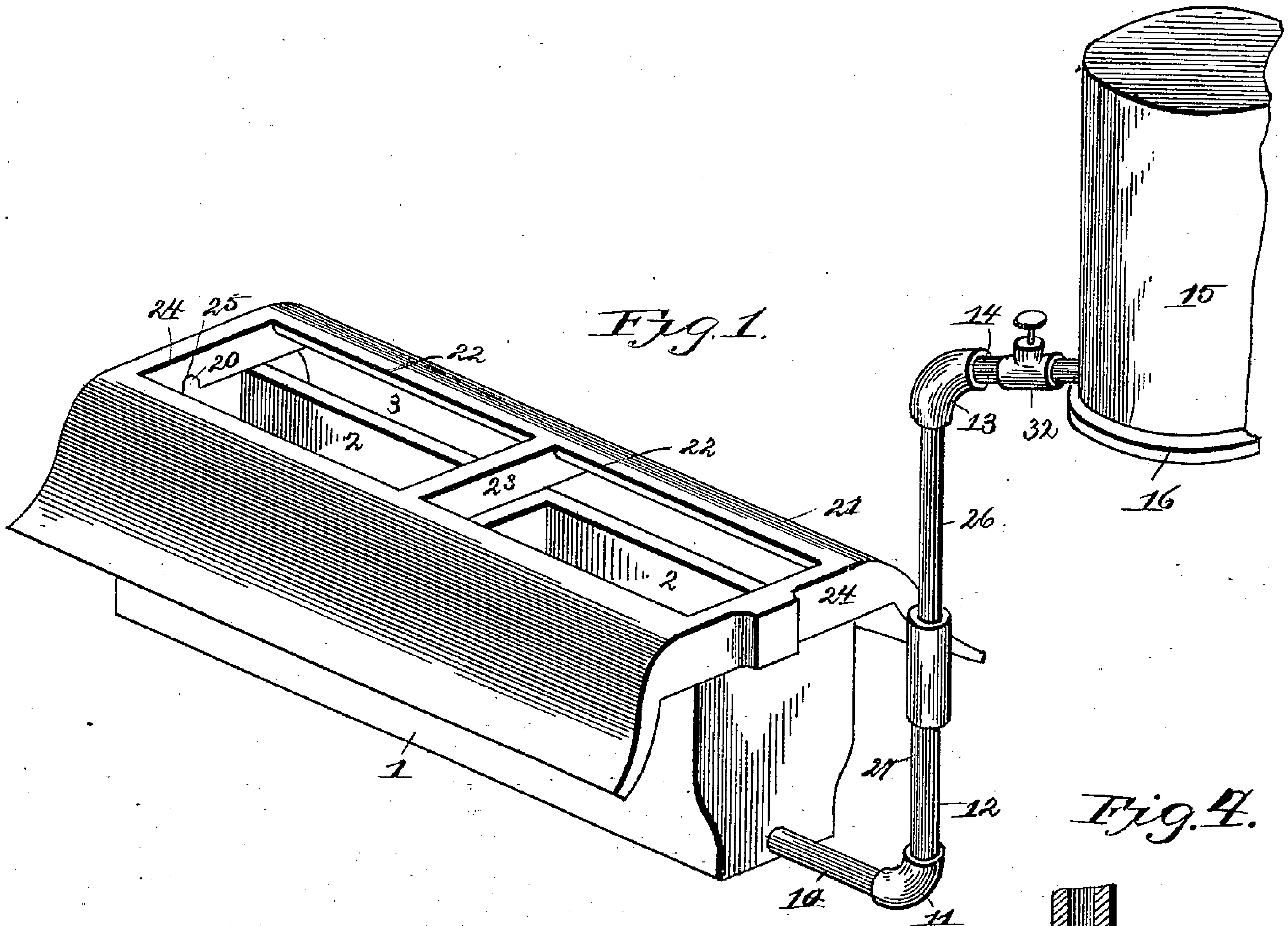
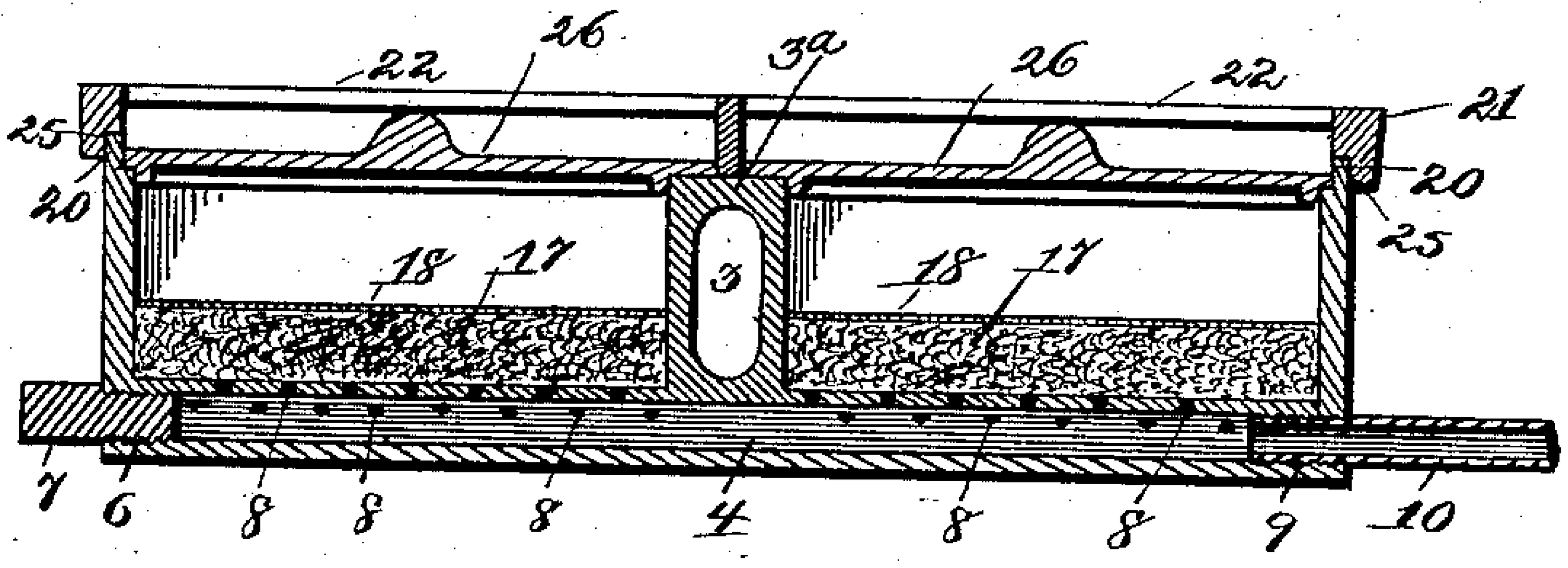
(No Model.)

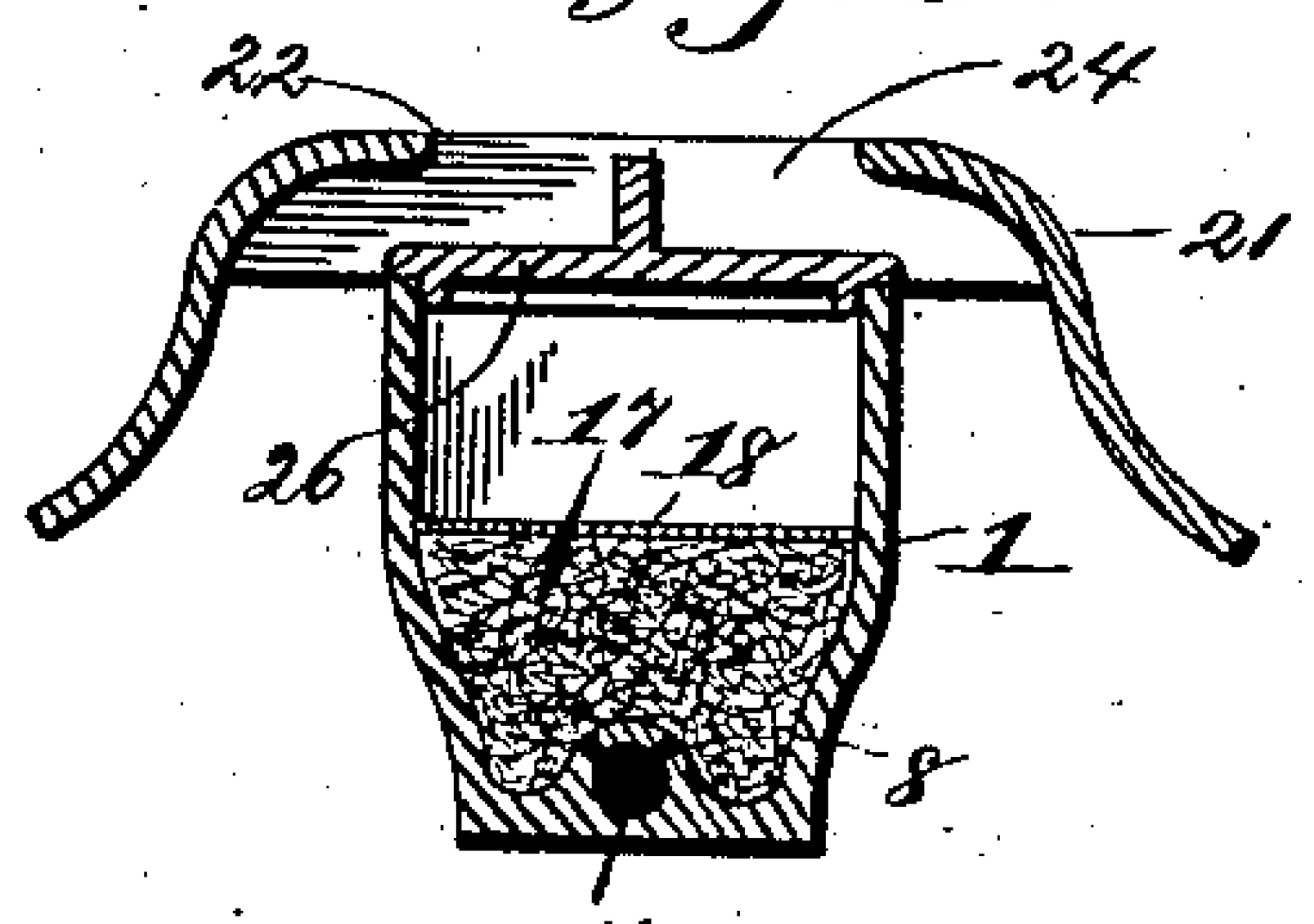
M. HATHAWAY.

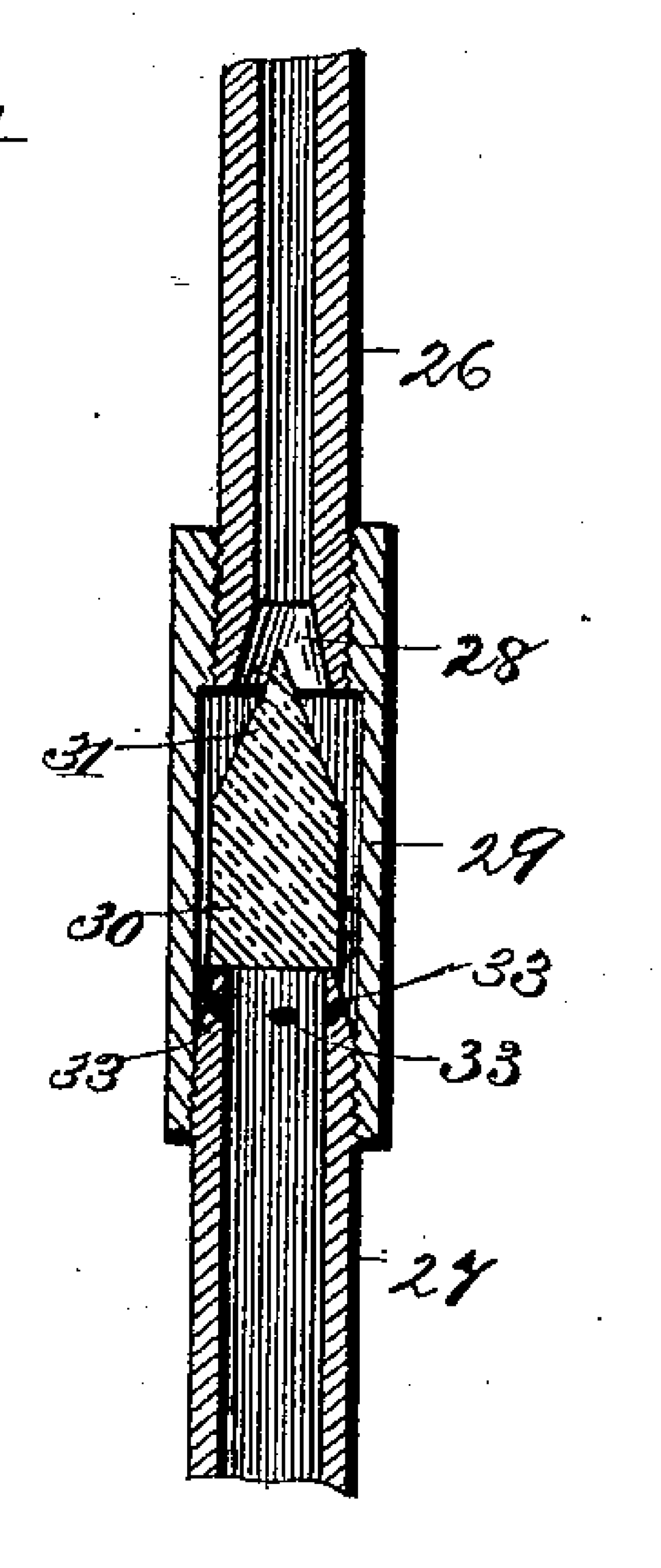
OIL BURNER.

No. 428,096. Patented May 20, 1890.









Witnesses:

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UNITED STATES PATENT OFFICE.

MARTIN HATHAWAY, OF ATLANTA, GEORGIA, ASSIGNOR OF ONE-HALF TO JOHN B. ROBERTS, OF SAME PLACE.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 428,096, dated May 20, 1890.

Application filed July 31, 1889. Serial No. 319,242. (No model.)

To all whom it may concern:

Be it known that I, MARTIN HATHAWAY, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Oil-Burner, of which the following is a specification.

This invention has relation to oil-burners adapted for location in ordinary cooking stoves or ranges, or in the usual forms of heating stoves, the change necessary being simply as to the number of compartments, grouping of the same, and other details not affecting the spirit or principle of my invention.

Among the objects in view are to provide a burner of extremely simple construction and at a reduced cost, which shall consist of few parts and those readily manufactured and assembled, and which may be lighted and extinguished with facility and without the disagreeable odor of the oil, and to provide an automatic governor for a proper supply of the oil and so constructed as to automatically and entirely cut off said supply when the flame of the burner is extinguished.

With these general objects in view my invention consists in certain features of construction and combination of parts hereinafter specified, and particularly pointed out in the appended claims.

Referring to the drawings, Figure 1 is a perspective of a burner constructed in accordance with my invention, the same being adapted for use in the grate of an ordinary cooking-stove, the lids of the burners being removed. Fig. 2 is a central longitudinal section of the burners; Fig. 3, a transverse vertical section through one of the burners; Fig. 4, a detail in vertical section of the oil-supply pipe, the section being taken at that part thereof wherein is located the automatic oil-supply governor and automatic cut-off.

In practicing my invention I prefer to cast all of the parts of iron, and the same consists, essentially, of a burner-section 1, in this instance comprising two burners or compartments 2, divided transversely to form the same by means of a partition 3^a, which is provided with an intermediate air-opening 33, extending throughout the length of the partition. The bottom of the burner is provided with an oil-tube 4, extending longitudinally under each of the burner-compartments 2, and provided at one end with interior threads 6, into which is inserted a threaded plug 7. Minute oil-openings 8 are formed throughout the length of the pipe or tube, and within the area of the burners and said tube, is provided at its opposite ends with threads 9, in which is threaded a pipe-section 10, having an elbow 11 at its outer end, which, by a second section 12, is connected to a second elbow 13, having the pipe 14, leading to the oil-reservoir 15, in this instance consisting of a tank of the ordinary construction, mounted upon a suitable support 16. If desired, and where convenient, the pipe-section 14 may connect with any suitable natural oil-supplying system. Above the burner-pipe I arrange a sufficiently thick layer of asbestus 17, and over the same a reticulated screen 18. By this it will be apparent that oil passing through the pipes is fed into the burner-pipe and through the perforations in the same up through the asbestus to the point of ignition. A burner thus constructed is mounted in the grate-space of a stove, and is preferably provided at its opposite end with lugs 20, projecting upwardly from the end walls.

21 represents a cap having openings 22, corresponding with the burner-openings 2 and terminating at each side in longitudinally-arranged flanges inclined downwardly and connected at their centers by a transverse bar 23 and end bars 24, the two latter having notches 25 at their middles for the reception of the lugs extending from the burners, and by which said cap is maintained in position thereupon. Independent covers 26 are provided for each of the burners and remain upon the same, except when the burners are in actual use, thus excluding the smell of oil, and when the burners are lighted serving to extinguish the flame by cutting off the air-supply.

The pipe that connects the two elbow-sections is divided into upper and lower sections 27, the upper section terminating at its lower end in a conical valve-seat 28, and the two sections being connected by a cylindrical valve-chamber 29, the internal bore of which is greater than that of the pipes they connect.

30 represents a valve, the upper end of which is cone-shaped, as at 31, and designed to fit the seat in the lower end of the upper end of the pipe-section. The valve is preferably made of cork or other light material, and the size of the same is such, when considered with the length and diameter of the valve-chamber, as to leave an annular recess or oil-passage around the valve. An ordinary cut-off 32 is provided in the oil-pipe near the supply and is used for entirely cutting off the supply of oil ordinarily; but if by inadvertence the operator should fail to operate the cut-off after the extinguishment of the flame, the unburnt oil within the burner-tube would back up and form a backward pressure against the bottom of the valve and force the same to its seat, thus preventing a feeding of oil to the burner and automatically cutting off the supply. The valve also operates as a regulator or governor for the oil while being consumed, in that should the oil pass too freely to the burner the valve operates, as before described, to more or less decrease the flow; and, on the other hand, if the consumption is greater than the supply the valve is maintained below its conical seat and its opposite end upon the upper end of the lower pipe-section, which is provided with a series of perforations 33, through which the oil passes to the burner-pipe.

The slanting sides or flanges of the cap form a space between the cap and the edges of the burner-compartment and a draft of air is induced to join the flame at the point of ignition, thereby increasing the intensity of the flame.

Having described my invention, what I claim is—

1. An oil-burner consisting of a casing provided with a series of open-top oil-burning compartments or chambers having a common supply-tube extending across the bottom of the same, and provided with openings for the supply of oil to the compartments, removable lids for each of the compartments, and a cap mounted over the compartments and spaced from the sides of the same forming air-passages, and having openings in its top corresponding to the burner-compartments, substantially as specified.

2. An oil-burner consisting of a casing provided with a series of partitions integral therewith and dividing the casing into a series of burner-compartments, each partition being provided with a transverse air-passage communicating with the atmosphere at each side of the compartments, substantially as specified.

3. The combination, with the burner-casing consisting of side and end walls and a transverse intermediate partition dividing the casing into two compartments, of an open cap provided with end bars adapted to rest upon the end walls of the casing, and with an intermediate transverse bar adapted to rest upon the partition, opposite side flanges connecting the bars depending below the same and supported above and away from the side walls of the casing to form air-spaces, substantially as specified.

4. In means for supplying oil to hydrocarbon-burners, the combination, with the supply-pipe consisting of upper and lower sections, the lower end of the upper section being provided with an internal conical valve-seat, and the upper end of the lower section being reduced, perforated, and terminating in a plain seat, of the intermediate cylindrical valve-chamber connecting the adjacent ends of the sections, and a buoyant valve located therein, the lower end of which is plain and adapted to rest upon the plain seat of the lower section and the upper end conical and adapted to operate in the conical seat of the upper section, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MARTIN HATHAWAY.

Witnesses:
ALICE DAMERON,
C. D. WILSON.