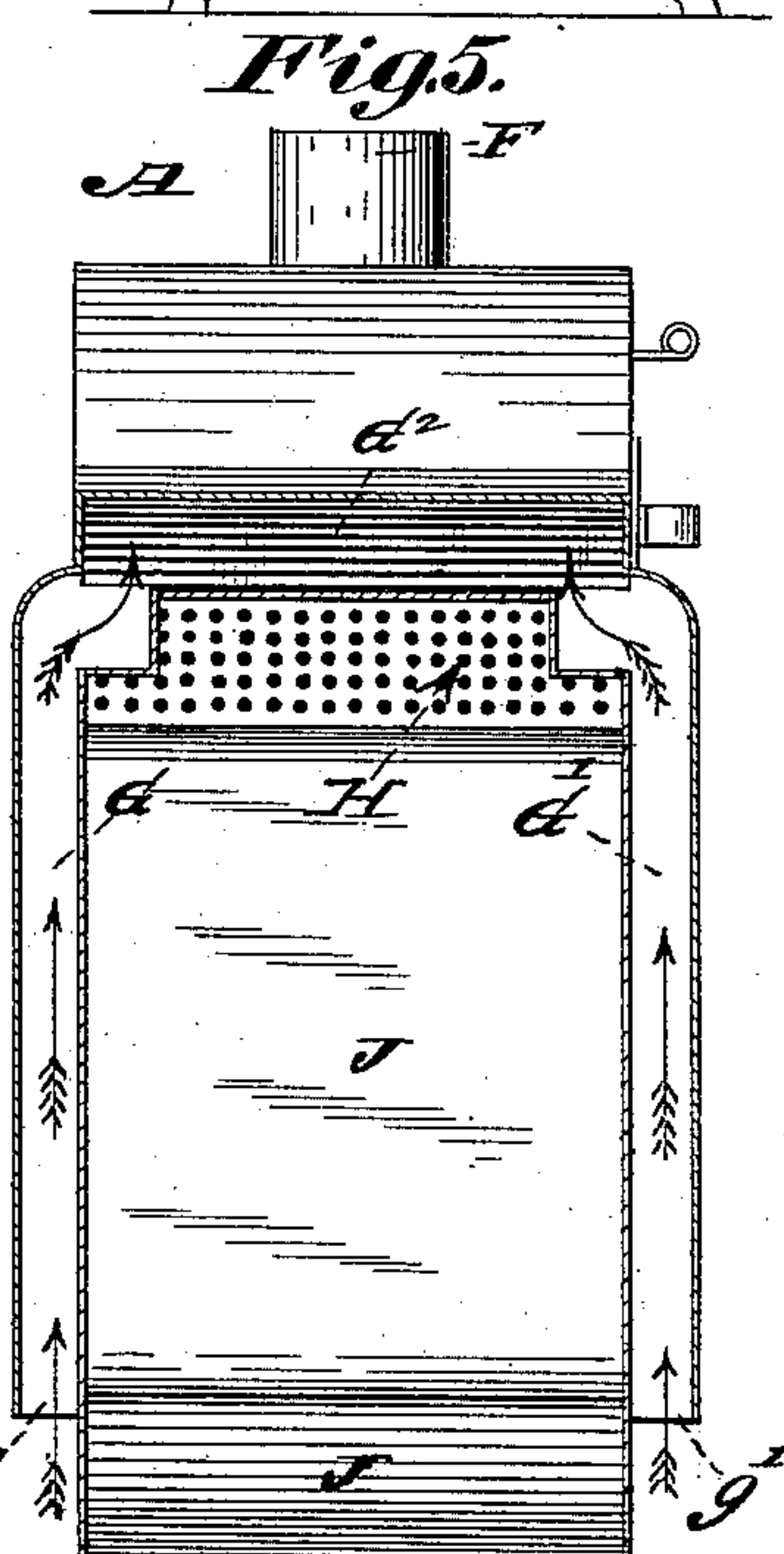
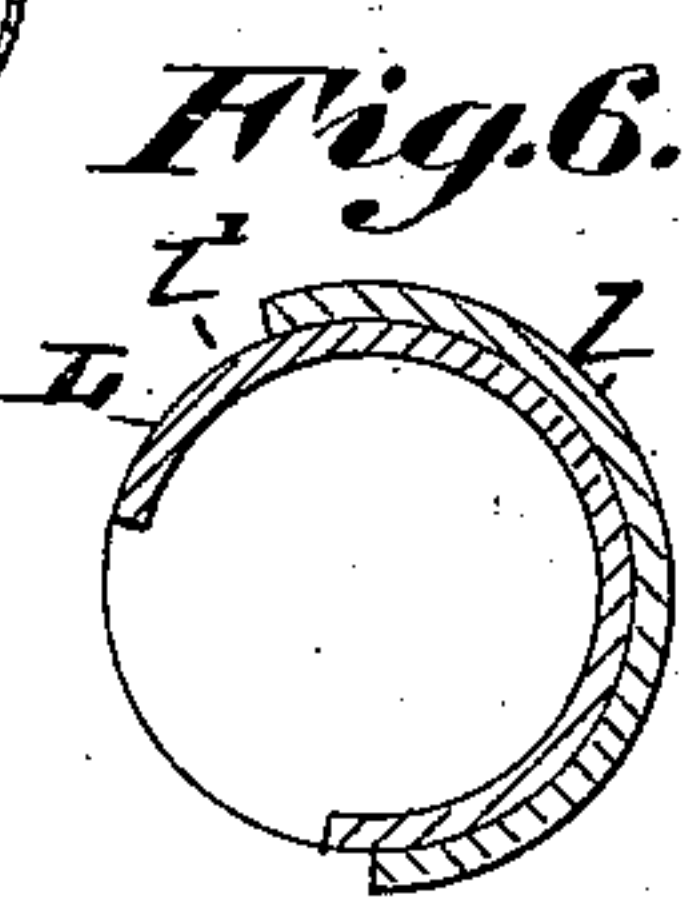
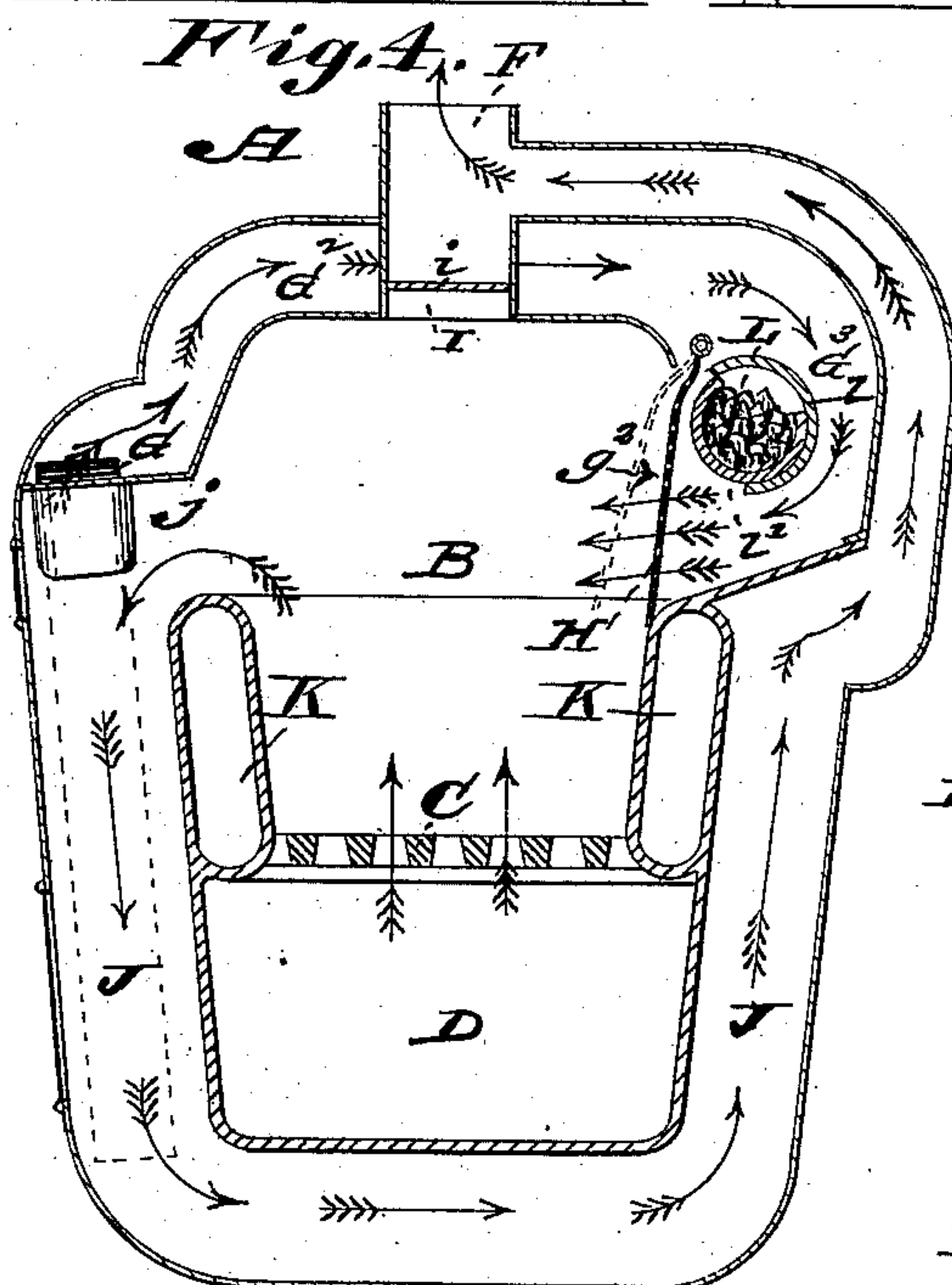
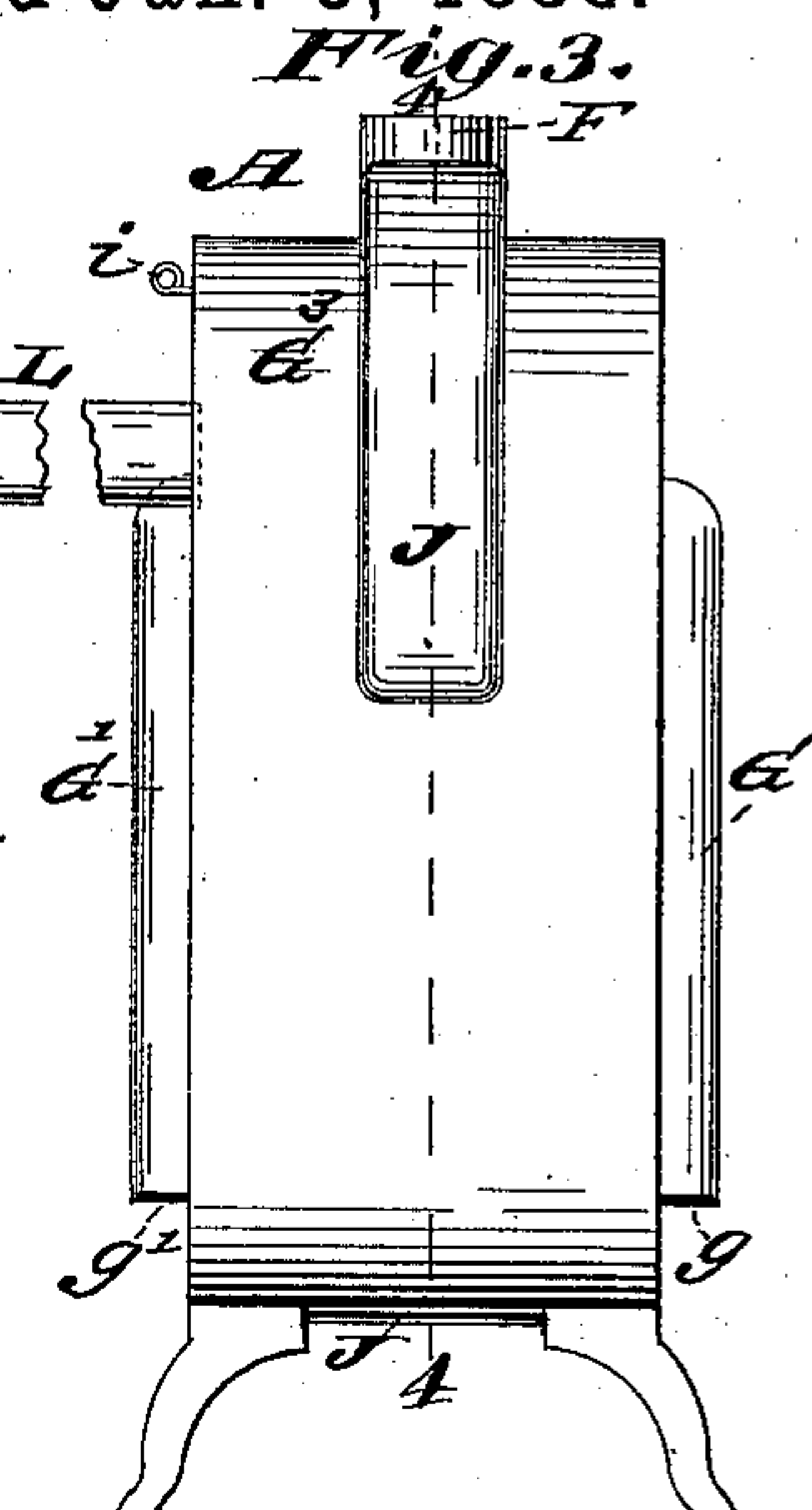
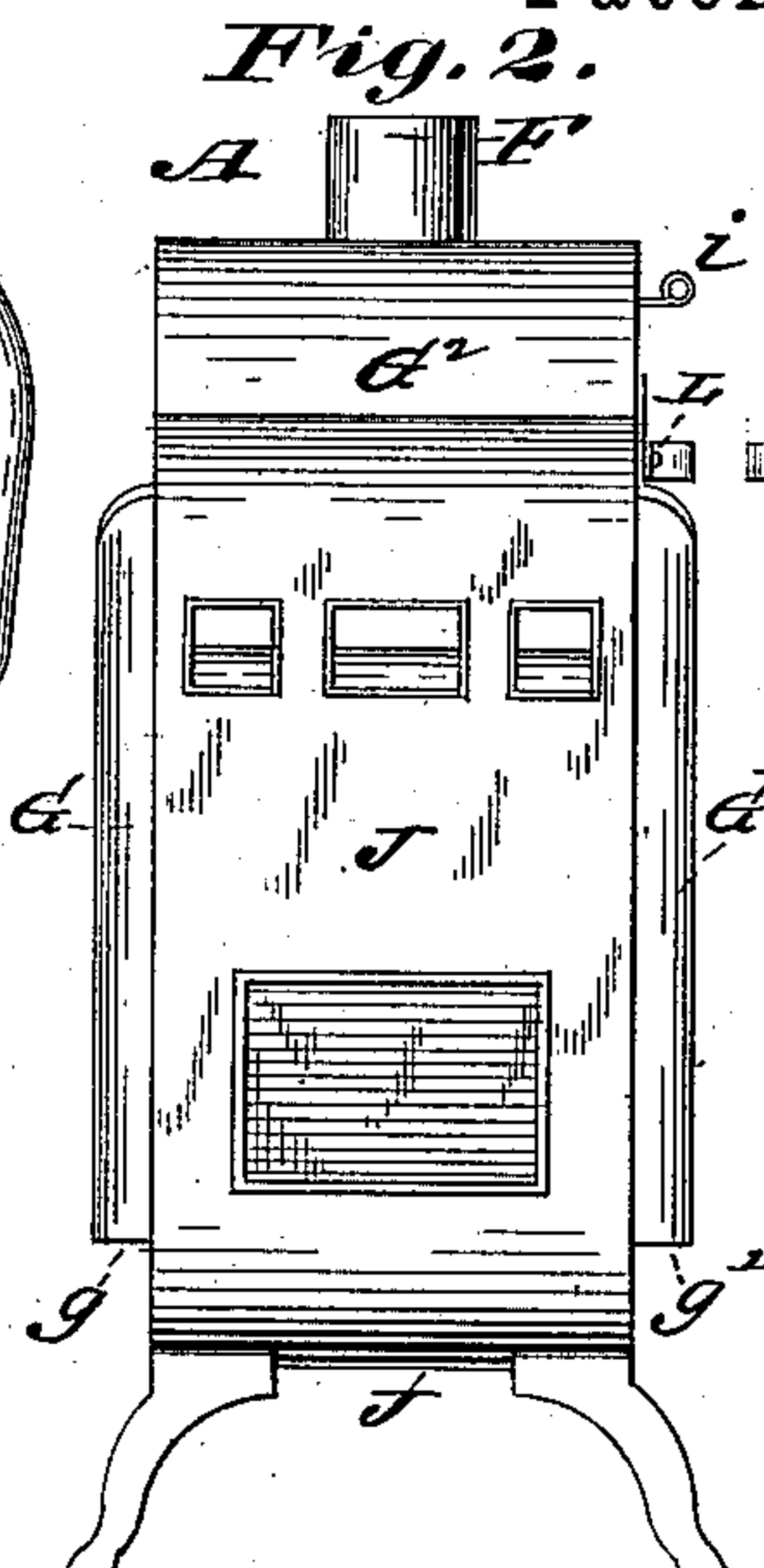
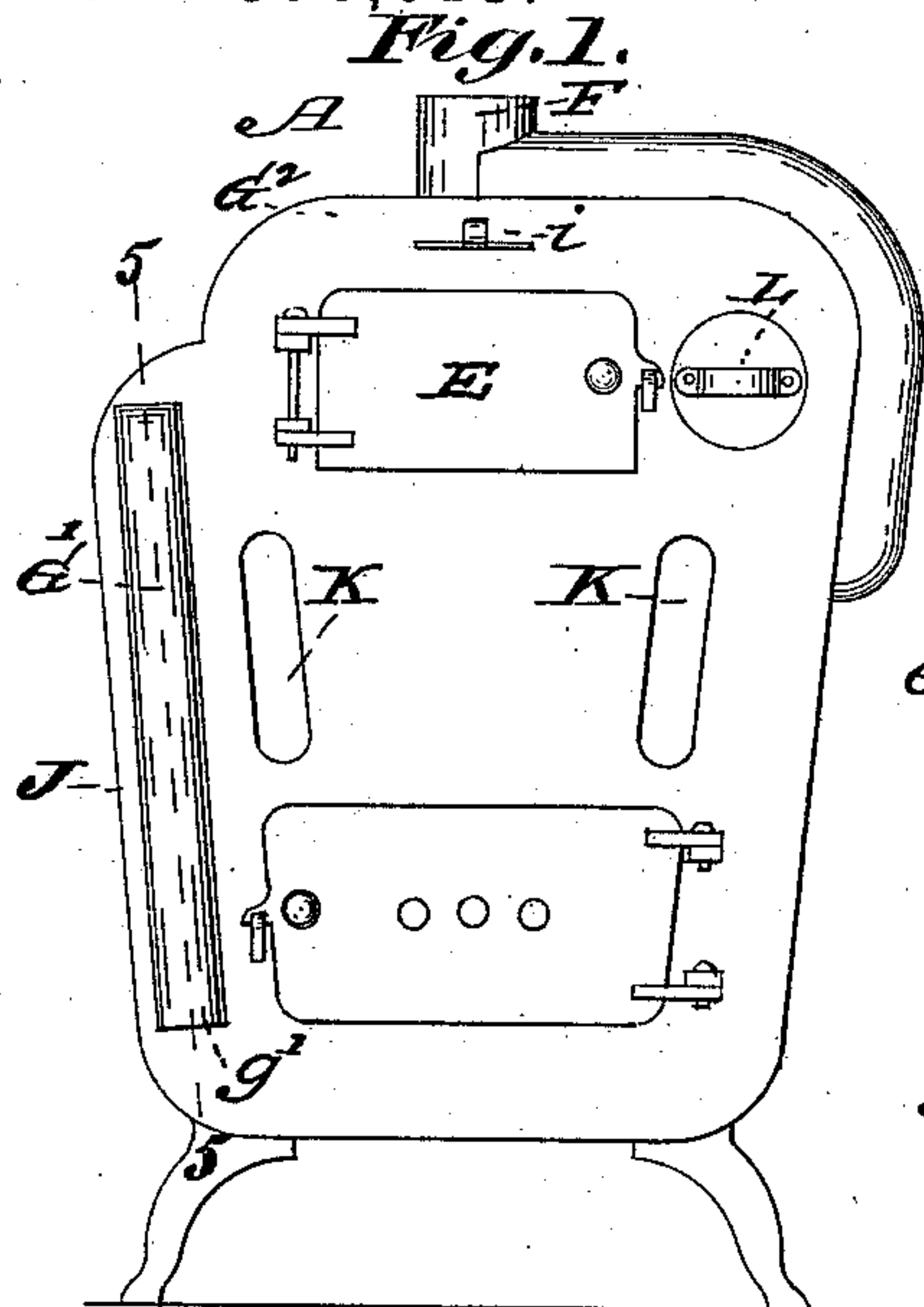


(No Model.)

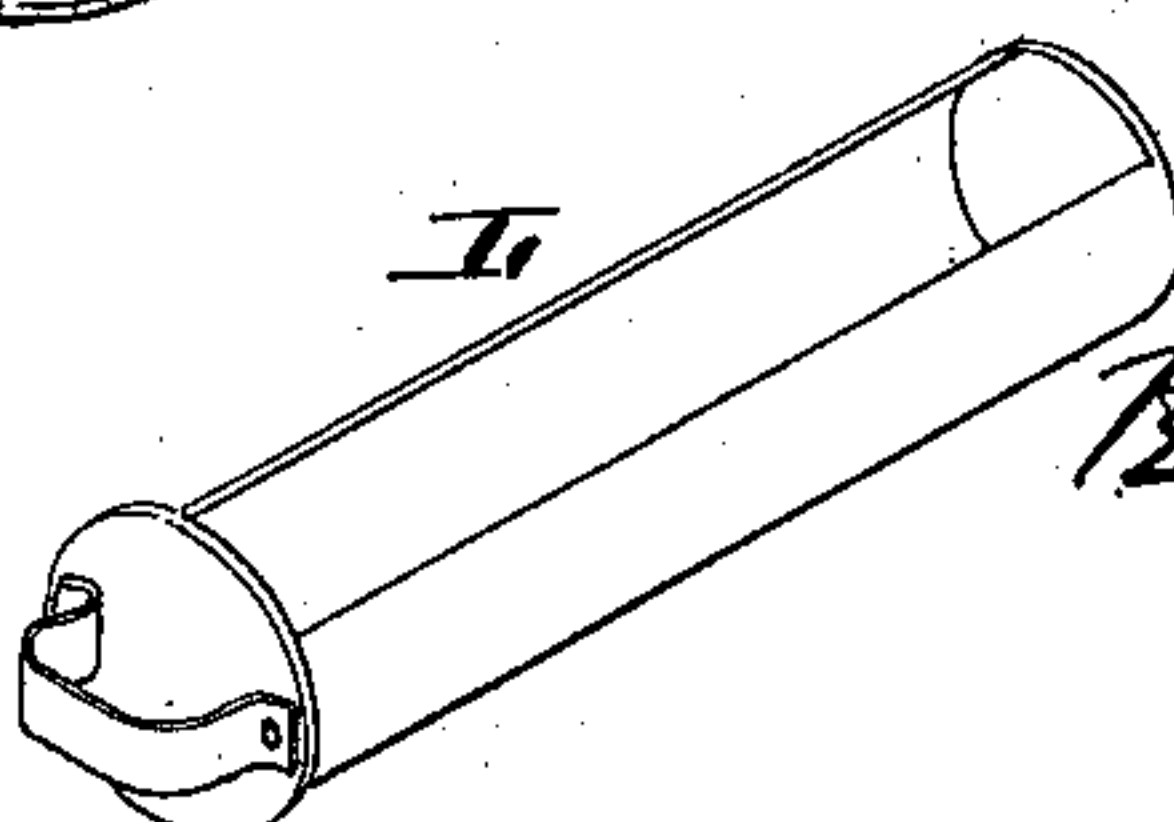
P. A. RENO.
HEATING STOVE.

No. 376,013.

Patented Jan. 3, 1888.



Witnesses:
M. B. Anderson.
J. W. Hoke.



Inventor:
Peter A. Reno
by C. D. Moody atty

UNITED STATES PATENT OFFICE.

PETER A. RENO, OF ST. LOUIS, MISSOURI.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 376,013, dated January 3, 1888.

Application filed January 25, 1887. Serial No. 225,453. (No model.)

To all whom it may concern:

Be it known that I, PETER A. RENO, of St. Louis, Missouri, have made a new and useful Improvement in Heating-Stoves, of which the following is a full, clear, and exact description.

The leading features of the improved stove are, first, an air flue or flues whose inlet is at the front of the stove, and preferably as low, or thereabout, as the level of the stove-body, and which lead upward over or through the upper part of the fire-chamber, and then downward, and ultimately into the fire-chamber above that portion thereof occupied by the fuel; second, and preferably, in connection with said air-flues, and for providing an indirect draft, and also an auxiliary combustion-chamber, a flue leading out of the fire-chamber and passing downward in front of but not, preferably, against the shell of the fire-chamber, to the level of the bottom of the ash-pit, under which it is carried, and thence upward at the back of the stove, but opposite the fire-chamber preferably not in contact with its shell; third, a fuel charger or magazine at the side or above the fire-chamber, and adapted to be rotated to discharge its contents into the fire-chamber, and made removable, so that it can be withdrawn or partly withdrawn from the stove when it is desired to replenish it with the fuel.

The most desirable mode of carrying out the improvement is substantially illustrated in the annexed drawings, making part of this specification, in which—

Figure 1 is a side elevation of the improved stove. Fig. 2 is a front elevation. Fig. 3 is a rear elevation, the fuel-charger being withdrawn. Fig. 4 is a vertical longitudinal section on the line 4 4 of Fig. 3. Fig. 5 is a vertical transverse section on the line 5 5 of Fig. 1. Fig. 6 is a cross-section of the fuel-charger and its case, and Fig. 7 is a view in perspective of the fuel-charger.

The same letters of reference denote the same parts.

The stove A, saving as it is modified by the improvement under consideration, is of the customary form.

B represents the fire-chamber.

C represents the grate.

D represents the ash-pit.

E represents the doorway to the fire-cham-

ber, and F represents the escape from the stove.

The air-flues are shown at G G', Figs. 1, 2, 3, 4, 5. In the present instance there are two of them, arranged, respectively, at the sides of the front of the stove, having the inlets *g g'*, and extending upward to or toward the top of the stove, there uniting to form a single flue, G², which extends over the fire-chamber and exteriorly thereto across the stove, then downward at G³, and leading into the fire-chamber at *g*², Fig. 4. The air without the stove passes into the flues through the inlets *g g'*, becomes more and more heated as it passes through the flues, and is delivered into the fire-chamber at a level at which it can favorably combine with the gases arising from the burning fuel; and to more effectively intermingle the air with the gases and smoke the air is delivered into the fire-chamber through a perforated plate or equivalent construction, H, Figs. 4, 5, whereby the air-current is divided into jets. The direct draft from the fire-chamber is, say, at I—that is, upward through the air-flue G², which is suitably constructed to provide for the direct draft. By means of a damper, *i*, the direct draft can be closed and the heat and gaseous currents directed into the flue J, which leaves the fire-chamber at *j* and passes downward in front of the fire-chamber and between the air-flues G G' to the bottom of the ash-pit, beneath which it is carried, and thence upward at the back of the stove, and it ultimately leads to the escape F. The flue J is preferably made in a broad form, both to increase its radiating-surface and to provide more space within which the air coming from the air-flues can combine with the unconsumed fuel for the purpose of more thoroughly consuming it. The flues G G' J are preferably separated from the shell of the fire-chamber at K K, to increase the heating-surface of the stove. The inlets *g g'* to the air-flues are preferably toward the lower part of the stove, partly to promote the ventilation of the room and partly to increase the efficiency of the flues. The fuel-charger L is in the form of a drawer, semi-cylindrical in form, and adapted to be slid into a casing, *l*, within the stove, above and preferably at the side of the fire-chamber. The casing has an opening, *l'*, toward the fire-chamber, to enable the charger, after it has been inserted in the casing, to be turned around therein, as indi-

cated in Fig. 6, and discharge its contents into the fire-chamber.

I desire not to be restricted to any particular location in placing the fuel-charger in the stove. It may, for instance, be inserted at the front of the stove, and either longitudinally or transversely in the stove. In such case the other parts of the stove are suitably modified to admit of the charger being so located. By having the fire-charger at the side of the fire-chamber there is less liability of its contents coking than if it were directly in the line of the draft from the stove, and this end is further promoted by having the air-supply led past the position of the fuel-charger into the fire-chamber, as shown.

I claim—

1. In a heating-stove, the herein-described fuel-charger over the fire-chamber, said fire-chamber having an opening at its side, through which the fuel is delivered from the charger, substantially as described.

2. The combination, in a heating-stove, of the fire-chamber, the air-supply flue, and the indirect-draft flue, and the perforated air-

inlet and the draft-outlet, the said inlet and outlet respectively being at opposite sides of the fire-chamber, as described.

3. In a heating-stove, the combination of the herein-described air-supply flue or flues leading from the lower front of the stove upward across the stove and above and exterior to the fire-chamber, and then downward into the fire-chamber, with the indirect-draft flue leading from the fire-chamber at a point opposite the air-inlet, downward at the front of the stove beneath the ash-pit, and upward at the rear of the stove, substantially as described.

4. In a stove, the semi-cylindrical fuel-charger L, combined with the casing l, having an opening l' within the stove, whereby the fuel can be discharged by turning the charger around.

Witness my hand this 14th day of January, 1887.

PETER A. RENO.

Witnesses:

C. D. MOODY,
J. W. HOKE.