

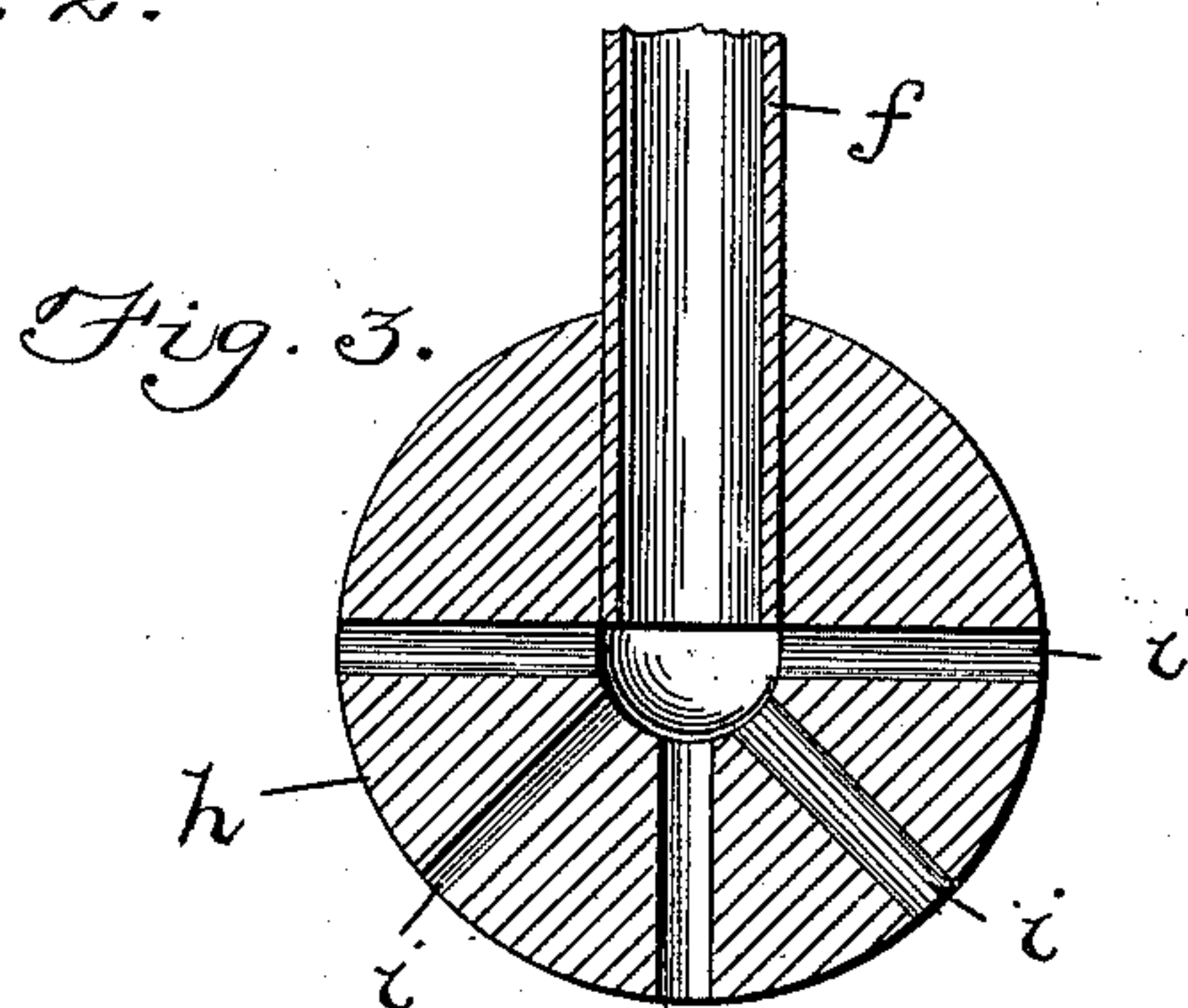
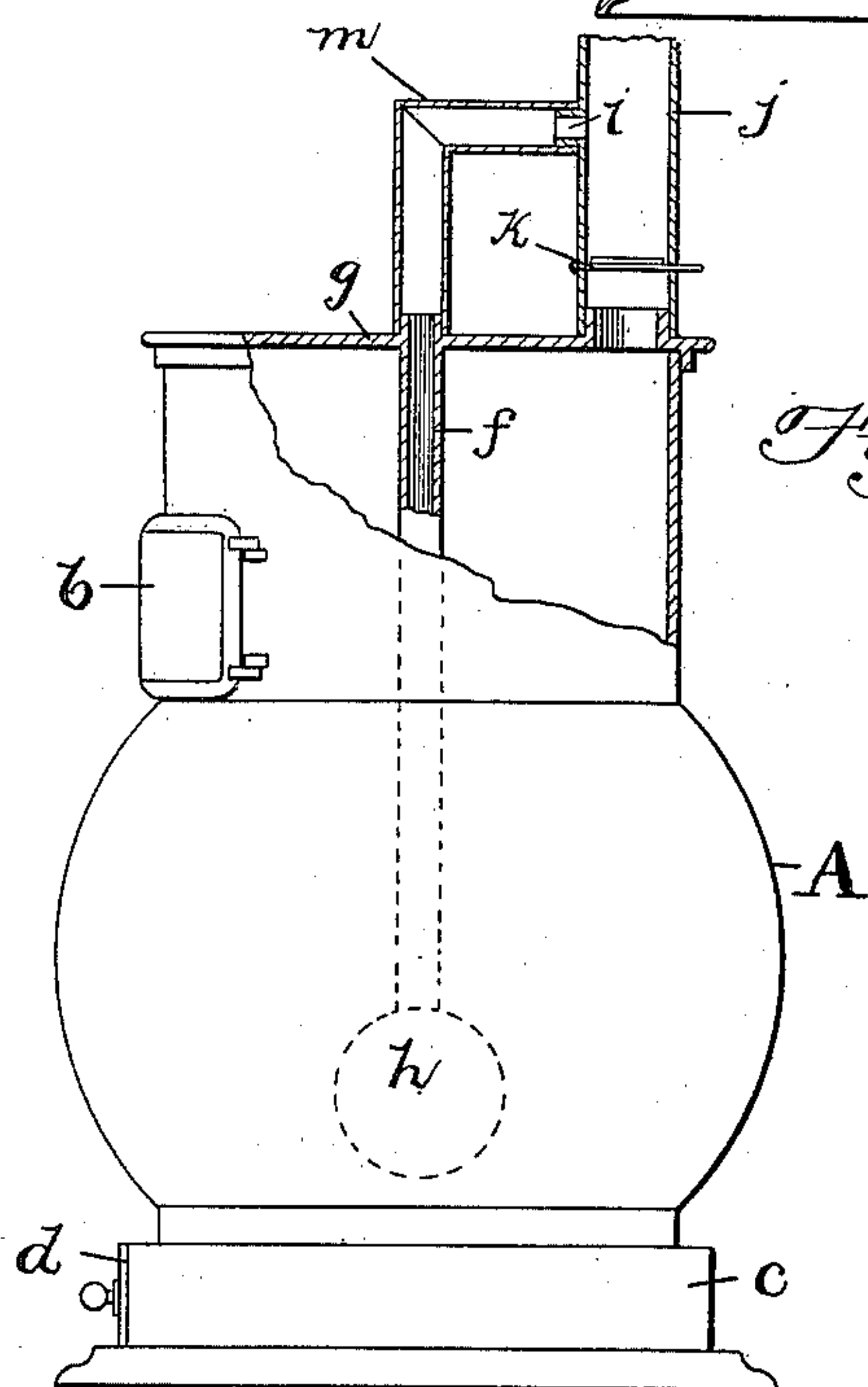
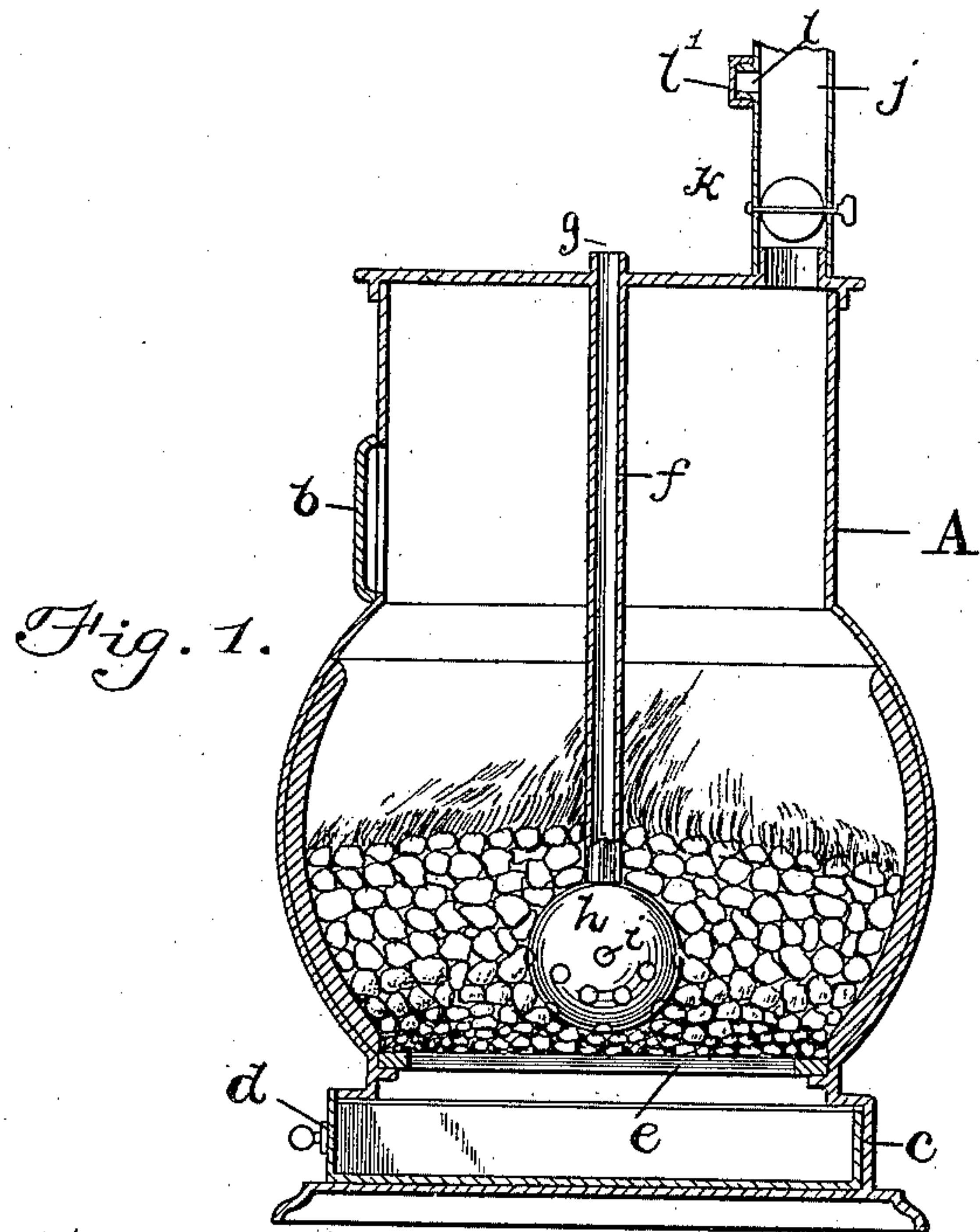
No. 639,029.

Patented Dec. 12, 1899.

F. D. GATES.
STOVE.

(Application filed Aug. 26, 1898.)

(No Model.)



Witnesses :-

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UNITED STATES PATENT OFFICE.

FREEMONT D. GATES, OF ALBION, NEBRASKA.

STOVE.

SPECIFICATION forming part of Letters Patent No. 639,029, dated December 12, 1899.

Application filed August 26, 1898. Serial No. 689,542. (No model.)

To all whom it may concern:

Be it known that I, FREEMONT D. GATES, a citizen of the United States, residing at Albion, in the county of Boone and State of Nebraska, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

This invention relates to a stove for burning coal wherein the air to produce combustion passes from the top down through a flue in the combustion-chamber to the fuel.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section representing one form of my stove, the drafts being open for promoting combustion. Fig. 2 is an elevation of the stove, partly in section at the top and showing the drafts closed as used for a smothered fire. Fig. 3 is a section view of the air-draft bulb on a larger scale.

The wall or case A of the stove may have any preferred shape. This case has a tight-fitting door *b* in its side and a tight-closing base *c*, with suitable provision *d* for removing ashes. A grate *e* supports the fuel.

A downdraft center pipe *f* opens out through the top *g* and air enters said top opening. The lower end of this pipe has a bulb *h*, of fire-clay, and is provided with air-openings *i*. This fire-clay bulb surrounds the lower end of the air-pipe *f* and protects it from the destructive effects of the fire and yet allows the incoming air to enter the coals.

A smoke-flue *j* connects at the top of the stove and leads to a chimney. (Not shown.) This smoke-flue has a damper *k*, which in Fig. 1 is shown open, but closed in Fig. 2. The smoke-flue has a small side opening *l*, which, as in Fig. 1, is closed by a cap *l'* when the fire is burning brightly.

In operation after the fire has been started the air-draft is down pipe *f* and from bulb

h into the fuel, and the products of combustion, smoke, and unconsumed gas pass out the flue *j*. At night or at other times when it is desired to maintain the fire in a smothered condition an elbow-flue *m* is employed. This elbow then has one arm set over the top end of air-draft pipe *f* and the other arm connected with the side opening *l* in the smoke-flue, as seen in Fig. 2. The damper *k* is closed. The operation now is changed. The fire has a slight draft and combustion will be slow, gases will be absorbed by the openings *i* in the bulb *h*, and such gases will pass up the center pipe *f* into the elbow-flue *m* and thence to the smoke-flue *j*.

It is to be understood that there is practically no inlets for air-draft below the grate *e*.

Having thus described my invention, what I claim is—

The combination in a stove of the case having a door; a grate; a practically air-tight base to exclude air below the grate; a pendent center pipe, *f*, whose upper end projects through the top of the stove and is open to supply a draft for the fire, the lower end of said pendent pipe extending down close to the grate so as to be wholly buried in the bed of the coals resting thereon and provided at said lower end with a bulb having air-openings; a smoke-flue, *j*, leading from the stove and having a damper, said flue also provided with a side opening said opening being adapted to receive a removable cap or one end of an elbow-flue, and the upper end of the draft-pipe being adapted to receive the other end of said elbow-flue, substantially as described.

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

MONT. D. GATES.

Witnesses:

WM. MARSHALL,
GEO. VINCENT.