

(No Model.)

E. H. DRIGGS.
SELF FEEDING OIL STOVE.

No. 603,322.

Patented May 3, 1898.

Fig. 1.

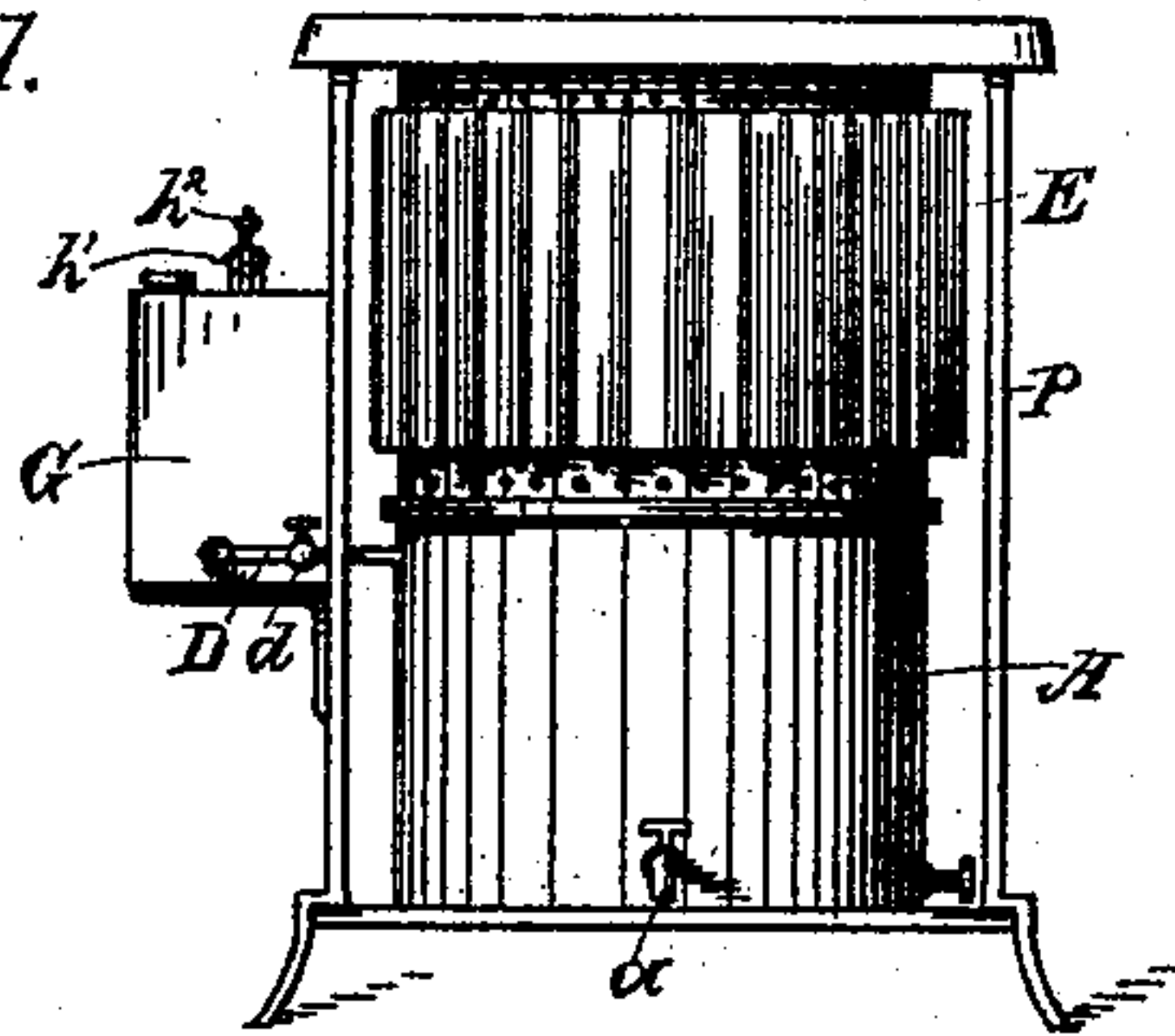


Fig. 2.

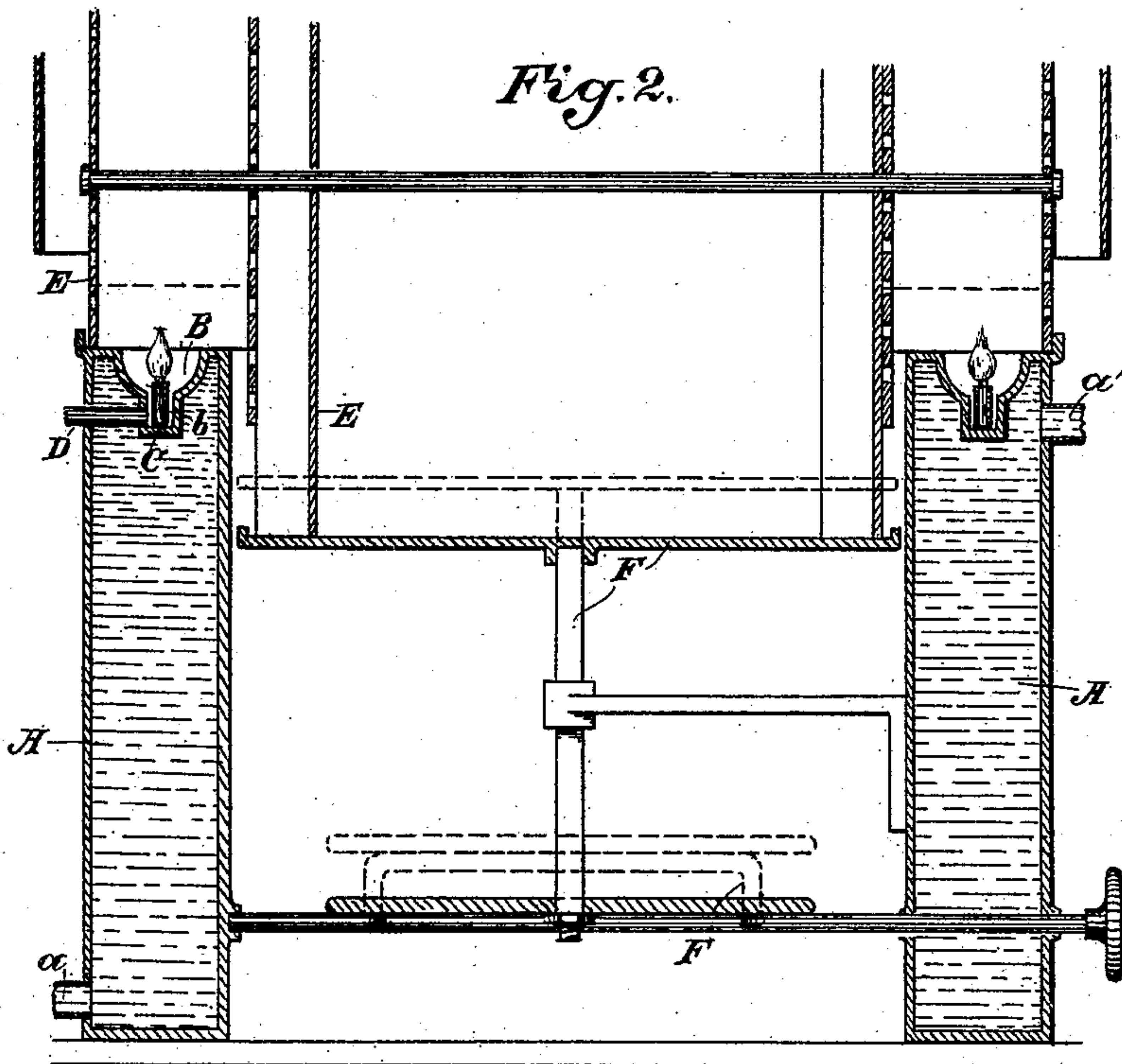
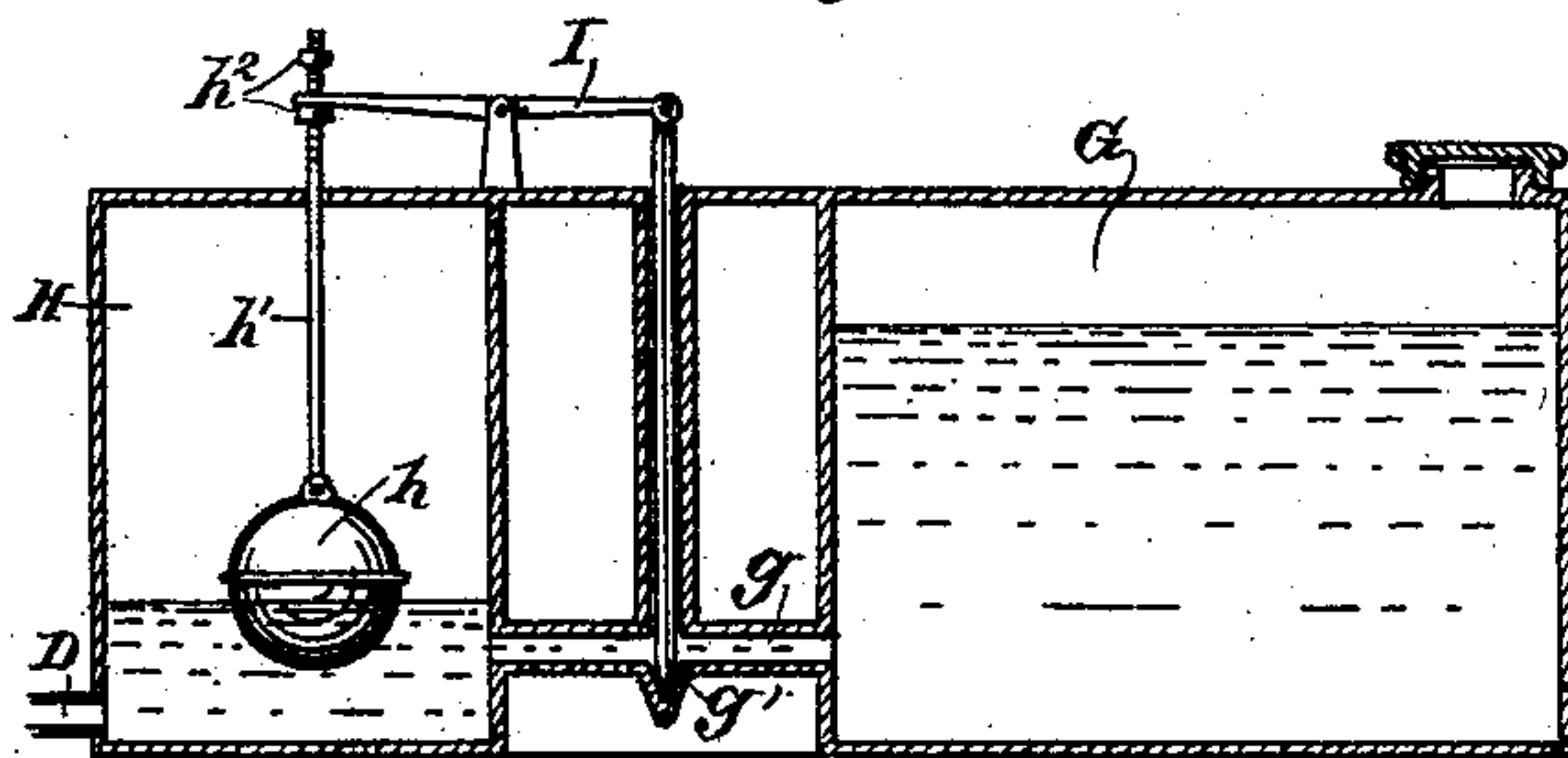


Fig. 3.



Witnesses
J. F. Ascheck
H. J. Dykes

Inventor
Edward H. Driggs,
by H. J. Booth,
his Attorney.

UNITED STATES PATENT OFFICE.

EDWARD H. DRIGGS, OF BERKELEY, CALIFORNIA.

SELF-FEEDING OIL-STOVE.

SPECIFICATION forming part of Letters Patent No. 603,322, dated May 3, 1898.

Application filed August 23, 1897. Serial No. 649,176. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. DRIGGS, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented certain new and useful Improvements in Self-Feeding Oil-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of oil-stoves having an automatic feed. In stoves of this kind it is highly desirable that the self-feeding mechanism be simple in construction and mode of operation in order that it may be controlled without the exercise of much skill, and also that it shall not, by its complexity or inaccuracy, excite those fears in the operator which are always more or less aroused when handling coal-oil.

It is consequently the object of my invention to provide an automatic feed which shall be simple and positive, capable of being readily controlled, and not requiring more than the most general knowledge of its construction and operation.

A further object, and one which is essential to the perfect steadiness and brilliancy of the flame, is to keep the burner and the inleading pipe comparatively cool, and this being done by a water-jacketing results incidentally in a body of heated water which may be of use.

With such objects in view my invention consists in the parts and arrangement of parts and combinations thereof hereinafter described, and particularly set forth in the claims.

Figure 1 is a general view of the stove and frame. Fig. 2 is a vertical section of the stove part proper. Fig. 3 is a vertical section of the self-feeding apparatus.

The usual frame is designated by P. This supports a stove or a plurality of stoves.

The stove consists of an annular hollow shell A, having a wick-chamber B in its top. Below this chamber is the oil-chamber *b*, receiving the base of the wick and steadying it. By "wick" I mean any oil-carrying substance adapted to have the oil inflamed at its surface, or a perforated pipe or jet will answer. I do not, therefore, confine myself to any special wick or burner device; but I find that asbestos will serve the purpose and be very clean

and durable. Such a wick I have represented by C. The oil-supply to the chamber *b* is introduced through pipe D, which enters the hollow shell A near its top and opens into the base of the oil-chamber. The hollow shell A is to be filled with water, and it has a double function—namely, to water-jacket the supply-pipe and the wick and oil-chamber and keep them from getting too hot, and also to serve as a vessel in which water may be heated. The result of keeping these parts comparatively cool is a bluer flame and a steadier one, as the oil does not volatilize so much and tend to increase the flame. In its capacity as a heater the shell A has proper connections with a source of water-supply. I have here shown these connections at *a* and *a'* providing for a circulation of the water through the shell.

E represents the ordinary chimney of this class of stoves, and F is the lifting mechanism to raise the chimney sufficiently to allow the flame to be lighted. Now in order to automatically supply the burner accurately and positively I have secured to the frame P an oil-reservoir G, which communicates with a float-chamber H by a pipe *g*. The float *h* is hung by an adjustable rod *h'* from a lever I, to the other end of which is connected a valve *g'*, which controls the passage through pipe *g*. This valve may be made as delicate as desired to permit the proper flow of the oil. From the float-chamber H issues the supply-pipe D to the shell A, and in this pipe is a controlling-cock *d*. This device can be arranged with such precision as to automatically regulate the flow of oil to just keep the oil-chamber *b* supplied, so that the oil will not overflow or run up on the chimney and require to be burned off, with the attendant smell, every time the stove is relighted. The oil-chamber *b* being shallow and narrow its contents will quickly burn out after the supply is shut off at cock *d*, and there will be no body of oil left around the burner, but the latter will be clean and dry, ready for reuse. The automatic and regulatable feed of the oil enables me to employ a shallow chamber, with its advantages. The float can be set by the nuts *h²* on top of rod *h'* in such manner as to permit the feed of exactly the required amount of oil, and when once set it need not

be again adjusted, and the only thing that need be done is to operate the cock *d* to turn on and cut off the supply. Thus the stove can be operated by any one, is safe, and its flame will be blue and remain steady without watching or caring for it. It will not become foul or malodorous, and it will be economical in use. In case water is not used in the shell A air may be admitted through suitable in-
 10 lets to keep the supply-pipe and burner cool.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an oil-stove, the combination of an annular jacket or shell having within it a cooling medium, an annular oil-chamber at or near the top of said annular jacket and extending within the same and into the cooling medium, a wick therein, and an oil-supply pipe for said oil-chamber passing through said annular jacket and its contained cooling medium.
 15 20

2. In a lamp-stove, the combination of an annular jacket or shell containing a cooling medium having its top wall depressed to form an annular wick-chamber extending into said annular jacket and into the contained cooling medium and a fuel-supply pipe for said wick-chamber through said annular jacket
 25 30 and its contained cooling medium.

3. In a lamp-stove, the combination of an annular jacket or shell, containing a cooling

medium, having its top wall annularly depressed to form an annular wick-chamber B an annular oil-groove in the bottom thereof both extending into said annular jacket and its contained cooling medium, a wick in said wick-chamber, and a fuel-supply for said wick-chamber, substantially as described. 35

4. In a lamp-stove, the combination of a water-jacket, a narrow shallow wick-chamber extending into said jacket, and a wick in said wick-chamber substantially filling said chamber, a fuel-supply connected with said wick-chamber, an automatic regulator for said supply, and adjusting means for said regulator. 40 45

5. In an oil-stove, the combination of a water-jacket a shallow oil-chamber for supplying the wick or burner extending into said water-jacket, a supply-reservoir for the oil-chamber, a float-chamber connected by said supply-pipe to said reservoir and oil-chamber, a float in said float-chamber, a regulator-valve in said supply-pipe, and an exposed adjustable connection between said float and valve, substantially as described. 50 55

In witness whereof I have hereunto set my hand.

EDWARD H. DRIGGS.

Witnesses:

H. J. DYKES,
 WALTER F. VANE.