

(No Model.)

O. N. KYLE.

EXTENSION TOP FOR OIL AND GAS STOVES.

No. 246,320.

Patented Aug. 30, 1881.

FIG. 1.

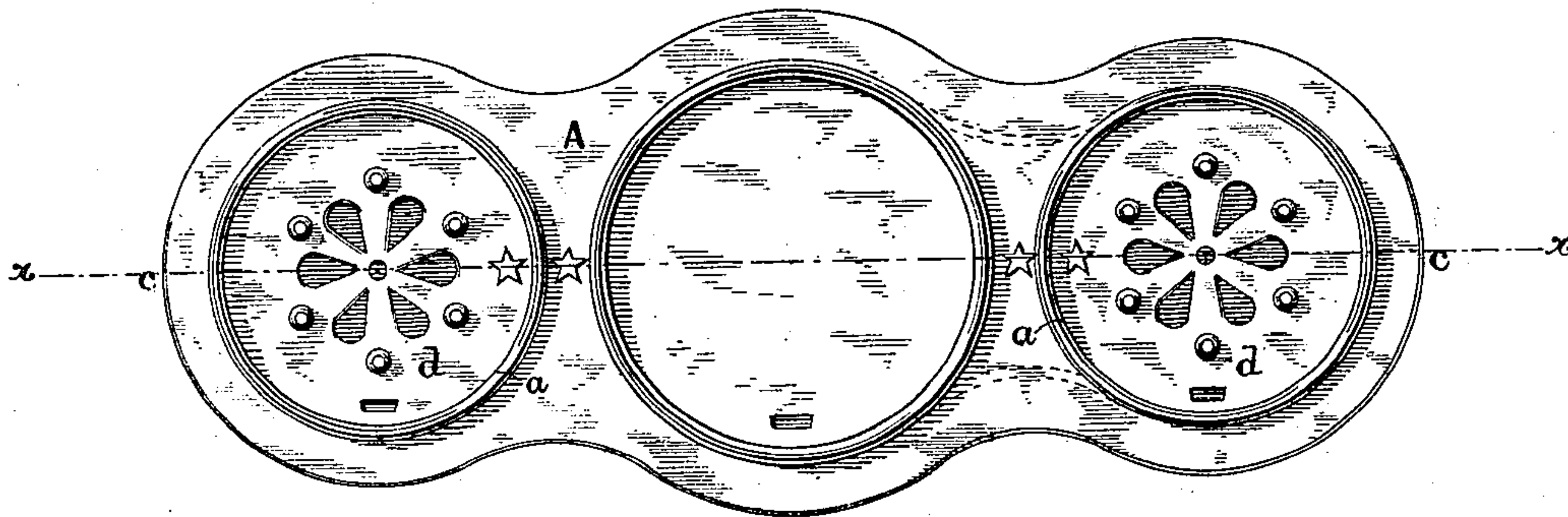


FIG. 2.

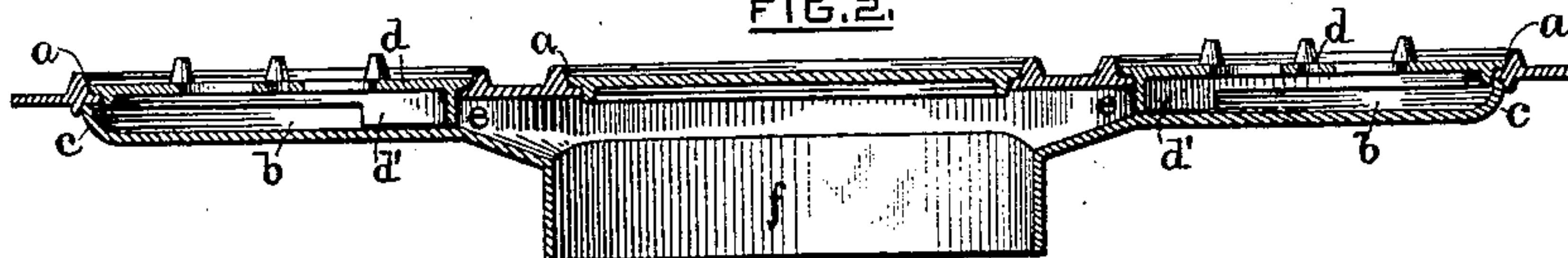


FIG. 3.

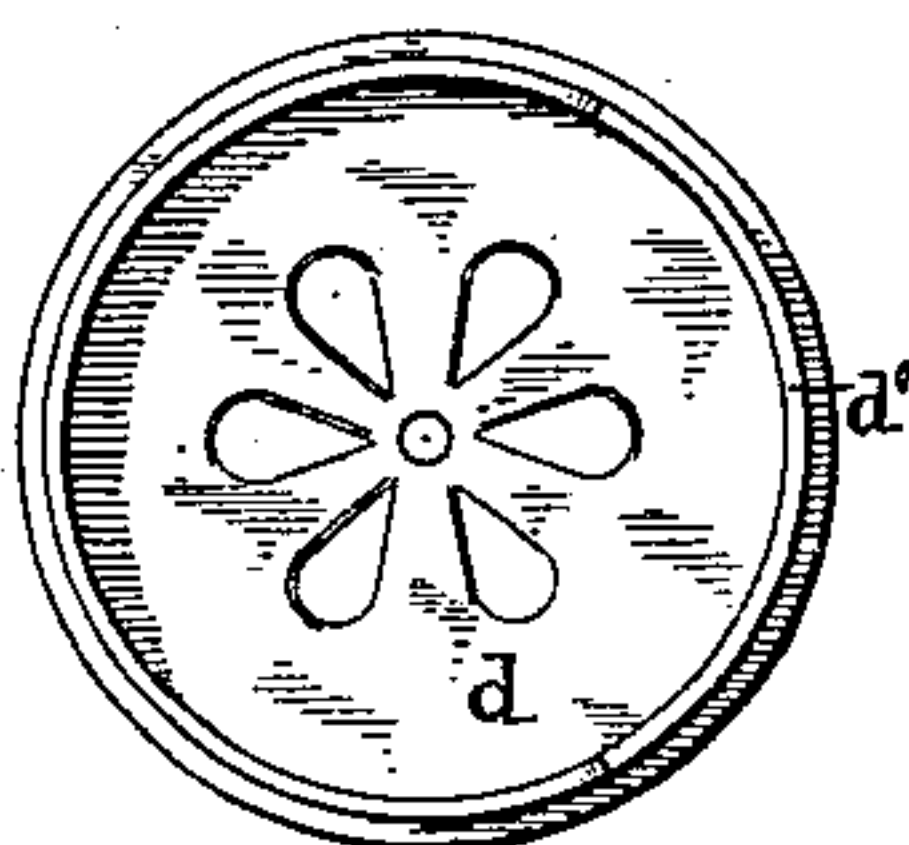


FIG. 4.



FIG. 5.

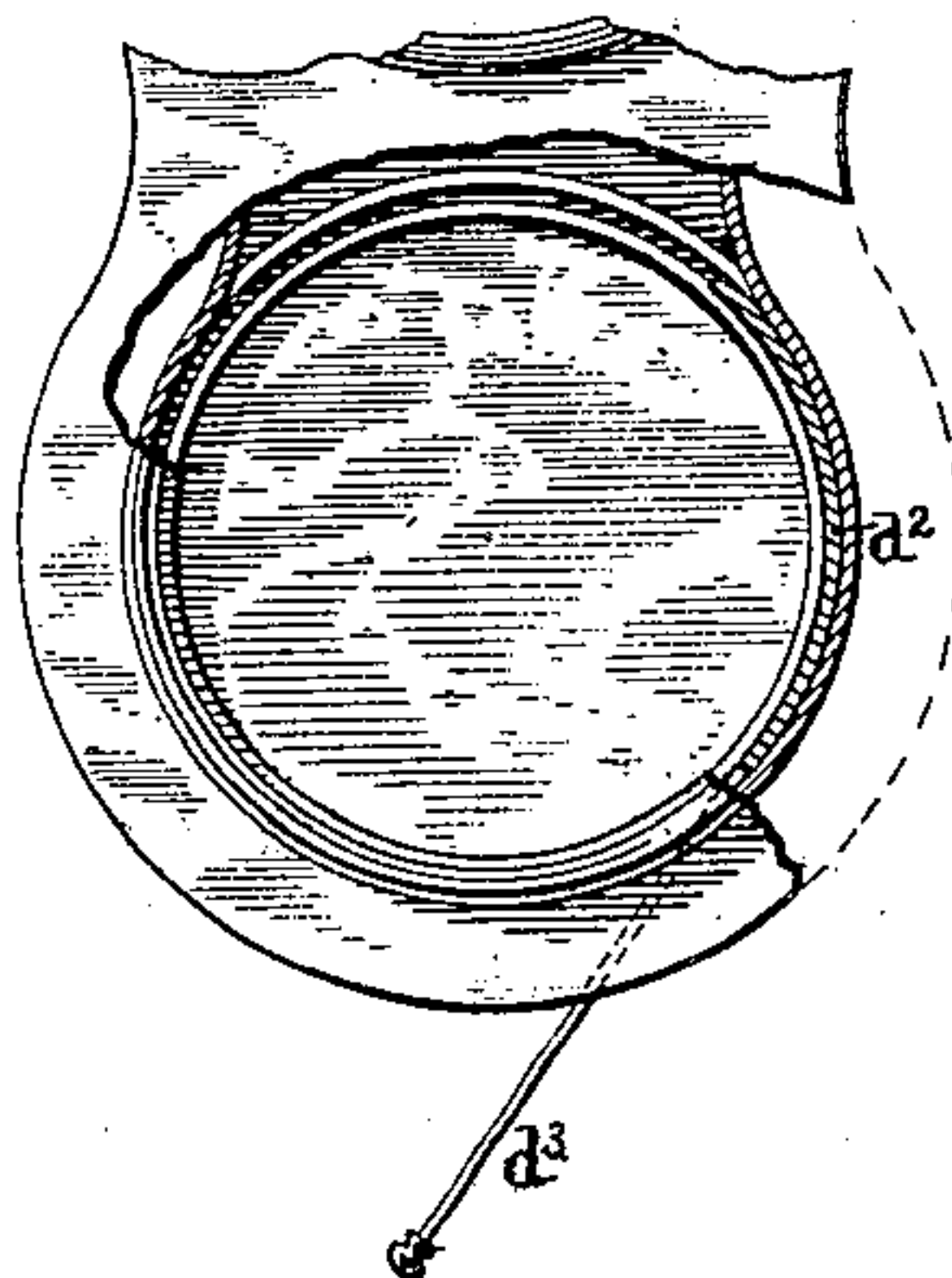
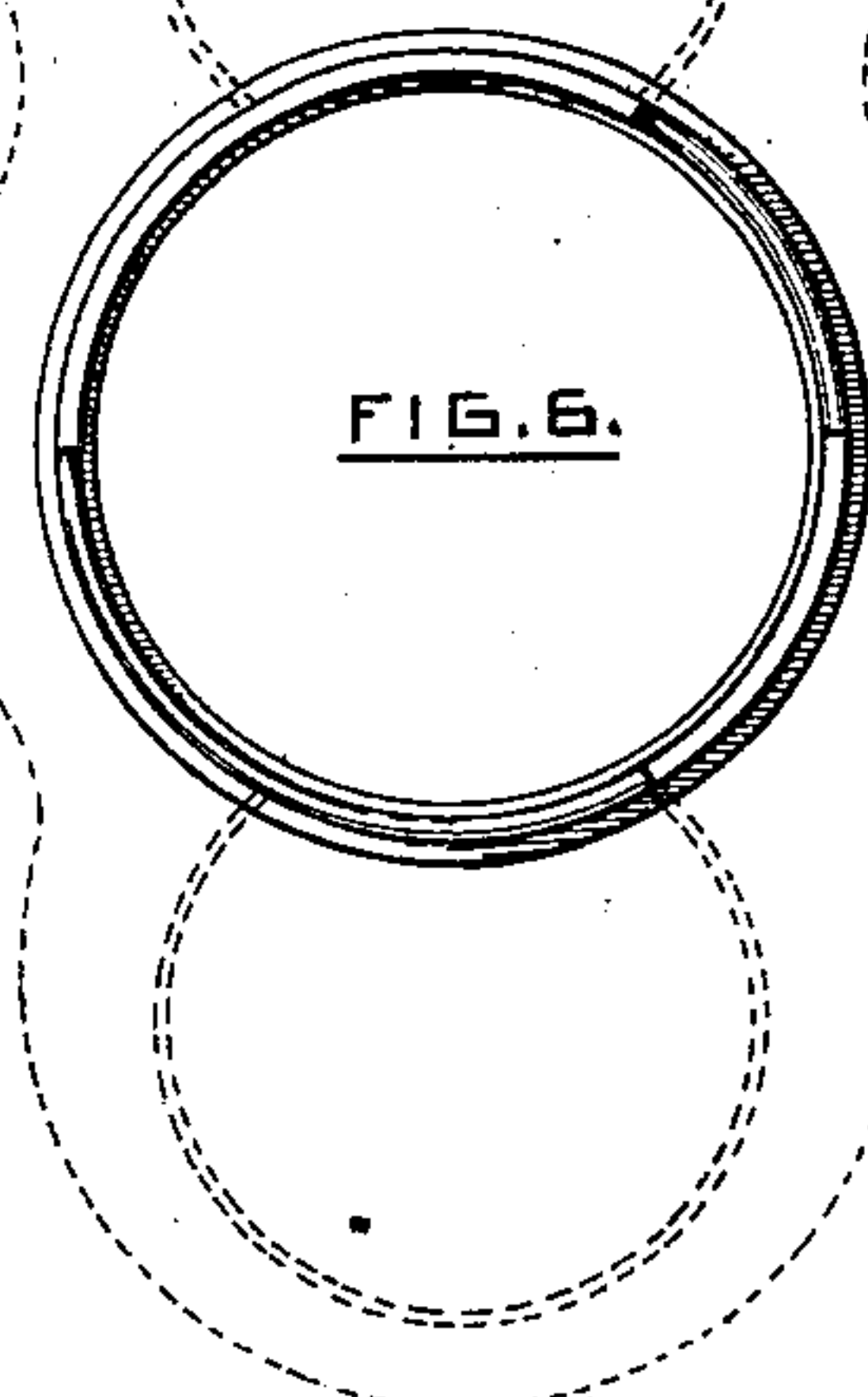


FIG. 6.



WITNESSES:

Philip F. Larnet.
Howell Bartles.

INVENTOR:

Oscar N. Kyle.
By *[Signature]*
Attorney.

UNITED STATES PATENT OFFICE.

OSCAR N. KYLE, OF FLORENCE, MASSACHUSETTS.

EXTENSION-TOP FOR OIL AND GAS STOVES.

SPECIFICATION forming part of Letters Patent No. 246,320, dated August 30, 1881.

Application filed June 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, OSCAR N. KYLE, of Florence, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Extension-Tops of Oil and Gas Stoves; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

It is well known that extension-tops of oil and gas stoves are intended and relied upon solely for temporarily increasing the superficial capacity of such stoves for receiving cooking utensils, &c., and that whenever thereafter the normal or lesser superficial capacity is desired, coupled with a concentrated heating capacity, said extension-tops are removed, so that the drum can be used alone. In the practical use of stoves of this class some considerable difficulty is experienced in handling the highly-heated extension-tops, frequently resulting in burns and blisters upon the hands of ladies, and it is also found to be inconvenient to provide suitable surfaces on which said hot tops may be safely placed. Many tops are also broken in handling, and the detachable parts thereof are specially liable to be dropped and broken during the handling of said heated tops. As heretofore constructed, the necessity for removal of extension-tops has been due to the fact that if a vessel or an oven be placed on an extension-top over the central aperture, or the one nearest the center of the drum, the diversion of the heat laterally in various directions into the hollow extension-top results in great waste of heat, and a consequent delay in obtaining the results desired.

For the first time, so far as my knowledge extends, I have provided means whereby, with an extension-top, the necessity of handling said top while heated is wholly obviated, and that is the prime object of my invention. In attaining this end I have also largely increased the practical value and general usefulness of stoves with extension-tops, in that their heating capacity may be practically confined to the main drum, or readily augmented in superficial capacity to the fullest extent possible with extension-tops, or to any desired lesser degree;

and, also, in that the heating currents or products of combustion discharged from central portion over the drum into the side chambers of the extension-top are caused to assume a rotary motion, and thus to encircle the base of a kettle inserted in the extension-openings of the top; or, when a cover is in place, to thereby concentrate the heat centrally beneath said cover, and to cause the main portion of the heat to be vertically discharged through central openings common in said covers, so as to impinge with effective results against utensils supported as usual on the pins of said covers.

The features believed to be novel will be first fully described, and then specified in the several claims hereunto annexed.

Referring to the drawings, Figure 1 is a top view of an extension-top embodying my improvement. Fig. 2 is a central vertical longitudinal section of the same. Fig. 3 is a bottom view of one of the side covers detached. Fig. 4 is a central section of the same on line *x*. Fig. 5 is a horizontal sectional view of one side of an extension-top containing a modification of certain portions of my invention. Fig. 6 is an inverted plan of a valve-ring provided with flanges arranged to variably control the passage of heat to the extension-chambers.

The extension-top A may be variously constructed with any desired number of circular openings, *a*, for the reception of utensils, or the stand-pipe of an oven or ovens. Preferably, as heretofore, there is a central opening coincident with the drum of the stove with which it is to be used, and an additional opening on each side thereof. The top has an internal chamber, *b*, as heretofore, extending from end to end, and provided with ample opportunities for the emission of the heated products of combustion. Aside from my improvements, the extension-top shown is substantially like the well-known "Edwards" stove-top, as embodied in the well-known "Florence Stoves." My improvements are, however, applicable to subsequent and variously-modified forms of extension-tops, as will readily be obvious to persons skilled in the art.

For obviating the necessity of handling a heated extension-top, when the concentrated

heating capacity of the stove is required, I provide means whereby the currents of heat may be cut off from entering the side chambers or extensions, and thereby practically limit the superficial heating area of the stove to the capacity of the drum itself, substantially as if the extension-top were removed.

While the novel means preferably employed for the purpose stated, as hereinafter described, and as illustrated in the drawings, have been specially devised by me with a view to the attainment of certain valuable auxiliary results, said means, when broadly considered with reference to their general functions, operate as gates, valves, or dampers.

I am well aware that dampers, valves, and gates have been heretofore employed in stoves in an almost endless variety of construction and arrangement with relation to internal flues and passages; but I know of no instance in which a gate, valve, or damper prior to my invention served as a means for obviating the handling of a heated detachable portion of any stove, as heretofore constructed, although such means may have heretofore been so organized in stoves as to obviate a necessity for the removal of cooking utensils, by reason of the ready diversion of heat therefrom.

For purposes of this specification I will term the interior of the two ends of the extension-top the "extension-chambers," and, as is common therein, each of said chambers at its outer end is rounded, as at *c*, and they are provided, as usual, with the openings *a* therein, for receiving utensils, and also with covers *d*, usually centrally perforated and provided with vertical pins or studs, as shown. The cover *d* has a segmental depending flange, *d'*, of sufficient depth or width to practically fill the vertical space at *e* in chamber *b* adjacent to the central portion of the extension-top which overlies the drum of the stove, the annular flange *f* being fitted to properly seat upon the top of the stove-drum, or upon an annular cap-plate thereon. The length of the depending flange *d'* is a little greater than the width of the entrance through which the products of combustion pass to each extension-chamber, so that when the cover is in position it may be rotated so as to close the whole or any portion of said entrance, thus, if desired, practically isolating its chamber from the central portion of the top, so far as relates to the entrance thereto of the heated currents from the drum. It is not broadly new to provide a cover or a ring with a depending flange to serve as a valve, gate, or damper; but, so far as my knowledge extends, I am the first to thus employ a depending flange on a ring or a cover for closing the entrance to an extension-chamber, or, in other words, for closing the passage leading thereto from the drum or main chamber. This depending segmental flange *d'*, as employed by me, serves as a gate, valve, or damper; but when employed as described it will be seen that when partially open at either side the heated cur-

rents will enter at that side only, and, striking the curved or rounded end of the chamber, they will be caused to assume a rotatory motion, concentrating beneath the center of the cover, and the greater volume thereof will therefore be discharged upward through central openings in said cover, and be directed centrally against the bottom of a utensil resting on the pins or studs. It will hereinafter be shown how this result, and also additional results, may be attained by means of a gate permanently connected with the extension-top. I prefer, however, the cover thus provided with the flange-gate, because a large number of stoves with extension-tops already in use may be readily supplied at low cost with such novel covers, and thus be substantially improved, so far as relates to the main object of my invention.

In Fig. 5 I show a valve or gate, *d*², by which the main object of my invention may be obtained, and also the rotatory currents, and by its use certain additional advantages accrue. It is obvious that when the cover, with its gate, is removed for the insertion of a rabbeted kettle, for instance, the heated currents cannot be graduated with reference to the kettle, nor can the rotatory effect be obtained. With the gate *d*² partially closed the heated current enters, as before, at one side, and, as before, takes the rotatory motion, completely encircling the lower portion of the kettle and utilizing the diminished volume of heat to the best possible advantage. The gate *d*² may be merely a strip of bent metal, fitted to slide in curved grooves provided therefor in the casting, or it may slide between vertical studs, arranged in an obvious manner, and provided with a flexible stem or rod, *d*³, by which it may be moved.

For the attainment of the prime object of my invention, valves, gates, or dampers of other forms may be employed without departure from the main feature of my invention; but the forms described, arranged as shown, are deemed by me preferable to any others, for the several reasons stated.

As an illustration of the increased capacity and usefulness of a stove as thus improved by me, let it be supposed that the extension-top has been long in use and highly heated, and that an emergency occurs requiring a baking or a boiling operation to be as rapidly performed as possible. Instead of removing the extension-top, as heretofore, with all the disadvantages attendant thereon, the two side covers are turned in their seats until the two stars or other marks, cast respectively on cover and stove-top, are coincident, thus indicating the closed position of the gate and confining the heat to the central portion of the top, and causing it to ascend into the oven, placed upon the central opening, or against a kettle placed in said opening. If used for baking, the heat can be nicely graduated by slightly turning the covers from time to time, and the diverted currents may be obviously utilized to the best pos-

sible advantage within the extension-chambers, because of the rotatory currents therein.

In some cases detachable extension-tops are used with stoves having two drums, and by embodying my invention therein either drum may be used and its delivery of heated currents limited to itself; or one cover provided with the flange-gate may be used interchangeably with the large opening over either, when the other drum is desired for use singly. In some cases a central opening only is provided in an extension-top, and with them the central covers should be provided with single flange-gate or two oppositely-located flange-gates, whereby the entire volume of heat, if desired, may be passed upward through the usual openings in said cover. To persons accustomed to the use of such stoves the many advantages accruing from my invention will be obvious; and it will be seen that the cost involved, as with the use of the novel cover and its depending flange, will scarcely exceed the value of a few ounces of cast-iron.

In that class of extension-tops having but one large opening for a kettle, centrally located, I employ a loose ring having an annular seat for the cover, and provided with one long and one short depending flange-gate, they being so proportioned to each other and to the intervening spaces, as illustrated in Fig. 6, that either or both or neither of the entrances to the extension-chambers may be closed by the rotative adjustment of said ring.

Having thus described my invention, I claim as new—

1. In a detachable extension-top for oil or gas stoves, the combination, substantially as

hereinbefore described, of the extension-chamber and the valve or gate at the entrance thereto, whereby said top, when heated, need not be detached from the drum of the stove when the concentrated capacity of the latter is desired, as set forth.

2. The combination, with an extension stove-top having an extension-chamber with a rounded outer end or side, of a valve or gate at the entrance to said chamber, opening and closing from side to side of said entrance, substantially as described, whereby the products of combustion are caused to circulate in a rotatory current in said chamber, as set forth.

3. In a detachable extension-top for oil or gas stoves, the combination of an extension-chamber having a rounded or curved end or side, a detachable cover having central openings, and a valve or gate which opens from side to side of the entrance to said chamber, substantially as described, whereby the products of combustion are caused to rotate in said chamber, concentrate centrally, and mainly discharged vertically through the central portion of said cover, as set forth.

4. The combination, with an extension-top for an oil or gas stove having internal passages radiating from the center thereof into the extension-chamber, of a stove lid or cover having a depending segmental flange near its periphery for closing the entrance to the chamber underlying the cover, substantially as described.

OSCAR N. KYLE.

Witnesses:

SIDNEY L. CLARK,
H. K. PARSONS.