

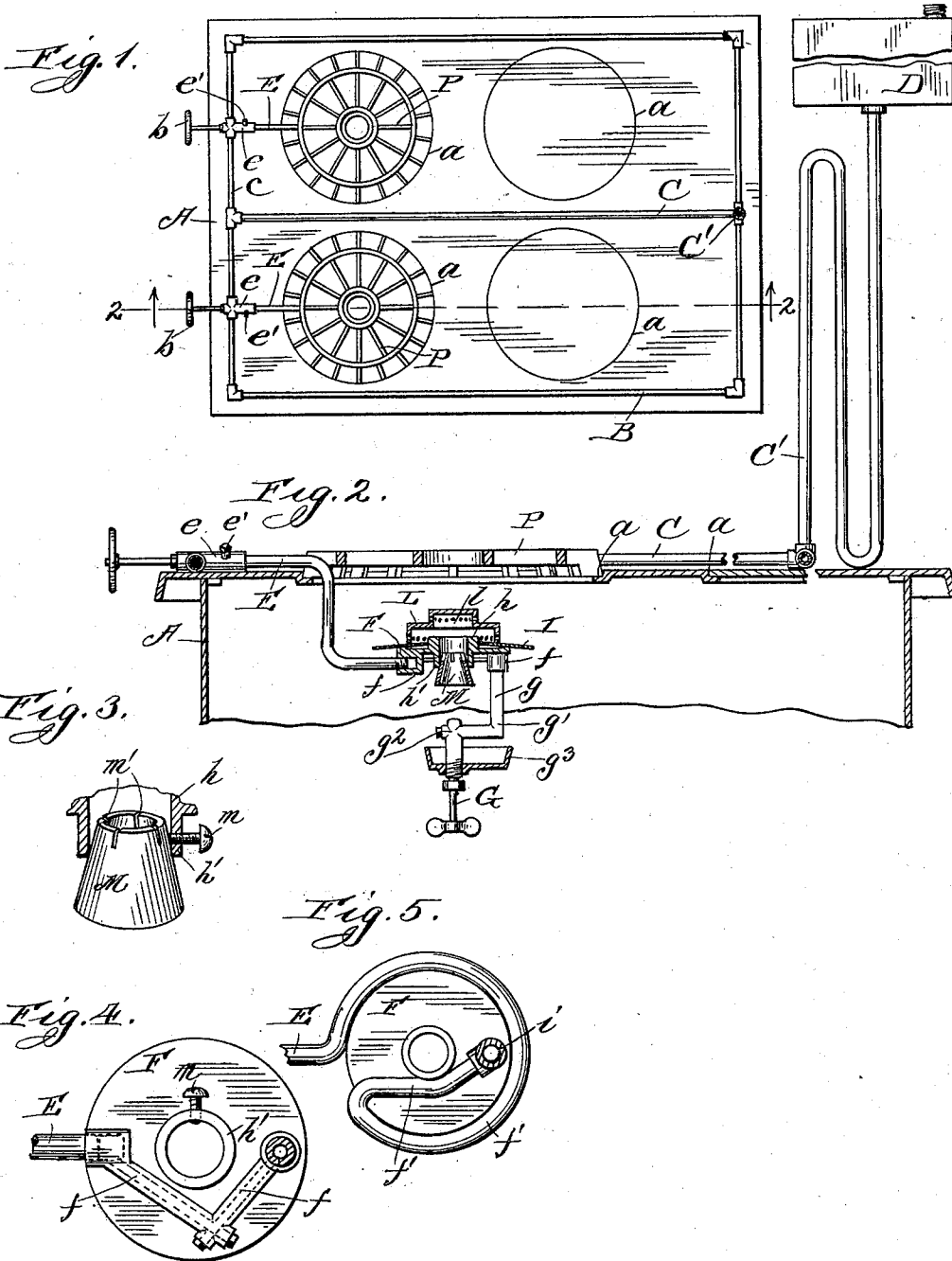
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Patented Nov. 28, 1899.

L. YANCEY.
OIL GAS GENERATOR FOR STOVES.

(Application filed Dec. 30, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

LEE YANCEY, OF CHICAGO, ILLINOIS.

OIL-GAS GENERATOR FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 637,953, dated November 28, 1899.

Application filed December 30, 1898. Serial No. 700,704. (No model.)

To all whom it may concern:

Be it known that I, LEE YANCEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have
5 invented certain new and useful Improvements in Oil-Gas Generators for Stoves, of which the following is a specification.

This invention relates to improvements in oil-gas generators, and while it is more especially designed to be used for generating gas from kerosene, yet other oils may be employed; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be
15 hereinafter more fully set forth and specifically claimed.

The objects of my invention are, first, to provide an oil-gas generator which shall be simple and inexpensive in construction, strong
20 and durable, and which may be easily applied to stoves or in some instances used separately therefrom, and, second, an oil-gas generator of the above-described character which shall produce a flame of intense heat and will be of
25 such a construction as to spread the blaze so as to heat a large surface.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe
30 it, referring to the accompanying drawings, in which—

Figure 1 is a plan view of a stove with my generator applied thereto. Fig. 2 is a view, partly in elevation and partly in section, taken
35 on line 2 2 of Fig. 1, of the upper portion of the stove, showing my generator in position thereon and the parts in the position they will occupy when ready for use. Fig. 3 is a view, partly in elevation and partly in section, of
40 a portion of the burner-disk, showing the draft tube or piece secured therein: Fig. 4 is a bottom plan view, partly in section, of the burner-disk and a part of the generating tubes or channels; and Fig. 5 is a similar view of a
45 modification therein.

Similar letters refer to like parts throughout the different views of the drawings.

A represents a stove of the ordinary or any preferred construction which is provided, as
50 usual, with a number of openings *a* in its top. Located on the top of the stove is a frame B, preferably rectangular in form and may be

made of tubing when desired. Extending from one end of the frame B to its other end is a pipe C, which is suitably connected to
55 the frame B and communicates at one of its ends with a pipe C', which communicates at its other end with a supply-tank D for the oil. The pipe C' is preferably formed with a double bend, as shown in Fig. 2 of the drawings, to
60 form a trap to retain the oil, and thereby prevent the gas from backing up this pipe and escaping through the oil-receptacle. The other end of the pipe C communicates with a transverse pipe *c*, which is provided with
65 one or more shut-off valves *b* to control the flow of oil to the generator. Extending from the transverse pipe *c* and to within the pipe B are pipes E, which are bent downwardly and then horizontally, so as to pass through
70 the openings *a* in the top of the stove and to extend to about its center. These pipes are united to the transverse pipe *c* preferably by means of T-shaped couplings *e*, each of which is provided with a plug *e'*, to be removed when
75 it becomes necessary or desirable to cleanse the pipes E of any sediment or coating which may form therein. Secured on the lower end of the pipes E are burner-disks F, which are provided with conduit-channels *f*, with which
80 the pipes E communicate at one of their ends and to the other ends of which are connected tubes *g*, which extend downwardly and then horizontally to a distance below and directly
85 under the center of the burner-disks F and then downwardly again, thus forming two elbows *g'* and *g''*, each of the latter-named elbows being provided with a small vertical opening or channel for the passage of vapor. The lower portion of the tube *g* has secured
90 therein a needle-valve G to be used for opening or closing said opening or cleaning the same should it become clogged. Surrounding the lower portion of each of the tubes *g* is an oil-cup *g''* to retain oil. The burner-
95 disks F are provided with central openings and on each of their surfaces with annular flanges *h* and *h'*, as shown. Located on each of the burner-disks F is a flame-spreading disk I, which has a central opening to fit
100 around the flanges *h* on the upper surface of the burner-disks and is employed to protect the flames issuing from the burner-openings from being impinged upon by the up-

wardly-flowing currents of air. Resting on top of each of the spreader-disks I is a burner L, which has in its walls a series of perforations *l* for the escape of the gas and air. Secured in the central openings of each of the burner-disks F by means of a set-screw *m* or otherwise is a draft tube or piece M, which is preferably flaring at its bottom and is provided in its upper portion with vertical slots *m'* for the passage of air and gas.

In the above description and in Fig. 1 of the drawings I have set forth and shown my generator as provided with two burners; but it is evident that one of them may be omitted or that any desired number may be employed. Instead of providing the burner-disks with conduit-channels *f*, as shown in Figs. 2 and 4, and connecting the pipes E thereto, as above described, I may coil the pipes E around the disks F to form generating channels or conduits *f'* and secure the same together in any desired manner, as shown in Fig. 5 of the drawings, and secure the tubes *g* to the ends of the generating channels or tubes *f'* by means of couplings *i* or otherwise.

When the generator is used on a stove, as shown in Figs. 1 and 2 of the drawings, the openings *a* in the top of the stove may be provided with grates P, on which the vessels may rest.

The operation of my device is simple and as follows: Oil is placed in the tank D and may be forced through the pipes C and C' by gravity or under pressure. By opening the valves *b* a sufficient quantity of oil will pass through the needle-like opening in the elbow *g*² of the tube *g* and fall into the oil-cup *g*³, where it can be ignited, so as to heat the tube *g* to commence the generation of gas. As soon as the oil within the tube *g* becomes vaporized it will be forced through the opening

in the elbow *g*² by reason of the pressure within the supply-tank and through the air-tube or piece M into the cavity of the burner L, in which operation it will be mixed with the air and discharged through the perforations in the form of flames, the disk I causing said flames to spread horizontally over a large surface. After the generation of vapor has commenced and it is being burned it is evident that that portion of the pipes E located within the stove and the channels which connect said pipe with the tube *g* will act as generating-channels. If the pipes E should become clogged or coated, the plugs *e'* may be removed and a suitable liquid injected thereinto to cleanse the same.

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

The combination with a tank, of a supply-pipe communicating therewith at one of its ends, vapor-generating conduits communicating with the other end of the supply-pipe, a tube communicating with the said conduits and extending downwardly therefrom and thereunder and provided with an opening for the escape of vapor and oil, the burner-disk located above said opening and having a central opening therein, a trunco cone-shaped draft-tube having slits in its upper portion and secured in the opening of the burner-disk, a spreading-disk located on the upper surface of the burner-disk and extending beyond the burner, and a burner having its walls perforated and located on the upper surface of the spreading-disk, substantially as described.

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