

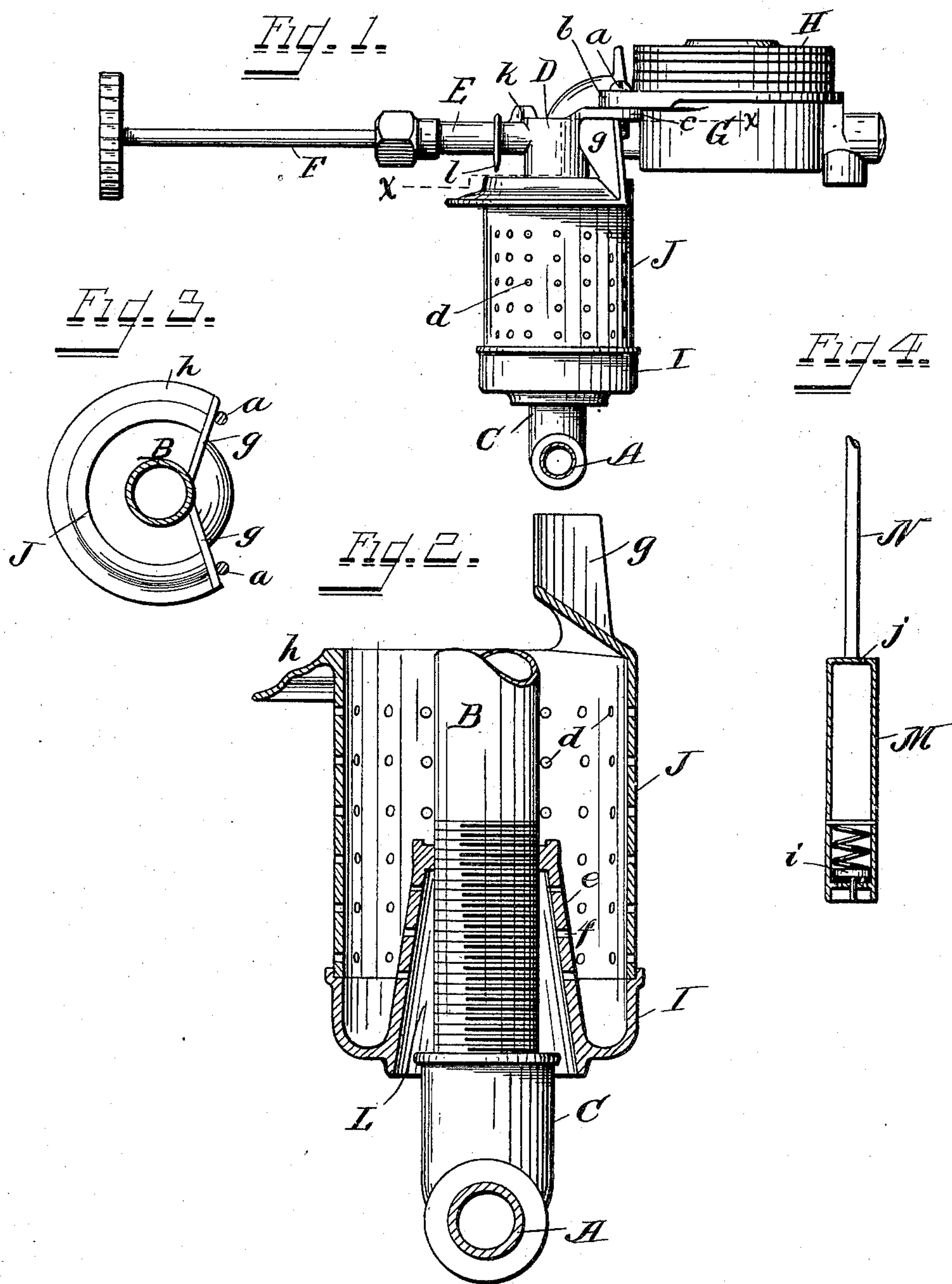
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I. KINSEY.
GENERATOR FOR VAPOR STOVES.

(Application filed June 19, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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GENERATOR FOR VAPOR-STOVES.

SPECIFICATION forming part of Letters Patent No. 688,865, dated December 17, 1901.

Application filed June 19, 1901. Serial No. 65,158. (No model.)

To all whom it may concern:

Be it known that I, ISAAC KINSEY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have
5 invented certain new and useful Improvements in Generators for Vapor-Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to stoves which burn gas generated from gasoline or kerosene-oil, and has for its object the construction of a lighting and generating device for generating
15 gas in a burner, which will be free from smoke, soot, or odor and which can be adjusted on the stand-pipe and lowered to permit of cleaning. Heretofore in stoves of this character one great objection has been found in the lighting and generating devices used for initial heating or generating, owing to smoke which blackens ceilings and walls and soot which accumulates on the burner parts, making it necessary to clean them frequently in
25 order to generate the gas at all. Soot is a non-conductor of heat, and if allowed to accumulate on the burners and the parts the liquid usually allotted for generating the gas will be found insufficient for that purpose. With
30 my construction by means of exterior and interior perforated walls forming a combustion or flame chamber in direct contact with the central stand-pipe or retort and having air-space between the interior wall of the lighter and the stand-pipe containing the liquid to be generated I admit the air in proper manner and proportions to produce the best possible combustion without smoke and with intense heat, whereby the generation of the gas
40 to properly light the burner is effected in the shortest possible time.

The novelty of my invention will be hereinafter more fully set forth, and specifically pointed out in the claims.

45 In the accompanying drawings, Figure 1 is a side elevation of an ordinary gasoline-burner equipped with my improved lighting and gen-

erating mechanism. Fig. 2 is an enlarged central section, partly broken, of the lighting and generating mechanism. Fig. 3 is a plan
50 view on the dotted line *xx* of Fig. 1. Fig. 4 is a sectional elevation of the lower end of the charger.

The same letters of reference are used to indicate identical parts in all the figures. 55

A represents the supply-pipe, leading from a suitable elevated receptacle (not shown) containing the gasoline or other liquid hydrocarbon. From this supply-pipe as many vertical stand-pipes or retorts B as there are
60 burners to the stove extend upward and are preferably connected at their lower ends by unions or T-couplings C. The upper end of the stand-pipe or retort communicates with the closed generator-head D, containing the
65 valve-casing, in whose neck E is guided the usual needle-valve stem F. Secured by screws *a*, passed through ears or lugs *b* and subjacent ears *c* on the generator-head, is the usual or any suitable burner bowl or cup G, upon
70 which rests the usual or any suitable perforated burner-cap H. The orifice of the needle-valve opens into the bowl or cup G in the usual or any suitable manner.

All of the foregoing parts are well known
75 to the art and need no further description.

The lower end of the stand-pipe or retort B is exteriorly threaded, as seen in Fig. 2, and upon this threaded end is screwed the lighting-cup I, which has an upwardly-extending
80 hollow boss whose top, interiorly threaded, forms the screw engagement between the cup and stand-pipe and permits the cup to be raised or lowered thereon, as hereinafter explained. Surrounding the stand-pipe B and
85 having its lower end resting upon the upper flanged end of the cup I is a cast-metal cylinder or chimney-piece J, containing perforations *d* through it, which perforations extend all around it and from its top to its bot-
90 tom, as shown. The wall of the boss *e* upon the cup I is similarly perforated, as at *f*, said perforations beginning at about the level of the top of the cup and extending upward, and

it will be observed that the boss *e* extends about half-way up the cylinder J, thus forming an air-space L within the boss, which is open at the bottom of the cup. As a simple and efficient means of locking the cylinder J securely in place I secure upwardly-projecting wings *g* to the top flange *h* of the cylinder J, which wings rest under the lugs *c* and are held in place by the screws *a* and the generator-head, against which they bear, as seen in Fig. 3. Then by screwing up the cap I until the lower end of the cylinder is caught and held in the flanged cup a very secure lock is formed between the parts, as will be readily understood, and at the same time by the employment of these wings the flame is directed away from the air-tube or gas-inlet and toward the generator-head, as will be readily understood. Whenever it is desired to clean out the cup I, it is only necessary to screw it down upon the stand-pipe B, the air-space L forming abundant clearance for that purpose, thus leaving an opening between the lower end of the cylinder and the top of the cup, which permits the interior of the cup to be gotten at and thoroughly cleaned out whenever desired, and after being so cleaned the cup is again screwed up to lock the parts in place together again, as will be readily understood.

In Fig. 4 I have shown a convenient form of charger which consists of a hollow cylinder M, carried by a rod N and having a spring-seated valve *i*, closing an aperture in its lower end, and with a vent *j* at its upper end. Upon immersing the cylinder M into the gasoline or other liquid hydrocarbon it becomes filled, and then upon withdrawing it and placing it over a stud or projection *k*, Fig. 1, on the generator-head and pressing it down the valve *i* is opened and the liquid hydrocarbon flows down into the bowl of the cup I, being directed in its flow by a pendent point *l*, arranged over the open mouth of the cylinder J. The bowl of the cup I is thus charged, and the liquid is then lighted, and owing to the perforations through the wall of the cylinder J, and especially the inner perforations through the wall of the boss *e*, air in sufficient quantity is supplied to the burning liquid to create perfect combustion with a perfectly blue flame and without any smoke or soot whatever and producing an intense heat directly against the stand-pipe and generator-head, which speedily generates the gas necessary to start the burner.

The most essential feature of my present invention consists in providing a combustion or flame chamber in direct contact with the stand-pipe or retort and having the air-space L between the inner side of the cup and the stand-pipe, with perforations opening from said air-space into the cylinder J, thereby producing a central draft to the interior of the flame, as well as an exterior draft through the

perforations in the wall of the cylinder J, thus supplying all of the oxygen necessary to produce perfect combustion in direct contact with the stand-pipe or retort.

A second very essential feature of my invention consists in the provision for screwing down the cup I to permit access to its interior for cleaning without the necessity of uncoupling or removing any of the parts, and finally my invention is very advantageous in the simple manner in which the cylinder J is supported and firmly held between the cup and generator-head.

Having thus fully described my invention, I claim—

1. In a generator of the character described, the combination of a stand-pipe or retort, a valve-controlled head thereon communicating with the burner, and a combustion-chamber in direct contact with the stand-pipe consisting of a perforated cylinder surrounding the stand-pipe, a cup at the lower end of said cylinder and an inner perforated wall extending up from said cup within said cylinder with an air-space between said stand-pipe and inner wall.

2. In a generator of the character described, the combination of a stand-pipe or retort, a valve-controlled head thereon communicating with the burner, and a combustion-chamber in direct contact with the stand-pipe consisting of a perforated cylinder surrounding the stand-pipe, a vertically-adjustable cup at the lower end of said cylinder and an inner perforated wall extending up from said cup within said cylinder with an air-space between said stand-pipe and inner wall.

3. In a generator of the character described, the combination of a stand-pipe or retort, a valve-controlled head thereon communicating with the burner, and a combustion-chamber in direct contact with the stand-pipe consisting of a perforated cylinder surrounding the stand-pipe, a cup connected by threaded engagement with the stand-pipe at the lower end of said cylinder and an inner perforated wall extending up from said cup within said cylinder with an air-space between said stand-pipe and inner wall.

4. In a generator of the character described, the combination of a stand-pipe or retort, a burner attached to said stand-pipe, a combustion-chamber in direct contact with the stand-pipe and having an outer and inner perforated wall, an air-space between the inner wall of the lighter and stand-pipe, the inner perforated wall being attached to the oil-cup which holds the liquid for generating, the outer perforated wall of the lighter being separate and detachable from the cup and inner perforated wall to permit of easily cleaning the cup and lighter parts, substantially as described.

5. In a generator of the character described, the combination of the generator-head D, the

stand-pipe B threaded at its lower end, the cup I having an inner perforated wall extending upward and engaging the threads on said stand-pipe, the perforated cylinder J having
5 its lower end engaging with the outer wall of the cup and having wings *g* projecting from its upper edge, said wings adapted to engage the generator-head on the stand-pipe and the screws which unite the generator-head and the burner, substantially as described.

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