

No. 653,449.

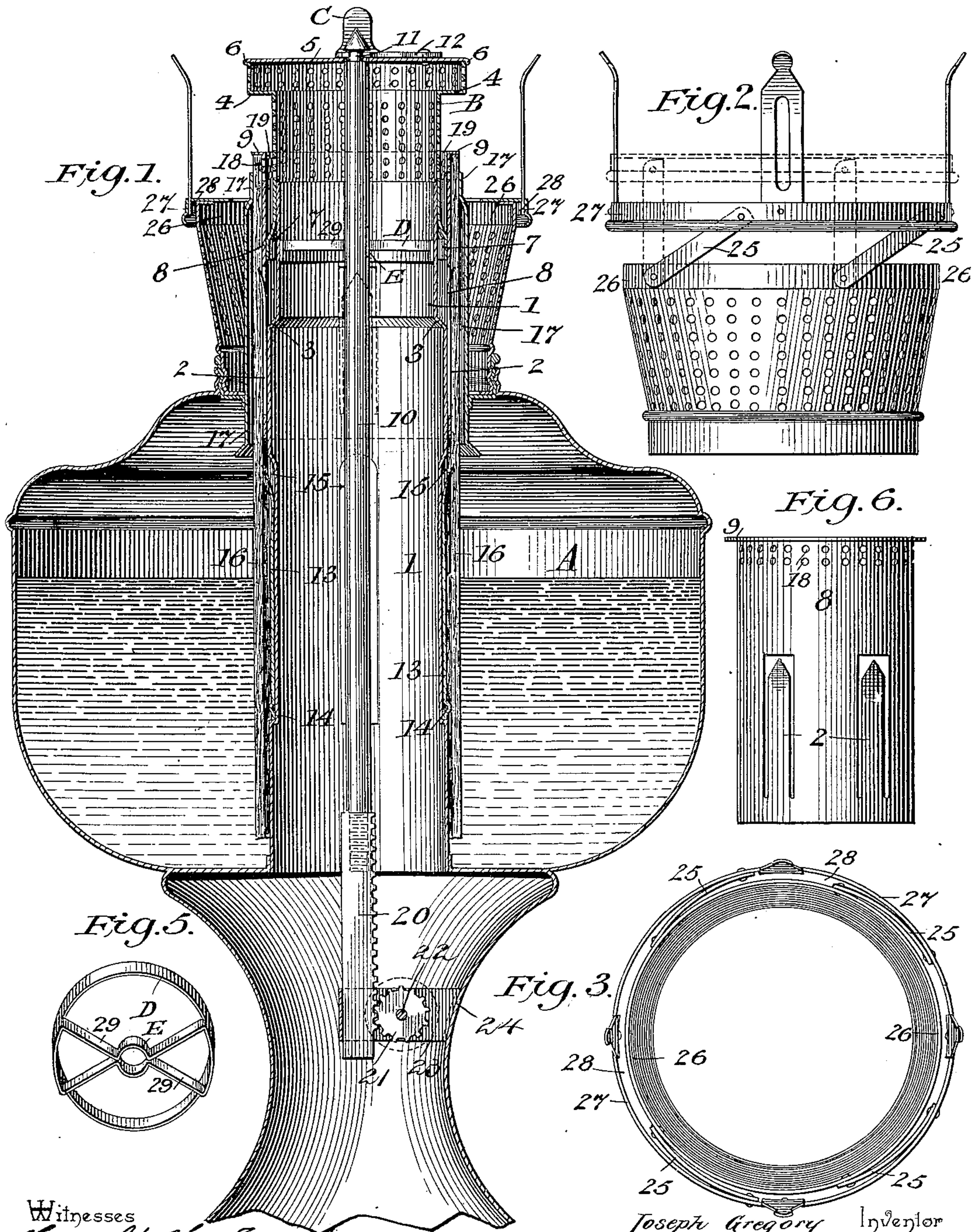
Patented July 10, 1900.

J. GREGORY.
LAMP.

(No Model.)

(Application filed Apr. 27, 1898.)

2 Sheets—Sheet 1.



Witnesses
Harold H. Sumner
U. B. Hillyard.
By his Attorneys,

Joseph Gregory Inventor

Cash & Co

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2 Sheets—Sheet 2.

Fig. 7.

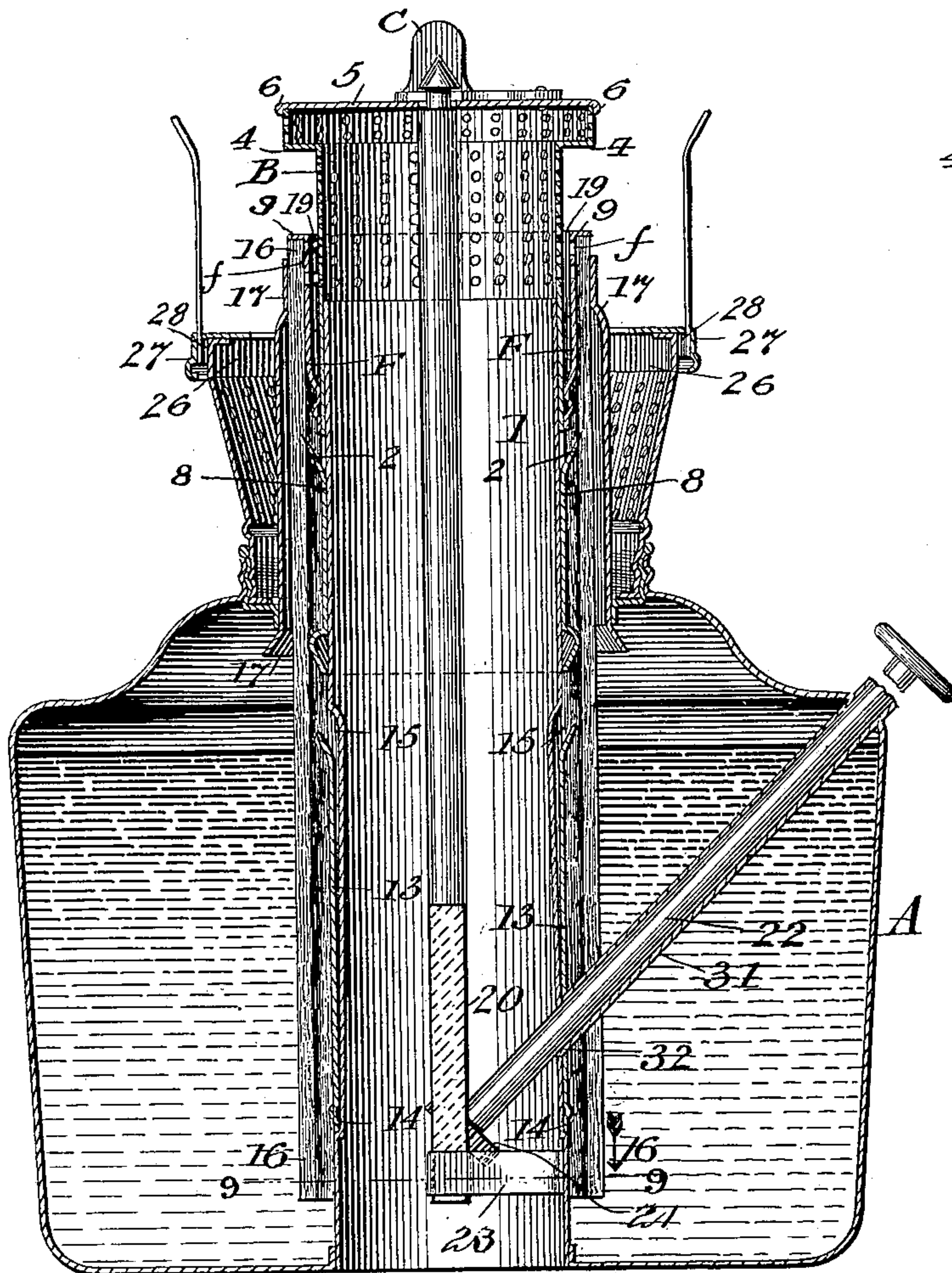


Fig. 8.

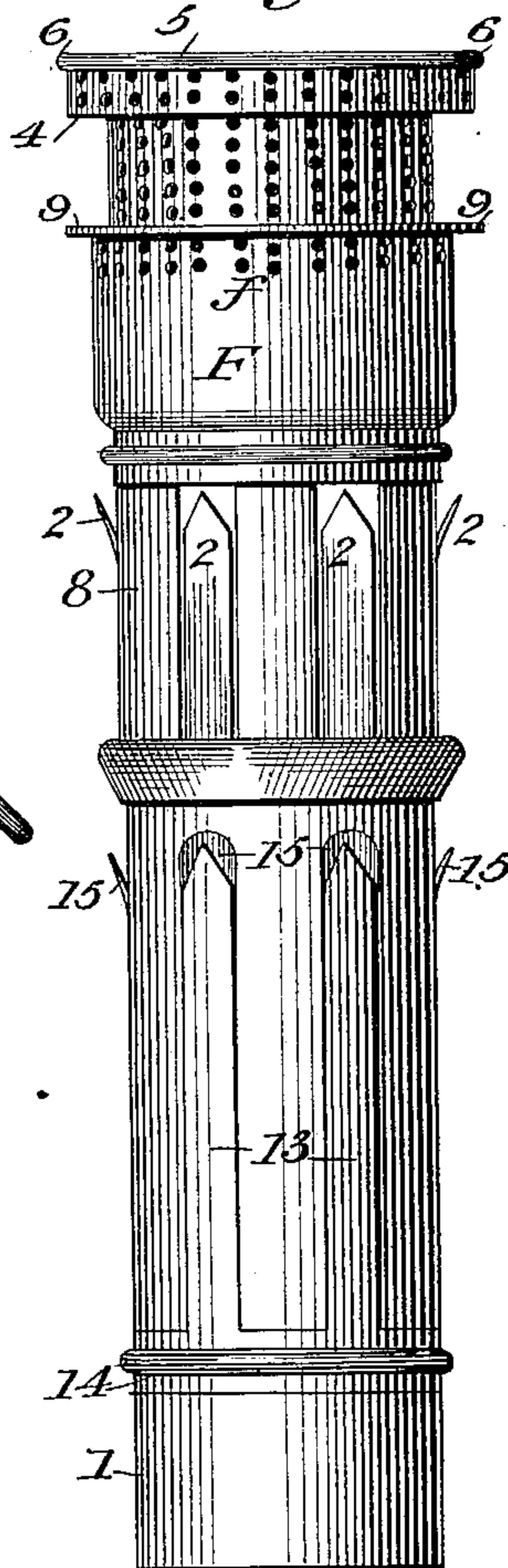


Fig. 4.

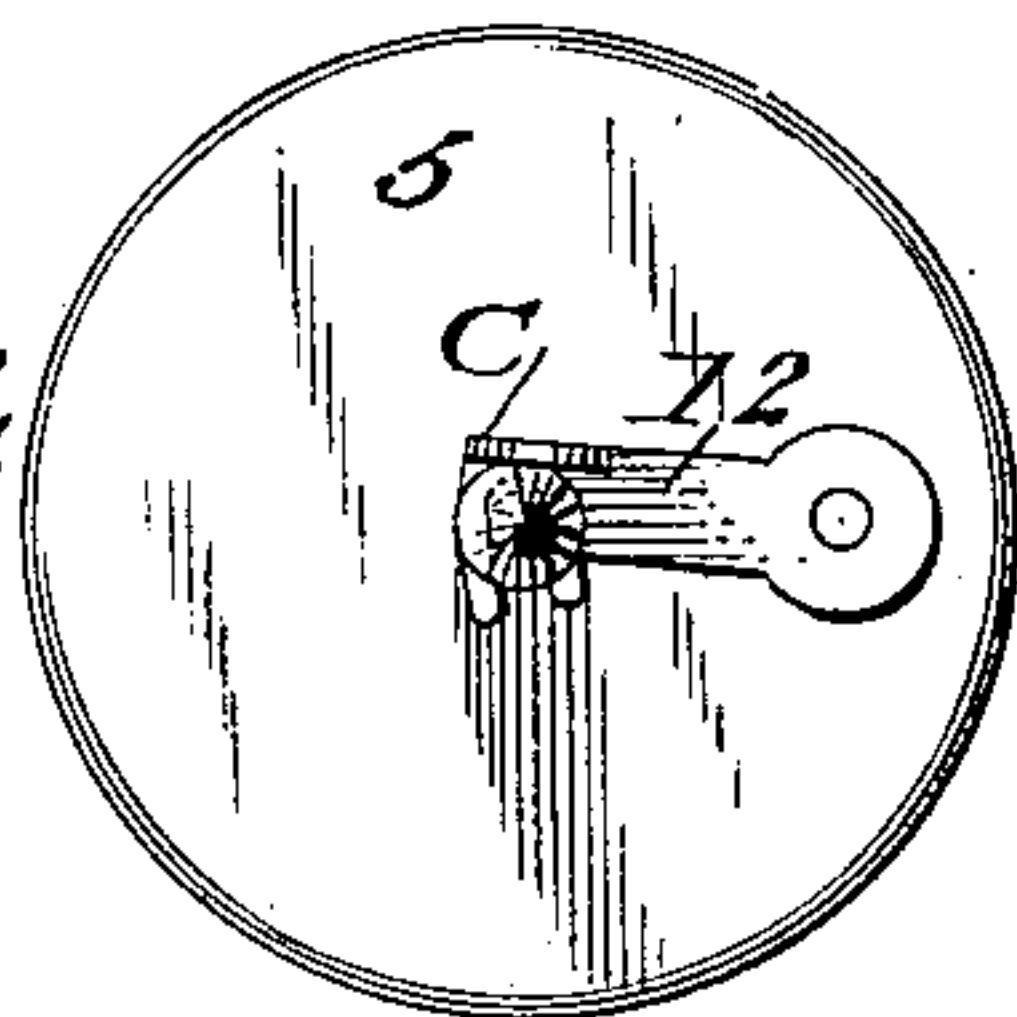
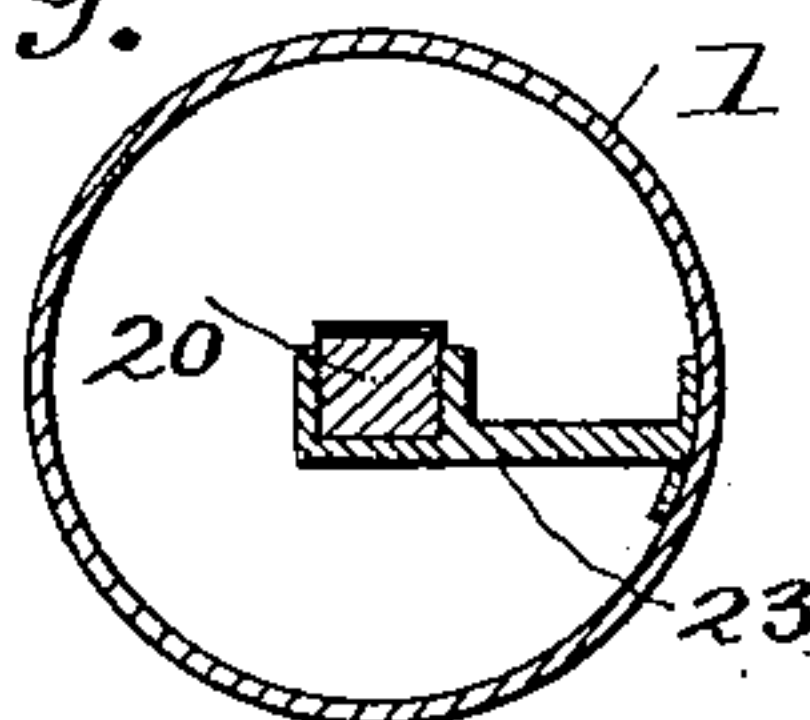


Fig. 9.



Witnesses
Harold H. Simms, By his Attorneys,
U. B. Hillyard.

Joseph Gregory, Inventor

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOSEPH GREGORY, OF NEW YORK, N. Y.

LAMP.

SPECIFICATION forming part of Letters Patent No. 653,449, dated July 10, 1900.

Application filed April 27, 1898. Serial No. 678,972. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH GREGORY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Lamp, of which the following is a specification.

This invention has for one object to improve the general construction of lamps using oil in connection with wicks for producing light, whereby their efficiency and usefulness are increased, smoking prevented, a strong and clear flame produced, the wick kept clean and in condition for immediate service, an even and uniform light secured, and the lighting rendered easy without necessitating the removal of the shade or chimney.

Another object of my invention is to provide a guard for protecting the upper and interior portions of the wick from the action of the flame and also to provide means for permitting the escape of the gas from the inner surface of the wick.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a vertical central section of an oil-burning lamp of the stand variety constructed in accordance with and embodying the essential features of this invention. Fig. 2 is an elevation of the gallery and gallery-support, showing the gallery partly elevated by full lines and lifted to its fullest extent by the dotted lines. Fig. 3 is a detail view showing the relation of the gallery, the gallery-support, and the connecting-links when the gallery is lowered. Fig. 4 is a top plan view of the spreader, showing the catch for connecting it with the lifting rod or stem. Fig. 5 is a detail view in perspective of the guide for the upper end portion of the lifting rod or stem. Fig. 6 is a view in elevation of a wick-lifter. Fig. 7 is a view similar to Fig.

1 of a lamp of the pot type. Fig. 8 is a detail view of the inner wick-tube and the wick lifter and spreader and the guard. Fig. 9 is a cross-section on the line 9 9 of Fig. 7.

Corresponding and like parts are referred to in the following description and indicated in the views of the drawings by the same reference characters.

The lamp-body A may be of any size, pattern, or construction, according to the design of the lamp, and may be mounted upon a stand, as shown in Fig. 1, or adapted to be fitted into a receiver of any of the usual forms, as will be readily understood. In the latter construction the lamp-body will be devoid of a stand, as illustrated in Fig. 7. The inner wick-tube 1 connects with the bottom of the body A and extends vertically there-through, and its upper end portion is reduced in diameter, the connecting portion of the tube being inclined and forming an annular offset or shoulder 3 a short distance from the upper end of the wick-tube. The outer wick tube or casing 17 has connection with the upper portion of the lamp-body in the ordinary manner, and between the parts 1 and 17 is formed the wick-space, in which is located the wick 16. The upper end portion of the outer wick tube or casing 17 is contracted in diameter and extended vertically to form a straight terminal flange continuation, so as to come in intimate contact with the outer surface of the wick 16 and act as a scraper to remove charred portions and impurities and foreign matter therefrom, thereby keeping the wick in prime condition, so that the lamp is at all times ready for lighting. The restraining-teeth 13 for preventing the downward movement of the wick 16 have connection with the lower portion of the wick-tube 1 at 14, and their upper ends terminate opposite depressions 15 in the sides of the tube 1, whereby their active ends may normally move inward and permit of the free ascent of the wick when elevating it prior to lighting the lamp.

It will be understood that in practice the wick is materially larger than the inner or central tube and slips loosely over the latter, so that, normally, it has no engagement with the points of the restraining-teeth 13, which normally spring inward into the depressions

15 for receiving the same. The normal position of the restraining-teeth 13 is such that while the points or active ends thereof do not engage with the wick, still such points
 5 or active ends project a sufficient distance out from the inner or central tube so as to lie within the path of the movement of the wick-lifter, whereby when the wick-lifter is lowered the lower edge thereof engages with the
 10 active ends of said teeth 13, and the latter are thrown outward and engage with the wick, thereby arresting its further descent. When the wick-lifter passes out of engagement with the upper ends of the restraining-teeth 13, the
 15 latter again spring inward out of engagement with the wick, so as not to interfere with the free adjustment thereof. This is substantially similar to the operation of the lower wick-arresting points or prongs de-
 20 scribed in my former patent, No. 608,284.

The wick-lifter band or sleeve 8 is slidably mounted upon the upper portion of the tube 1 and is provided with teeth 2, which normally spring inward and are projected out-
 25 ward into engagement with the wick 16 by riding upon the shoulder 3 of the tube 1. An outer flange 9 is provided at the upper end of the wick-lifter band or sleeve 8 and constitutes an annular guard which is designed
 30 to come in contact with the upper end of the wick 16, so as to maintain proper relation between the wick-lifter and wick and secure an even and uniform flame. The upper end portion of the wick-lifter band or sleeve 8 is per-
 35 forated, preferably adjacent to the guard, as shown at 18, to allow gases to escape into the space 19, formed between the wick lifter and spreader, and said perforated portion serves to guard the inner side of the wick adjacent
 40 to the upper end thereof, said gases being consumed by coming in contact with the flame, as will be readily comprehended.

By reference to Figs. 1 and 7 of the drawings it will be noted that the contracted up-
 45 per portion of the inner wick-tube provides an intermediate air-space which is permanently inclosed from the central draft. The wick-lifting band or sleeve is fitted slidably over the larger part of the inner tube and is
 50 arranged concentric with the outer tube to provide between said outer wick-tube and wick-lifter band or sleeve an annular space for the accommodation of the wick; but the relation of this wick-lifting band or sleeve to
 55 the inner wick-tube does not destroy the air-space around the upper portion of said inner wick-tube. The spreader is fitted to the inner wick-tube and the wick-lifting band or sleeve to have the gas-ports in its lower per-
 60 forated portion communicate with this air-space, and thus the vapors from the oil are free to be discharged into the air-space so as to commingle with air before consumption of the combined air and vapors takes place by
 65 the flame which issues from the wick, due to the supply of oil thereby.

In addition to the foregoing advantages se-

cured by the employment of a guard adapted to rest upon and cover the edge of the wick the gas is permitted to escape from the inner
 70 surface of the wick and to be consumed by the flame, and at the same time the guard is arranged so as to permit of this passage of gas to the flame without, however, permitting the flame to reach the inner surface of the
 75 wick, whereby the inner surface of the wick, as well as the top edge thereof, is protected from the charring action of the flame.

The spreader B has connection at its lower end with the wick-lifter at a distance from
 80 its upper end, as shown at 7, and is formed at its upper end with an extinguisher 4, above which is provided a perforated portion. The guard 9 is of such relative length as to enter and move freely in the wick-space, thereby
 85 permitting the part 4 to settle on the upper end of the outer wick-tube 17 and intercept the upper current of air and vapor and extinguish any flickering flame after the wick has been lowered. The upper end of the
 90 spreader is closed by a cap or plate 5, secured to the spreader by a rolled joint 6. This cap or plate 5 is centrally apertured for the passage therethrough of the conical end of the
 95 lifting rod or stem 10, the latter having a reduced portion 11 near its upper end, which is engaged by a catch 12, pivoted at one end to the cap 5, the opposite end of the catch having a curved slot to receive the reduced
 100 portion 11, and formed with a finger projection C, whereby the catch can be operated so as to release the rod 10 or be engaged therewith. The upper portion of the spreader is perforated to admit of the column of air as-
 105 cending through the tube 1 to escape and promote combustion, whereby the light is intensified in the ordinary manner. At this point it is to be observed that the imperforate ex-
 110 tinguisher or extinguisher ring 4 is disposed above the wick-tube so as to overhang the latter by forming the upper end portion of the spreader with an annular perforate offset
 115 portion, as plainly illustrated in Figs. 1, 7, and 8 of the drawings. By reason of forming the spreader at its upper end with the annular offset portion the separate perforate
 120 parts of the spreader connect, respectively, with the inner and outer edges of the extinguisher-ring 4, thereby enabling said extinguisher-ring to perform the additional office
 125 of a flame-deflector. The ring 4 acts as an effective flame-deflector, especially on account of its relation to the guard-flange 9, which rests upon and covers the upper end of the wick, as said guard-flange is formed on a
 130 member movable with the spreader and maintains a fixed relation to the combined extinguisher-ring and deflector 4, so that the distance or space between the guard 9 and the ring 4 remains the same in all adjustments
 of the spreader.

The lifting rod or stem 10 makes screw-thread connection at its lower end with a toothed bar 20, which operates through a

guide 23, formed of a strip of sheet metal doubled upon itself and having its end portions secured to the lamp-stand at 24. The wick-raising shaft 22 is journaled in the side members or parts of the guide 23 and has a pinion 21 secured thereto and in mesh with the toothed portion of the bar 20. By turning the shaft 22 the rod or stem 10 is elevated or lowered, thereby lifting or depressing the wick surrounding the wick-lifter, which latter has connection with the part 10 in the manner set forth. By properly disposing the teeth upon the bar 20 the upward movement of the rod 10 and the wick can be limited, thereby preventing the smoking of the lamp. The parts are so constructed and proportioned that when the bar 20 has reached the limit of its upward movement the wick will be at its highest point, so as to give the maximum flame without smoking.

The upper end portion of the lifting rod or stem 10 is directed in its vertical movements and centralized within the tube 1 by a guide D, fitted within the upper portion of the tube 1. This guide consists of a ring having an edge portion separated therefrom at opposite points and pressed inwardly, forming the radial arms 29 and the outwardly-curved parts E, the two parts E unitedly forming a guide-opening through which the rod 10 moves.

The gallery-support 26 is fitted to the lamp-body in the ordinary manner, and the gallery 27 is movable relative thereto and is positively connected therewith by links 25, the latter curving longitudinally to conform to the curvature of the gallery, so as to fold snugly into the space 28 formed between the gallery and its support, so as to be out of the way and concealed from view when the gallery occupies a normal position. The end portions of the links 25, connected with the gallery 27, have one corner rounded and the opposite corner left intact to provide a stop to engage with the horizontal portion of the gallery and limit its movement when the gallery reaches its highest point, thereby supporting the gallery until the lamp can be lighted without requiring any special effort on the part of the person lighting the lamp. The gallery is elevated and lowered by imparting a turning movement thereto, as will be readily understood, and in all stages of its adjustment the gallery will be directly above its support and parallel therewith, which is of material advantage.

Figs. 7 and 8 show a different construction of the tube 1, the wick-lifter, and the spreader. The tube 1 is of uniform diameter or straight throughout its length, and the wick-lifter 8 and spreader B are integral. The guard 9 is formed at the upper end of a band or sleeve F, secured at its lower end to the wick-lifter, the lower portion of the part F being contracted, so as to form a space 19 between the upper portion of the part F and the spreader. The upper portion of the band or sleeve F is perforated, as shown at *f*, for the same pur-

pose as the openings 18 at the upper end of the wick-lifter shown in Figs. 1 and 6.

The vertically-movable spreader represented by Figs. 7 and 8 may be said to consist of two concentric portions of different relative heights—that is, the perforated inner part B, having the deflecting-ring 4 and the upturned flange 6, and the outer part F, which is shorter than the part B and which part F has the guard 9. This construction finds its equivalent in the embodiment of the invention shown by Fig. 1, wherein the tubular body of the deflector B, having the ring 4, forms the long inner member or portion of the spreader, and the upper part of the wick-lifter, with the flange 9, constitutes the outer member or portion of the spreader. I have found that if perforations are formed in the guard at the top of the wick they are soon filled up by the incrustations from the wick, and thereby become inoperative or objectionable, and therefore it is my purpose to make them in the band below or immediately adjacent to the guard.

In lamps of the pot variety, as shown in Fig. 7, the wick must be operated from the upper portion of the lamp-body, and in order to effect this result a tube 31 passes diagonally through the lamp-body and makes an oil-tight joint with the tube 1, as indicated at 32. The shaft 22 passes through the tube 31, and the pinion 21 at its inner lower end is in mesh with the toothed portion of the bar 20. The bracket-guide 23 and the lower portion of the bar 20 are constructed so as to prevent turning of the part 20 and any binding between the cooperating toothed portions of the parts 20 and 21. The teeth or cogs upon the bar 20 are disposed, as herein stated, so as to limit the upward movement of the wick and prevent smoking of the lamp.

By having the upper portion of the tube 1 reduced, as shown in Fig. 1, the teeth 2 of the wick-lifter release the wick prior to passing above the upper end of the wick-tube, whereas if the tube were straight the teeth 2 would lift the wick out of the wick-space before letting loose when removing the spreader. This construction also admits of the spreader being replaced and entering the wick-space before the teeth 2 are thrown out into engagement with the wick 16 by riding upon the shoulder 3.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a lamp, the combination with inner and outer tubular portions forming a wick-space between them, the inner part having its upper end portion perforated, of a spreader movable vertically and having a space formed between it and the upper perforated portion of the inner part or wick-tube, substantially as and for the purpose set forth.

2. In a lamp, the combination with inner and outer tubular parts having a wick-space formed between them, the inner part having

- its upper end portion perforated and formed with an outer flange overhanging the wick-space and adapted to rest upon and come in contact with the upper end of the wick, of a spreader movable vertically and having an annular space formed between it and the upper perforated portion of the inner tubular part of the wick-tube, substantially as and for the purpose set forth.
3. In a lamp of the character described, spaced inner and outer tubes, the inner tube having an annular shoulder near its upper end and having a portion projected vertically above the said shoulder forming with the upper portion of the outer tube a space permanently inclosed from the central draft, a vertically-movable spreader, and a wick-lifter movable vertically with the spreader and in frictional engagement with the lower portion of the inner tube and having its upper portion adapted to operate in the space formed between the upper end portions of the inner and outer tubes and provided with spring-teeth forced into engagement with the wick by riding upon the aforesaid annular shoulder of the inner tube and automatically releasing the wick when clearing the said shoulder in the upward movement of the wick-lifter, substantially as described.
4. In a lamp, the combination with a wick-tube, and a spreader movable vertically with reference to the wick-tube, of a lifting-rod having connection with the spreader, and a guide for the lifting-rod located within the wick-tube and formed of a single piece of sheet metal and consisting of a ring, and radial arms having outwardly-curved parts, the latter unitedly forming a guide-opening for the lifting-rod, substantially as specified.
5. In a central-draft burner, the combination of the wick-tube, and spreader, with a band secured to the spreader and movable therewith and having its upper portion perforated for the escape of gas from the inside of the wick, and having its upper end bent outwardly forming a guard, and a centrally-disposed rod for limiting the vertical movement of the spreader and band, substantially as described.
6. In a central-draft burner, the combination with the wick-tube, of a vertically-movable spreader carrying a member having a guard adapted to rest upon and cover the upper end of the wick, and gas-vents adjacent to said guard, substantially as set forth.
7. In a central-draft burner, the combination with an inner wick-tube, of a vertically-movable spreader carrying a member having lateral gas-vents disposed to permit the escape of the gas from the wick-space into an air-space between said spreader and the aforesaid member, said air-space being permanently inclosed from the central draft, substantially as specified.
8. In a central-draft burner, the combination with an inner wick-tube, of a vertically-movable spreader carrying a member having a guard adapted to rest upon and cover the upper end of the wick, and with gas vents or perforations immediately below the plane of said guard, substantially as set forth.
9. In a lamp, the combination with an inner wick-tube, of a vertically-movable spreader carrying a guard, a deflector carried by said spreader and occupying a fixed relation to said guard, said guard adapted to rest upon and cover the end of the wick, and said deflector being arranged above the guard, and a centrally-disposed rod limiting the upward movement of the spreader, as set forth.
10. In a central-draft burner, the combination with an inner wick-tube, of a vertically-movable spreader, a band arranged on the exterior of the spreader and movable therewith, said band being provided at its upper end with an outturned guard for the wick, and a plurality of gas vents or perforations contiguous to and below the plane of said guard, substantially as set forth.
11. In a central-draft burner, the combination with an inner wick-tube, of a vertically-movable spreader comprising spaced concentric portions of different relative heights, the inner portion having an annular deflecting-ring projecting over the wick-space, and the outer portion provided with an outwardly-extending annular guard adapted to rest upon and cover the upper end of the wick, the distance between the guard and the deflecting-ring remaining fixed at all adjustments of the spreader, substantially as and for the purposes set forth.
12. In a central-draft burner, the combination with an inner wick-tube, of a vertically-movable spreader comprising concentric portions of different relative heights, the inner portion provided with a deflecting-ring arranged to overhang the wick-space and also with a vertical extension at its outer edge, the parts of said inner portion which lie above and below said deflecting-ring being perforated, and the outer portion of the spreader having a guard arranged to rest upon the upper edge of a wick, said outer portion of the spreader having perforations in a plane below said guard, substantially as and for the purposes set forth.
13. In a central-draft lamp, the combination with an inner wick-tube, of a vertically-movable spreader, a band carried by the spreader and having its upper edge provided with an outwardly-extending continuous flange forming a guard adapted to rest upon and cover the end of a wick, and a centrally-disposed rod for limiting the vertical movement of the spreader and band, substantially as described.
14. The combination with a wick-tube, of a vertically-movable spreader provided with a guard adapted to rest upon the upper end of a wick, and means for permitting the escape of gas from the interior of the wick, said

guard preventing the passage of the flame to the upper inner edge of the wick, substantially as described.

5 15. In a central-draft burner, the combination of an outer wick-tube, a spreader, and a wick-guard, concentrically disposed, an air-space being formed between the wick-guard and the spreader, and said wick-guard being adapted to cover the inner side of and bear
10 upon the upper edge of the wick, that portion of said guard on the inner side of the wick having openings to establish communication between the central draft and the air-space, and said air-space being otherwise
15 closed to the central draft, substantially as described.

16. In a lamp, the combination of an outer wick-tube, an inner wick-tube, a perforated spreader movable with relation thereto, and
20 a guard carried by said spreader and movable

therewith, a space being left between the spreader and the guard for the escape of vapor from the wick.

17. In a lamp, the combination of an outer wick-tube, an inner wick-tube the upper end 25 of which terminates a distance below the outer wick-tube, a perforated spreader movable with relation to both of said tubes, and a guard carried by the spreader and leaving a space between the spreader and the guard 30 for the escape of vapor from the inside of a wick, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH GREGORY.

Witnesses:

JULIUS JARECKI,
JOHN T. HOLMES.