

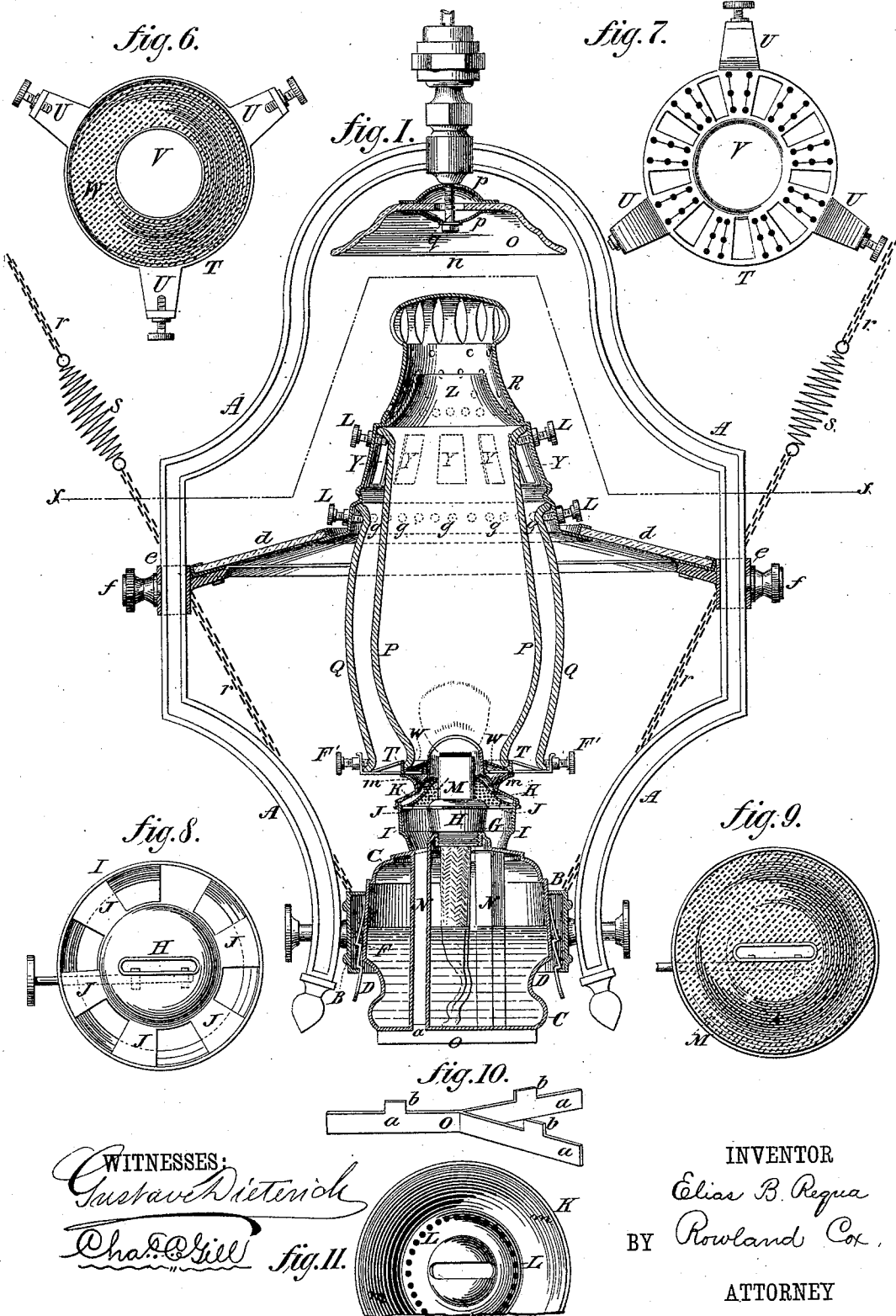
(No Model.)

2 Sheets—Sheet 1.

E. B. REQUA.
LAMP.

No. 280,669.

Patented July 3, 1883.



WITNESSES:
Gustav Dietrich
Chas. Hill

INVENTOR
Elias B. Requa
 BY *Rowland Cox,*
 ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

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fig. 2.

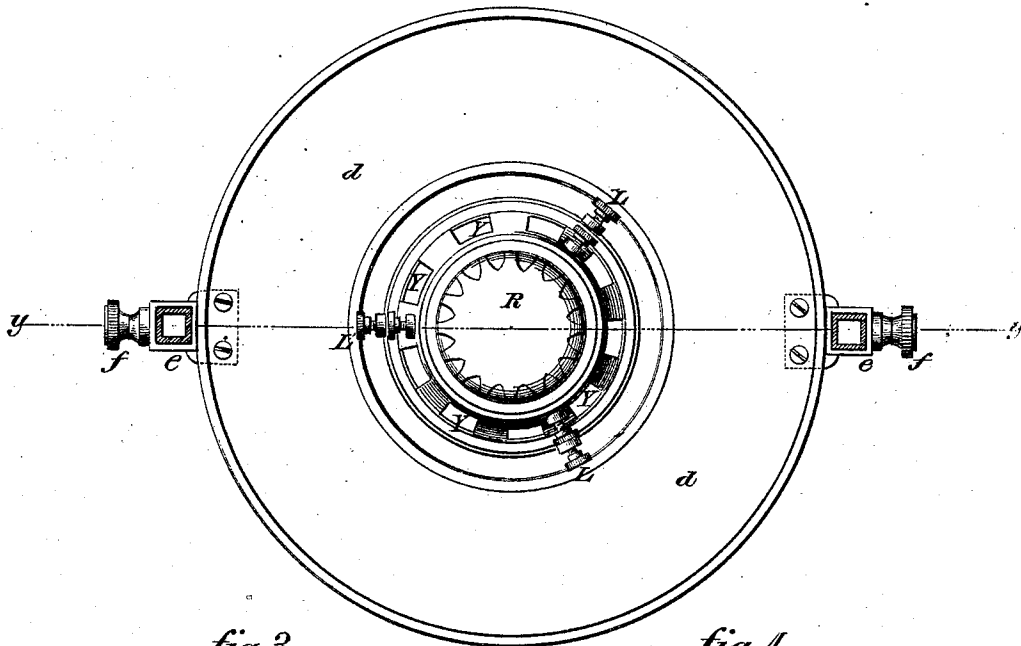


fig. 3.

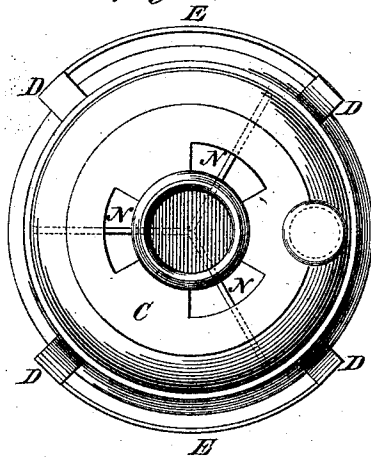


fig. 4.

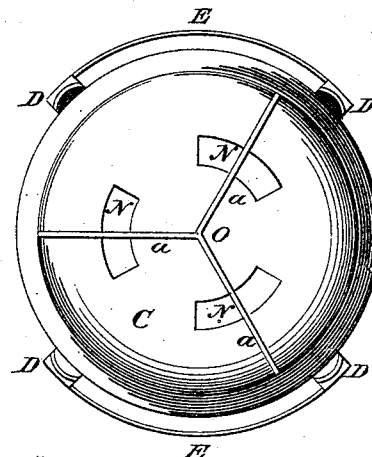
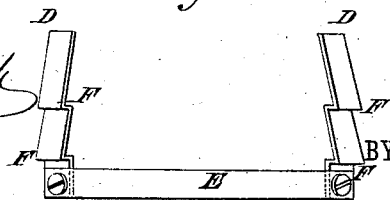


fig. 5.



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 ATTORNEY

UNITED STATES PATENT OFFICE.

ELIAS B. REQUA, OF JERSEY CITY, NEW JERSEY.

LAMP.

SPECIFICATION forming part of Letters Patent No. 280,669, dated July 3, 1883.

Application filed April 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, ELIAS B. REQUA, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to an improvement in lamps; and it consists in the elements hereinafter described, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a central vertical section of a lamp embodying the elements of my invention. Fig. 2 is a horizontal section on the line *xx* of Fig. 1. Fig. 3 is a plan view of the oil-fount detached from the lamp. Fig. 4 is an inverted plan view of the oil-fount, showing air-passages, &c. Fig. 5 is a front view of the spring-catch for holding the lamp in the supporting-frame. Fig. 6 is a detached plan view of the frame secured to the lower ends of the chimneys. Fig. 7 is an inverted view of same. Fig. 8 is a detached plan view of the lower part of the burner. Fig. 9 is a similar view of the perforated cone, which is adapted to rest upon the part shown in Fig. 8. Fig. 10 is a detached perspective view of the wings or air-conductors attached to the lower side of the oil-fount, and Fig. 11 is a partial detached plan view of the lamp-burner with the frame illustrated in Figs. 6 and 7 removed.

In the drawings, which represent the invention embodied in a swinging lamp, A denotes the frame thereof, which is properly suspended and sustains the oil-fount, the burner, chimney, and shade or reflector. Between the lower ends of the sides of the frame A is secured the ring B, in which the oil-fount C is detachably secured. The oil-fount has a plain cylindrical exterior, and is provided on opposite sides with the spring-fingers D, four fingers, in the present instance, being employed, each pair of which is connected by the band E. Each of the fingers D is provided with two shoulders, F, as indicated in Figs. 3 and 5, the purpose of which is to permit the attendant to adjust the relation of the oil-fount

to the chimneys at will. Thus, for instance, if the lower shoulders F are employed to sustain the lamp in the ring B, the burner will be close up against the chimney; but if the upper shoulders F sustain the lamp, a space will be left between the chimney and the burner, in which the attendant can insert a fuse for the purpose of lighting the wick. In withdrawing the oil-fount from the ring B, it is only necessary to press the spring-fingers D inward, when the shoulders F will be disengaged and the lamp will slip from the ring. In inserting the lamp, it is only necessary to press the same through the ring B until the shoulders F engage the lower edge thereof. Heretofore it has been customary to employ two or three fingers for holding the lamp-fount in position, and the fingers of the attendant were required to encompass the lower portion of the lamp and press the three fingers inward simultaneously, which was often a difficult feat, on account of the fingers of the hand not being sufficiently long to reach them. By means of my spring-fingers, connected by bands E, however, it is only necessary to press on two opposite sides of the fount, when all of the spring-fingers will be relieved from contact with the ring B.

In the upper portion of the oil-fount is provided the threaded annulus G, in which is secured the wick-holder H, in the usual manner. This wick-holder forms the central part of the lower section, I, of the lamp-burner. The lower edges of the section I rest upon the upper surface of the fount, while its upper edges are connected with the wick-holder H by the arms J and support the upper section, K, of the burner, as indicated in Fig. 1. The upper or cone portion of the section K of the lamp-burner has the usual flame-slot, and at the base of this cone-shaped portion of the section K is provided a series of apertures, L. (Indicated in Figs. 11 and 1.) Between the sections K I, composing the lamp-burner, is placed the perforated cone M, which snugly encompasses the wick-tube and has its lower edges resting upon the outer portions of the arms J, as indicated in Fig. 1. The draft-flues N extend vertically through the oil-fount, their upper ends terminating within the chamber formed by the lower section, I, of the lamp-burner. Any desirable

number of flues may be employed. In the present instance, however, three flues are illustrated, which, I believe, will be found sufficient to feed a proper quantity of air to the flame.

5 Upon the lower end of the oil-fount C is secured the frame O, consisting of the arms *a*, radiating from the center of the fount to the edge thereof, and provided with the projections *b*, which are of proper size to fit transversely into the lower ends of the draft-flues N, as indicated in Figs. 3 and 4. The purpose of the frame O is to direct the air into the flues and to prevent, when the lamp is placed upon a solid surface, the flame from being extinguished, on account of the stoppage of the draft through the burner. It will be obvious, by reference to the drawings, that air, striking the arms *a*, will be directed to the draft-flues N, through which it will pass to the chamber formed by lower section, I, of the lamp-burner, thence finding its way through the perforated cone M and upper section, K, to the flame-slot, and through the frame T and air-diffuser W to the flame on the outside of the burner, all of the air from the flues N being delivered within the chimney.

The chimney P and the outer chimney or globe, Q, are suspended at their upper ends from the dome R by the finger-screws L, and carry at their lower ends the frame T. (Illustrated by detached views in Figs. 6 and 7.) The lower edge of the inner chimney fits closely within the outer edge of the frame T, the chimney or globe Q coming just within the ends of the arms U, radiating therefrom. The central portions of the frame T are removed, forming an opening, V, which is of proper size to slip over the upper cone-shaped portion of the section K of the lamp-burner, as shown in Fig. 1, and between said opening V and the edges of the frame is placed the perforated ring or air-diffuser W. That portion of the frame T between the opening V and its outer edges is slotted or perforated, as indicated in Fig. 7, in order that there may be a free passage of air through it, the said air being thoroughly diffused by the perforated ring W. The frame T is held in place upon the chimneys by the finger-screws F.

50 The dome R is slotted and perforated above the upper edge of the inner chimney, P, and below said edge it is slotted or provided with openings Y, through which the air which enters between the chimneys may escape, and which offer a means for permitting the issuance of the light. Within the upper portion of the dome R is provided the contracted extension or shield Z, which forms a continuation of the inner chimney, R, and operates to direct the draft and prevent the introduction into the inner chimney of air which may pass through the perforations in the upper part of said dome. The air passing through the dome creates a vacuum within the shield Z, and which vacuum acts to increase the natural draft through the inner chimney.

In the lower edges of the dome R are secured the inner edges of the reflector *d*, as illustrated in Fig. 1. The outer edges of the reflector *d* will have attached to them, at opposite sides, the slides *e*, which encompass the sides of the frame A, and are provided with set-screws *f*, by which they may be secured in any set position. It will appear plain that by loosening the screws *f* the dome, carrying the reflector and the chimneys, with the frame T, may be moved vertically upon the frame A without altering the position of the lamp burner and fount at the lower portion of the frame. When desired, the chimneys and dome R may be moved upward upon the frame A and the wick lighted, and the dome then lowered until the chimneys are in position; or the wick may be lighted by lowering the fount C, in the manner hereinbefore described. Either method may be followed at will. For the purpose of permitting the escape of air which may accumulate beneath the reflector *d*, the apertures *g* are provided, being shown by dotted lines in Fig. 1.

Around the upper section, K, and at a point below the line of the apertures L, is secured the outwardly-inclined annular flange *m*, which serves as a bearing upon which the frame T, when in the position illustrated in Fig. 1, may rest, and which prevents the escape of the draft through the burner, except into the burner-cone and inner chimney.

Above the dome R is provided a smoke-bell, *n*, consisting of the porcelain cup *o*, having an aperture at its center, and provided on each side thereof with the metallic plates *p*, forming a cap, through which and the said central aperture passes the screw *q*, which, as may be observed in Fig. 1, holds the two portions together, and at the same time affords a means of securing the smoke-bell in position. By means of the screw *q* the smoke-bell may be detached at will.

The frame A will be suspended from a hook or other suitable means in the customary manner. In order to prevent any jarring or undue swinging of the lamp, I have provided the chains *r*, having the intermediate springs, *s*, the lower ends of the chains being secured to the ring B. If the lamp is employed, for instance, upon a boat or car, the jarring of the vehicle would affect the lamp unless the chains were provided with the springs *s*. Heretofore it has been customary to employ chains which were without elastic tension, and upon any sudden jarring of the boat or car the chains have often been broken and the lamp bent and disfigured; but I have demonstrated that when I introduce the springs *s* they will give to the shock, no matter in what direction it may come, and retain the lamp in almost a vertical position.

I do not limit myself to the employment of a sliding shade or reflector, *d*, since it is plain that the same may be a fixture and the lamp lighted by lowering the oil-fount, in the man-

ner hereinbefore described; neither do I limit myself to the employment of the outer chimney, Q, since in houses and protected places it will not be required. The outer chimney, 5 Q, however, affords a draft-space between itself and the inner chimney, P, which has the effect of preserving both chimneys in a cool condition. I have found, after a flame has been burning a considerable length of time, 10 that immediately upon its being extinguished the chimneys and metallic parts of the burner could be handled without burning the fingers, and this is owing to the peculiar construction described and shown, and the manner in which 15 I supply the flame with air, and provide draft-passages through the same. The flame produced by the lamp constructed as described is one of unusual brilliancy and steadiness.

What I claim as my invention, and desire to 20 secure by Letters Patent, is—

1. A lamp consisting of the suspending-frame, carrying in its lower end the oil-fount and burner, and supporting between its sides the sliding reflector, with means for holding 25 the chimney at its upper edge, substantially as set forth.

2. A lamp consisting of the frame carrying in its lower end the oil-fount and burner and having arranged between its sides the reflector and dome, from which is suspended the chimney, carrying at its lower end the frame which encircles the burner-cone when in position for use, substantially as set forth.

3. A lamp consisting of the oil-fount provided with draft-flues extending through it, the upper and lower sections, I K, of the burner, located over and encompassing the upper ends of said flues, the frame T, arranged upon the section K, and a chimney or chimneys, the construction being such that the air 35 supplied to the flame passes through the fount and burner into the chimney, substantially as set forth.

4. A lamp consisting of the oil-fount provided with the draft-flues, the section I of the burner, arranged over said flues, the wick-holder, the upper section, K, of the burner, placed upon the section I, and a chimney-support, the section I supporting the air-diffuser M, and the section K being provided with the apertures L, substantially as and for the purpose set forth.

5. In a lamp, the oil-fount having upon its sides the spring-fingers provided with double notches or shoulders F, adapted to engage the fount-surrounding band B, substantially as set forth.

6. In a lamp, the oil-fount secured within the surrounding band B by the spring-fingers connected by bands E, the fingers being adapted to engage the lower edge of the band, substantially as set forth.

7. In a lamp in which air is fed to the flame by means of flues extending through the oil-fount, the conducting-frame O, having arms *a*, 65 traversing the flues, substantially as set forth.

8. The oil-fount provided with vertical draft-flues, in combination with the frame O, having arms *a* and projections *b*, which projections enter the flues, substantially as set forth. 70

9. In a lamp, the oil-fount and burner, in combination with the chimney P, suspended at its upper end in the perforated dome R, and with a shade or reflector, substantially as specified. 75

10. The oil-fount and burner, in combination with the chimneys P Q, suspended at their upper ends in the perforated and slotted dome R, the burner being constructed to feed the flame with air from flues extending through 80 the oil-fount, and to permit the passage of air between the chimneys independently of the air fed to the flame, substantially as set forth.

11. In a lamp, the oil-fount, burner, chimney, and dome, in combination with the shield 85 Z, the dome having draft-openings both above and below the upper edge of the shield, substantially as set forth.

12. The slotted frame T, supporting the diffuser W, and having a central opening, V, 90 adapted to the size of the burner-cone, the frame being detachable both from the burner-cone and the chimney, substantially as set forth.

13. A lamp pivotally suspended from a support, in combination with two or more chains, 95 *r*, and interposed springs *s*, extending outward at an angle from the lamp, substantially as set forth.

14. A lamp consisting of the oil-fount, section I, diffuser M, and perforated section K, in combination with the frame T, diffuser W, draft-flues N, and chimneys P Q, the chimneys being protected at their upper ends by the perforated and slotted dome R, substantially as 105 set forth.

15. In a lamp, the oil-fount having draft-flues N, in combination with the section I, surrounding the wick-holder, and provided with bars J, the diffuser M, placed over said bars, 110 the perforated section I, arranged over the section K and provided with a flame-slot, and the frame T, adapted to be placed upon the section K and to retain the lower end of the chimney, substantially as set forth. 115

In testimony whereof I affix my signature in presence of two witnesses.

ELIAS B. REQUA.

Witnesses:

CHAS. C. GILL,
HERMAN GUSTOW.