

(No Model.)

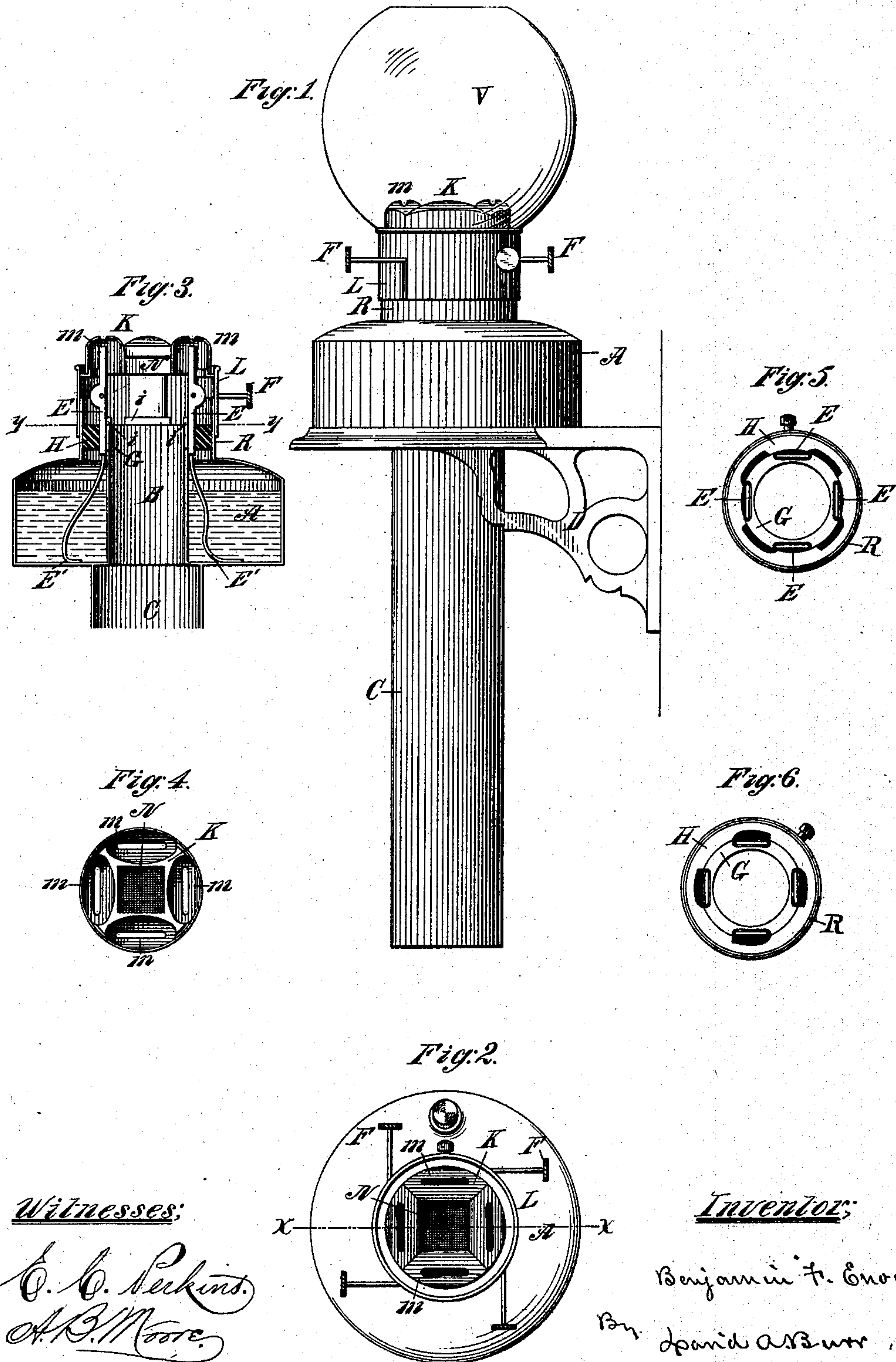
2 Sheets—Sheet 1.

B. F. ENOCH.

LAMP FOR ILLUMINATING, HEATING, AND VENTILATING ROOMS.

No. 322,168.

Patented July 14, 1885.



Witnesses:

C. C. Perkins.
A. B. Moore.

Inventor:

Benjamin F. Enoch
By David A. Burr

(No Model.)

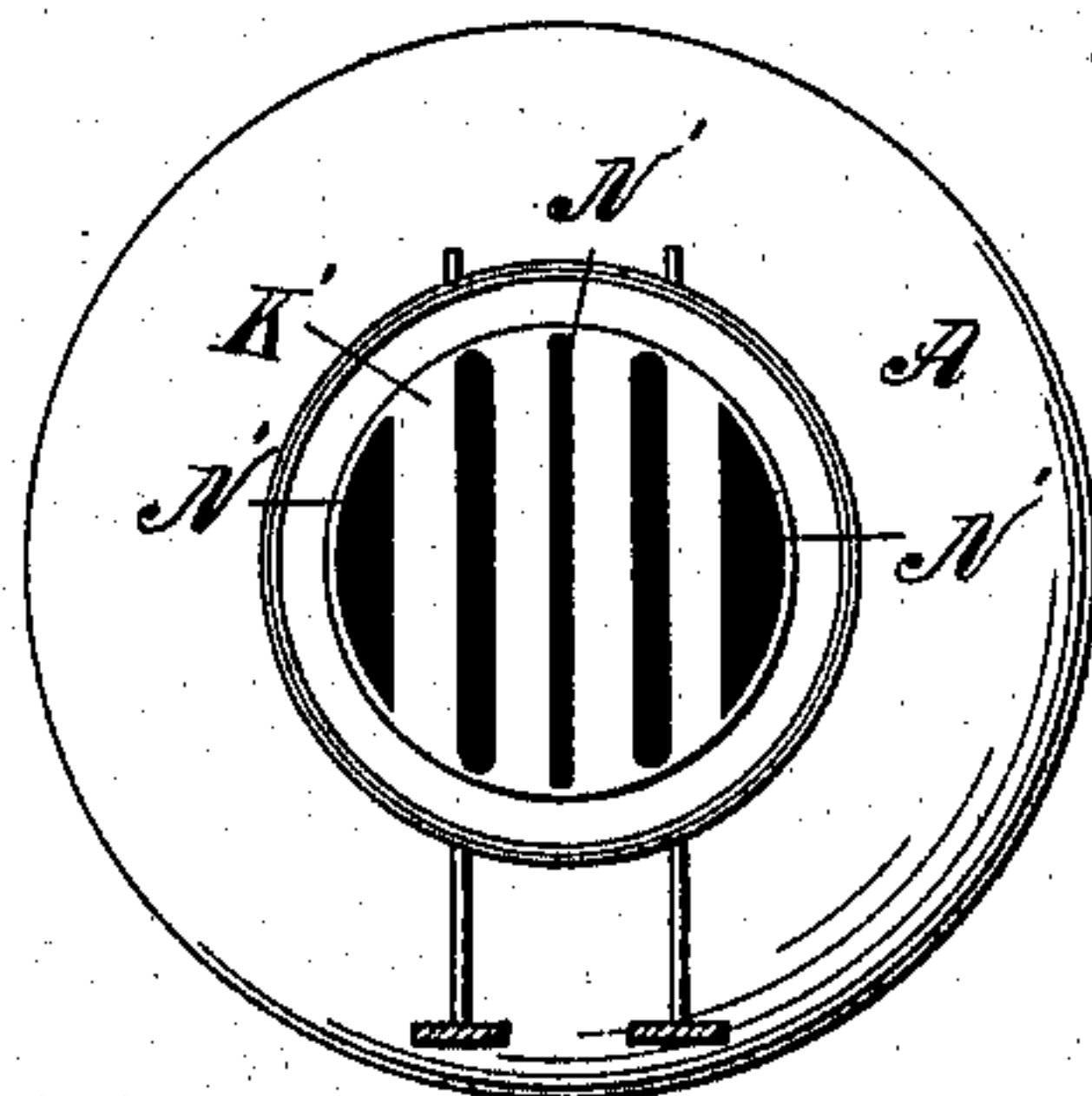
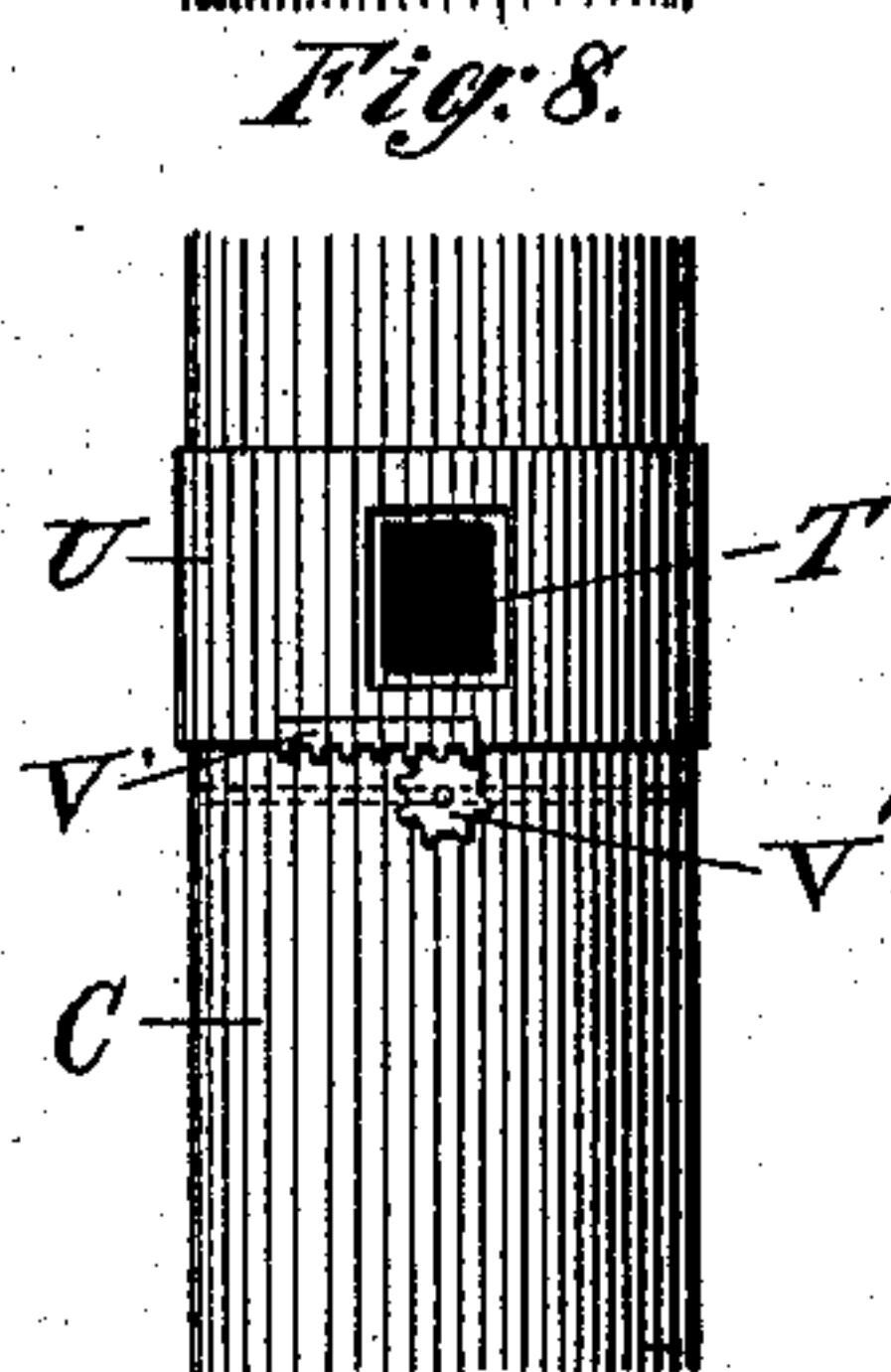
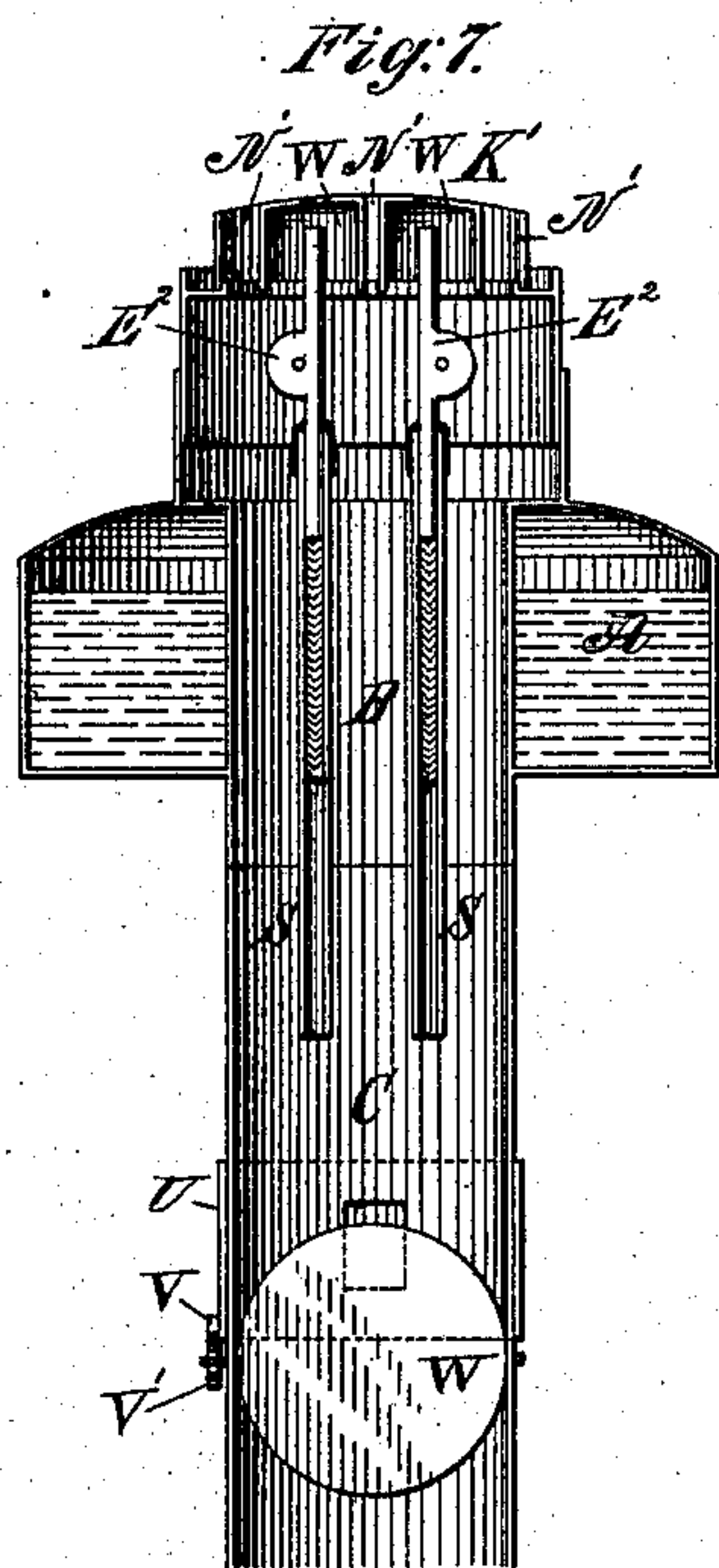
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C. C. Perkins.
A. B. Mott.

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By David A. Burr
Attorney

UNITED STATES PATENT OFFICE.

BENJAMIN F. ENOCH, OF BERGEN POINT, NEW JERSEY.

LAMP FOR ILLUMINATING, HEATING, AND VENTILATING ROOMS.

SPECIFICATION forming part of Letters Patent No. 322,168, dated July 14, 1885.

Application filed September 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. ENOCH, of Bergen Point, New Jersey, have invented a new and useful Improvement in Lamps for Heating and Ventilating Rooms; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that class of lamps which are designed for heating and ventilating as well as lighting a room. It has for its object the production of a strong circulating current, preferably from near the floor to the upper portion of the room, by means of a coal-oil lamp, for the purpose of utilizing the heat of the lamp in warming a room; and it embodies an improvement upon the device for this purpose which is described in Letters Patent granted to me April 8, 1884, No. 296,320.

It consists in the combination, with two or more wick-tubes, and a reservoir or fountain for coal-oil in a lamp, and with a large central air-pipe adapted to reach from the wick-tubes of the lamp down nearly to the floor, of a separate dome for each wick-tube, formed integrally with a single cap-plate, through which, in addition to the openings in the domes, separate independent air-passages are formed, all to communicate with the large air-supply pipe below and with the lamp globe or chimney above.

It consists also, in the use of a movable ring for securing the separated detachable wick-tubes which are used in combination with the improved ventilating-dome or cap-plate of the lamp.

In the accompanying drawings, Figure 1 is an elevation of one form of my improved ventilating and heating coal-oil lamp constructed with four wick-tubes; Fig. 2, a top view thereof; Fig. 3, a central vertical section in line *xx* of Fig. 2; Fig. 4, a plan view of the under or inner side of the dome-plate; Figs. 5 and 6, transverse sections in line *yy* of Fig. 3, illustrating the tube-fastening ring in Fig. 5 closed and in Fig. 6 opened; Fig. 7, a central diametric section of a modification of my lamp constructed with two wick-tubes; Fig. 8, an elevation of a portion of the air-supply pipe illus-

trating the damper therein, and Fig. 9 a top view of the lamp shown in Fig. 7.

A represents the body or reservoir of the lamp, constructed in annular form, so as to leave a large air-flue, B, through the center of it. (See Fig. 3.) An air-supply pipe, C, by preference larger in diameter than the central air-flue, B, is connected thereto in any suitable manner, this pipe being made of a length sufficient to reach nearly to the floor of the room when the lamp is placed upon its bracket D or other convenient stand or support. This air-pipe C may be flexible to admit of contraction or be fitted with a damper, as shown in Figs. 7 and 8, to admit of a regulation of the supply of air through it. Four wick-tubes, E E E E, (Figs. 3, 5, and 6,) each provided with feed-wheels adapted to be actuated in the customary manner, by a rod and thumb-screw, F, are inserted at diametrically opposite points into recesses in a fixed ring, G, (see Figs. 5 and 6,) encircling or fitted upon the upper open end of the central air-pipe B, so that their lower ends will enter the lamp and allow the wicks E E to depend therein and their upper ends project above the top of the ring. (See Fig. 3.) Each tube is fitted upon its inner face with an extended lug, *i*, (see Fig. 3,) to rest upon the upper edge of the ring G. A second movable ring, H, encircles the first, and the inner face of this ring is recessed at four diametrically opposite points corresponding with the recesses in the ring G, in which the wick-tubes are fitted. The recesses in the movable ring H are of a length slightly greater than the width of the wick-tubes, which they exceed also in depth, so that when said recesses are brought into register with the wick-tubes (see Fig. 6) the latter can be slipped out radially from the recesses in the fixed ring G, and be thus easily lifted out from the lamp. When the wick-tubes are in place, they are confined and secured by turning the ring H until it is made to bear with its full width against each tube, as shown in Fig. 5. The front end of each recess in the ring H is beveled so as to force in the wick-tube, if it be not already completely in place within the ring G. This movable ring is inclosed by a fixed collar or flange, R, extending upward from the top of the lamp A. (See Figs. 1 and 3.) The upper ends of the four wick-tubes are inclosed within an air

space or chamber formed by a detachable collar, L, which fits upon the annular flange or fixed collar R on the top of the lamp, and is covered by a cap-plate, K. (See Figs. 1, 2, 3, and 4.) The cap-plate K is recessed and fashioned to form four slitted domes, *m m m m*, of the customary shape for a coal-oil burner, (see Figs. 1, 2, and 3,) and in position to register with the four wick-tubes *E E E E*, (see Figs. 2, 3, and 4,) and a large central opening, N, is pierced through the cap-plate between the domes to communicate with the central air-flue, B. This opening N may be covered with a perforated plate or grating of wire-netting.

The lamp is fitted in the usual manner with a globe or chimney, V. (Shown only in Fig. 1.) The circulation of air up through the lamp, and consequently its influence in heating the room, is governed by means of a compound damper. (Illustrated in Figs. 7 and 8.) This damper consists of an external movable collar, U, encircling the air-pipe C, and which is pierced with one or more air-holes, T T, (see Fig. 8,) which, by the movement of the collar U about the flue as its axis, admits of being opened by being brought into register with the corresponding lateral openings in the pipe, or of being closed by overlapping the body of the pipe. The lower edge of the collar U is fitted with a toothed bar, V, engaging a pinion, V', upon a diametric shaft serving as the axis for a circular plate, W, mounted within the pipe below the lateral openings therein. (See Fig. 7.) The damper-plate W is so adjusted as that when the openings T in the damper-collar U are in register with the lateral openings in the pipe the plate W will be closed or brought into a position transverse to the length of the pipe to cut off the admission of air from its lower end, (air being thereupon admitted laterally through the open damper-collar U,) and will be opened to lie in a plane parallel to the length of the pipe when the damper U is closed.

In the modification of my invention, illustrated in Figs. 7 and 9, but two wick-tubes *E E* are employed, and these are placed parallel to each other, and are made to fit snugly within the feed-tubes *S S*, supported within the central flue of the lamp by means of an outer flange or collar inclosing the upper ends of the feed-tubes. These feed-tubes are of such width as to contact at their edges with the sides of the central flue in which they are inserted, and through which communicating apertures are pierced to admit of a flow of oil from the lamp to the wicks depending into the feed-tubes. The cap-plate K' is formed with two domes, *W W*, and air-passages *N' N'* are formed through the cap-plate on each side of and between the domes to communicate with

the central air-flue, B, as illustrated in Fig. 7. The dome may be pierced with lateral apertures to facilitate combustion.

In the operation of my improved lamp air is admitted to the interior of the burners from the air-pipe C, through the central flue B of the lamp. As the upward current of air becomes heated by the flame of each burner a powerful upward suction is created from the air-pipe, not only through the domes and around the burning wicks to support combustion in the globe, but also freely through the independent openings *N N'*, so that a strong current is made to flow through said pipe upward and outward to the top of the room from near the floor if the damper W be open, or through the openings in the collar U if the damper W be closed, a large portion of the air being carried upward in either case without passing through the flame to be vitiated thereby. Thus a constant and rapid circulation of air is maintained in the apartment, either from the floor, or from just below the lamp, to the ceiling, and the full amount of heat evolved in the burning of the lamp is in the former case utilized and diffused throughout the room to warm it, the lamp itself being kept cool thereby, and the air in the room not affected injuriously further than would be the case in the use of a similar lamp for illumination alone. By means of the dampers U and W the extent to which the circulation through the lamp shall operate to heat the room is readily brought under control.

I claim as my invention—

1. The combination, with a central air-passage in a coal-oil lamp, and with wick-tubes fitted within said passage to be supplied with air therefrom, of a cap-plate covering said air-passage and provided with a separate slitted dome for each wick-tube, and with an independent air-passage between the domes, substantially in the manner and for the purpose herein set forth.

2. The combination, with a central air-pipe in a coal-oil lamp, and with detachable wick-tubes fitted in radial recesses in a fixed ring upon the upper open end of the pipe, of a movable ring encircling said fixed ring and provided with radial recesses adapted to register with those in the fixed ring, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN F. ENOCH.

Witnesses:

E. C. PERKINS,
A. B. MOORE.