

(No Model.)

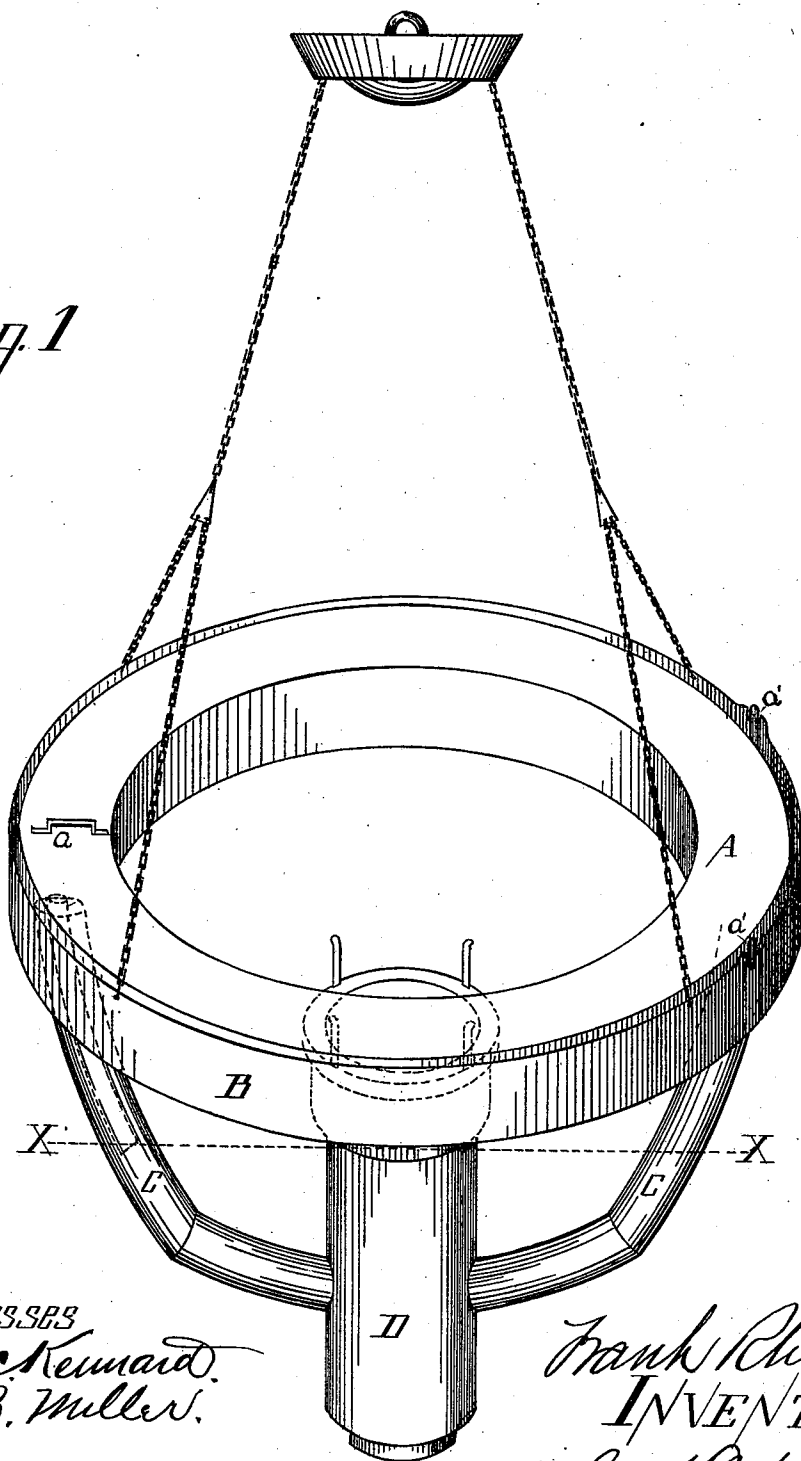
3 Sheets—Sheet 1.

F. RHIND.
HANGING LAMP.

No. 392,969.

Patented Nov. 13, 1888.

Fig. 1



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per Geo. L. Cooper, Atty.

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Fig. 2

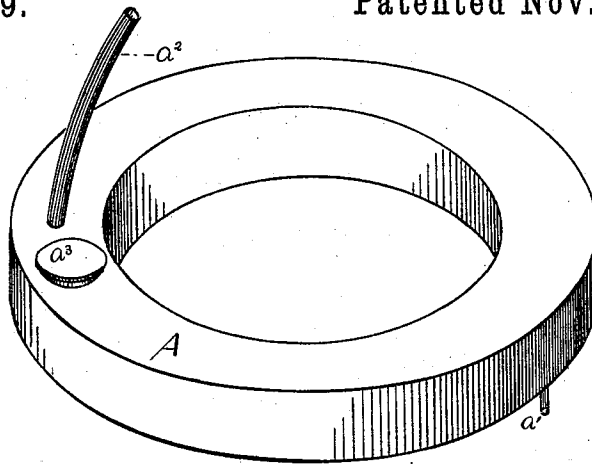


Fig. 3

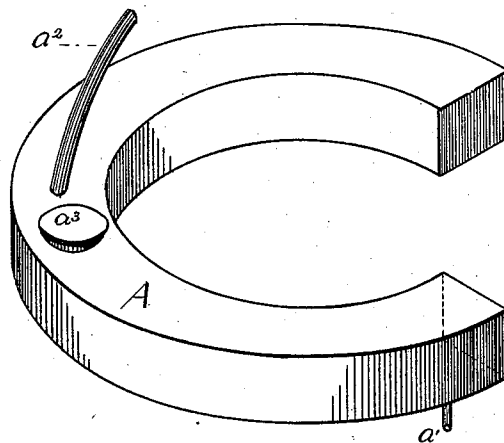
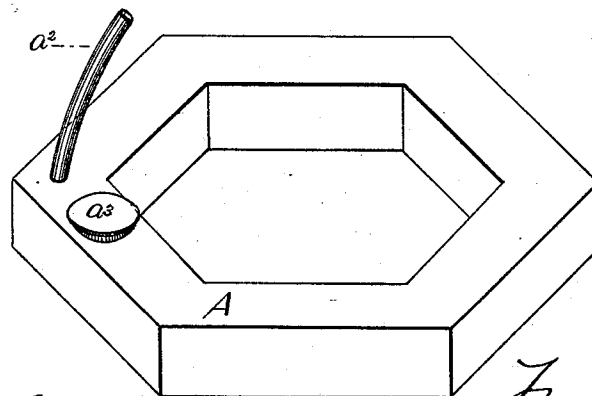


Fig. 4



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Fig. 5

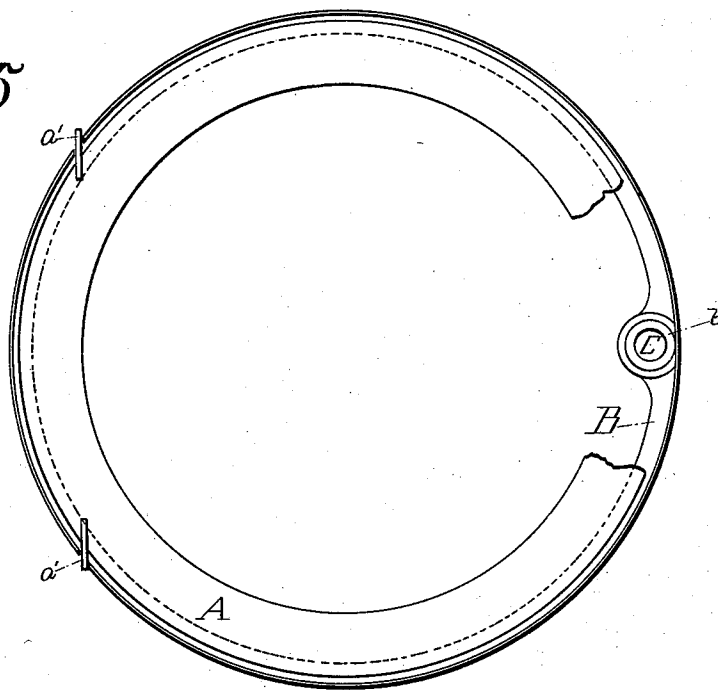
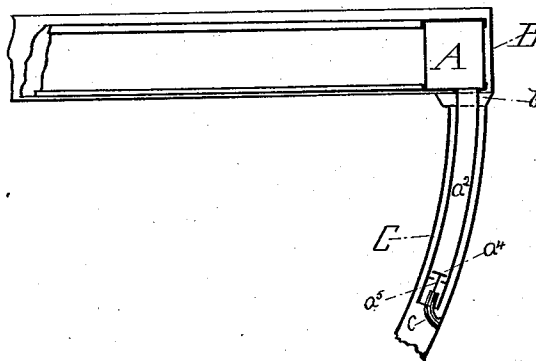


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANK RHIND, OF MERIDEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO
EDWARD MILLER & COMPANY, OF SAME PLACE.

HANGING LAMP.

SPECIFICATION forming part of Letters Patent No. 392,969, dated November 13, 1888.

Application filed November 15, 1887. Serial No. 255,257. (No model.)

To all whom it may concern:

Be it known that I, FRANK RHIND, a citizen of the United States, residing at Meriden, county of New Haven, and State of Connecticut, have invented an Improvement in Hanging Lamps, of which the following is a specification.

My invention relates chiefly to that class of lamps which are supported from a ceiling hook or bracket, so as to cast its light downward, and is intended to improve such lamps by lessening the shadow cast by the fount.

In the accompanying drawings, Figure 1 represents in perspective a hanging lamp embodying my invention. Figs. 2, 3, and 4 represent, also in perspective but inverted, various modifications of the oil-fount of such lamp detached from the hanger. Fig. 5 is a top plan view of the fount and shade-band, a portion of the fount being broken away to show parts of the shade-band. Fig. 6 is a view in vertical section of a portion of the fount, shade-band, and parts connected with these.

Similar letters refer to like parts in the several views.

A designates an oil-fount, (shown in Figs. 1, 2, 5, and 6 as of annular form;) *a*, a handle; *a'*, *a'*, trunnions; *a²*, a feeder-tube; *a³*, a filler-opening; *a⁴*, a valve; *a⁵*, a valve-stem, the last six parts being connected with the fount A; B, a shade-band; *b*, a drip-cup or depression formed in the horizontal flange of the band B; C, a tubular arm connecting the shade-band B with the burner-tube D; *c*, a lug or stop in the tube C.

The form of device here shown as embodying my invention is constructed as follows: The oil-fount A is made of annular or equivalent form, is preferably provided with a handle, *a*, by which it may be conveniently lifted, and with trunnions *a'* *a'*, which rest in corresponding bearings or depressions in the shade-band B, and on which the fount A may turn, so that it may more conveniently be removed from and returned to the band B. The fount A is also provided on its lower side and on a diametric line at right angles with a line drawn between the trunnions *a'* *a'* with a feeder-tube, *a²*. It also has on its lower side a filler-opening, *a³*, capable of being tightly closed by means of a screw and washer, or otherwise.

The feeder-tube *a²*, as here shown, is of a curved form and of a size adapted to pass freely into the curved tubular arm C. This tube *a²* may be provided with a valve and projecting valve-stem, such as is commonly used in "study" or other lamps having barometric reservoirs. As this forms no part of my invention, I have not illustrated it. I prefer to use a valve, *a⁴*, provided with a downwardly-extending stem, *a⁵*, which does not project beyond the end of the tube *a²*, so that the valve is less liable to accidental displacement. To trip the valve *a⁴* when the fount A is in its normal position, I provide a lug or stop, *c*, in the tube C, so arranged as to enter the lower open end of the tube *a²* and engage with the valve-stem *a⁵*. The shade-band B is made of the usual form, preferably with its outer vertical flange of sufficient height to conceal the fount A. Its inwardly-projecting horizontal flange is sufficiently wide to support the fount A, and to it are attached the connecting-tubes C. This horizontal flange is preferably provided with drip-cups *b*, surrounding the open ends of the tubes C, which are intended to catch any oil which might drip from the feeder-tube *a²* when the fount A is inserted into or removed from the band B. These details of construction are shown in Figs. 5 and 6 of the drawings. The shade-band B is also preferably provided with bearings or depressions adapted to engage the trunnions *a'*, and so arranged that when the fount A is turned on said trunnions the feeder-tube *a²* may be guided into either of the tubes C.

I do not propose to limit myself to the form of construction here shown and described, as it is evident that several mechanical changes may be made without departing from the spirit of my invention.

I have shown certain modifications in the shape of the fount in Figs. 3 and 4, and wish to be understood by the phrase "substantially annular" as herein applied to an oil-fount as covering any fount which surrounds or partially surrounds the burner. I have also shown the feeder-tube *a²* as curved to the form of an arc of a circle, the radius of which is the distance from the upper end of said tube to the line on which the fount A turns when being removed from or inserted into the band B, and this is the preferable construction; but

it is evident that the feeder-tube may be made in the form of the chord of such an arc, it being only essential to my invention that the lower end of said tube shall be drawn inward toward the center of the annular fount A, instead of being at a right or an obtuse angle with said fount. By so curving or drawing inward the feeder-tube I am enabled to reduce the size of the connecting-tubes C, thereby reducing to a minimum the objectionable shadow cast by these tubes and lessening their cost. When, therefore, I use the phrase "inwardly curved" as applied to the feeder-tube, I wish to be understood as including any form of tube, curved or straight, in which the lower end of the tube is drawn inward, as shown in the drawings.

The operation of my device will be readily understood by an inspection of the drawings. To fill the fount A with oil, it is necessary to remove it from the shade-band B, place it in an inverted position, as shown in Figs. 2, 3, and 4, and remove the cap closing the filler-opening a^3 . After filling, the opening a^3 is tightly closed and the fount is returned to its position in the band, as shown in Figs. 1, 5, and 6. In so returning it, it is convenient to place the trunnions a' in their bearings in the band B and lower the feeder-tube a^2 into the tubular arm C. As the fount A nears its normal position in the band B, the lug c in the tube C enters the end of the feeder-tube a^2 , strikes the end of the valve-stem a^5 , and thus lifts the valve a^4 from its seat, as shown in Fig. 6. The oil will then flow from the fount A through the feeder-tube a^2 into the tubular arm C and burner-tube D until it reaches the level indicated by the line X X in Fig. 1, when further inflow of air to the fount A through the feeder-tube a^2 is cut off and the remaining oil will be supported barometrically, as in the ordinary study-lamp.

It will be seen that the trunnions a' may be dispensed with, as shown in Fig. 4. In this case the fount A may be removed by lifting the side of the fount to which the tube a^2 is attached, by means of the handle a or otherwise, until the tube a^2 is entirely clear from the connecting-tube C, before the opposite side of the fount A is raised from the band B. This opposite side of the fount in this case serves as a pivot on which the fount turns. In replacing the fount in the band the side of the fount A diametrically opposite the tube a^2 is seated in the band B, and serves as a pivot on which the fount turns while the tube a^2 is being lowered in the connecting-tube C.

When the oil is consumed below this point, air entering at the open top of the tube C, flowing down said tube and up through the tube a^2 , will displace oil in the fount A and permit it to flow through the tubes a^2 and C to the burner-tube D. By this means a much

higher level of oil may be maintained in the burner-tube D than if the displacing air were introduced through the tube D, carried down to the point of juncture with the tube C, and thence upward to the fount A.

I am aware that founts of annular form have heretofore been used in connection with a concentric burner-tube, and that in some constructions the fount has been placed above the burner; but I am not advised that such elevated annular founts have ever been made removable or provided with an automatic valve, so that they could be taken from the lamp to be filled with oil.

By this invention I am enabled to combine all of the advantages of the present well-known hanging or "library" lamp with those of the study-lamp—viz., the symmetry and beauty of the library-lamp, the freedom from downwardly-cast shadow of the study-lamp, so desirable in lamps intended to be hung from a ceiling, removability and great capacity of fount, and distance of the body of oil from the burner.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is as follows:

1. In a lamp, the combination of a removable barometric oil-reservoir of substantially annular form, a feeder-tube attached to said reservoir, a band adapted to receive and support said reservoir, a burner-tube substantially concentric with said reservoir, and a connecting-tube between said band and said burner-tube, and adapted to receive said feeder-tube, substantially as described.

2. In a lamp, the combination of a removable barometric oil-reservoir of substantially annular form, a feeder-tube attached to said reservoir, trunnions also attached to said reservoir, a band adapted to receive and support said reservoir and provided with bearings for said trunnions, a burner-tube substantially concentric with said reservoir, and a connecting-tube between said band and said burner-tube, and adapted to receive said feeder-tube, substantially as described.

3. In a lamp, the combination of a removable barometric oil-reservoir of substantially annular form, a feeder-tube attached to said reservoir, a valve in said feeder-tube, a band adapted to receive and support said reservoir, a burner-tube substantially concentric with said reservoir, a connecting-tube between said band and said burner-tube, and adapted to receive said feeder-tube, and a lug or stop in said connecting-tube adapted to engage with said valve, substantially as described.

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Witnesses:

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BENJ. C. KENNARD.