(No Model.) 2 Sheets—Sheet 1.

H. E. SHAFFER.

LAMP.

No. 285,310. Patented Sept. 18, 1883.

Fig. 1.

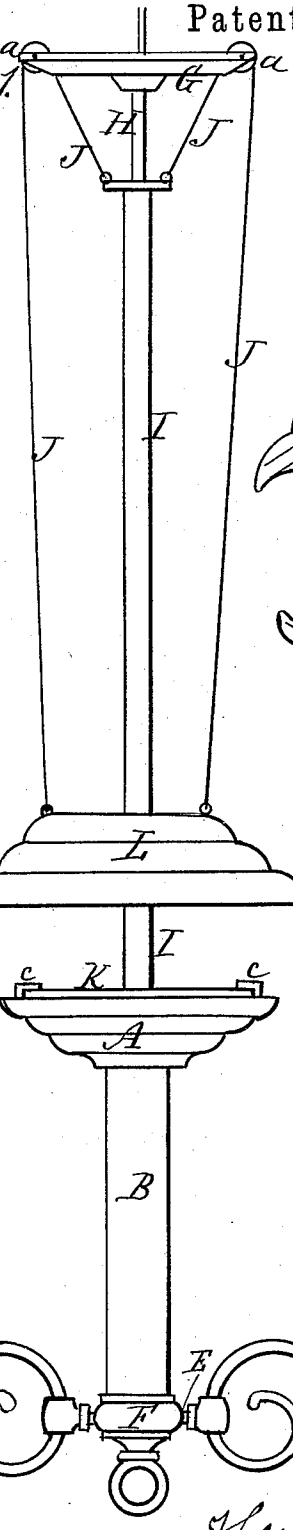


Fig. 3.

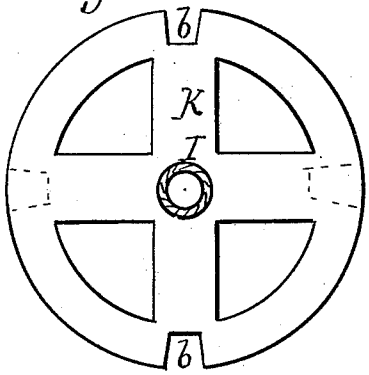


Fig. 2.

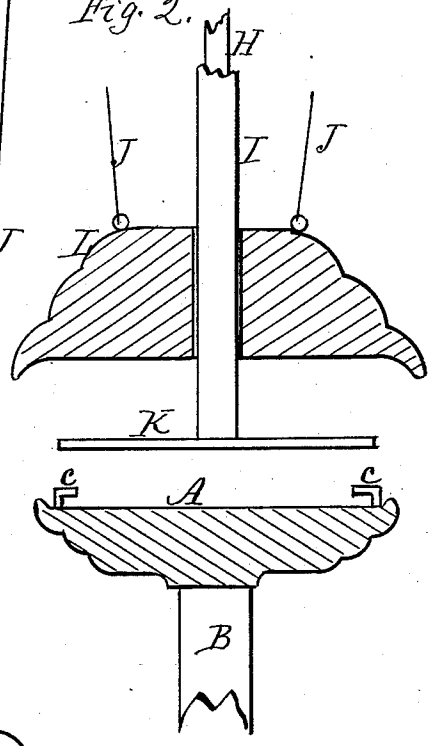
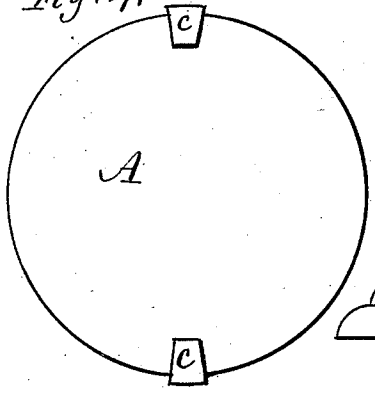


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

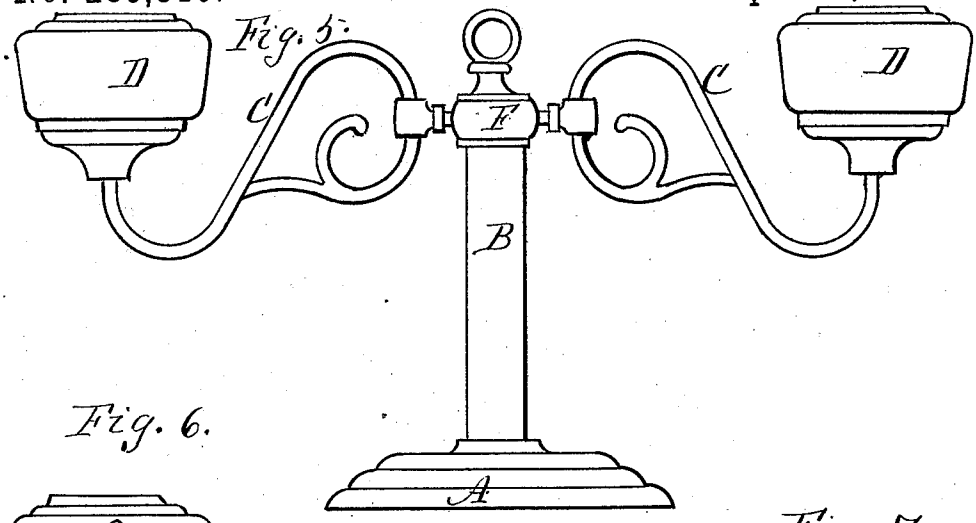


Fig. 6.

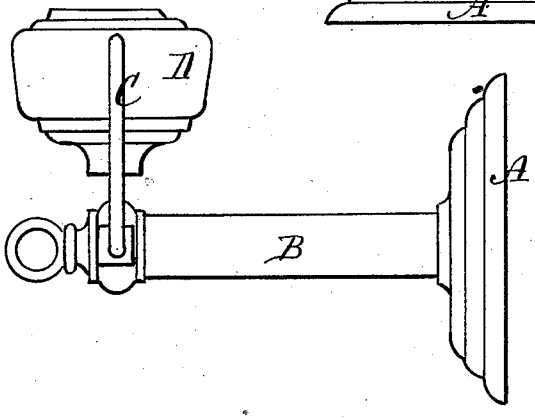


Fig. 7.

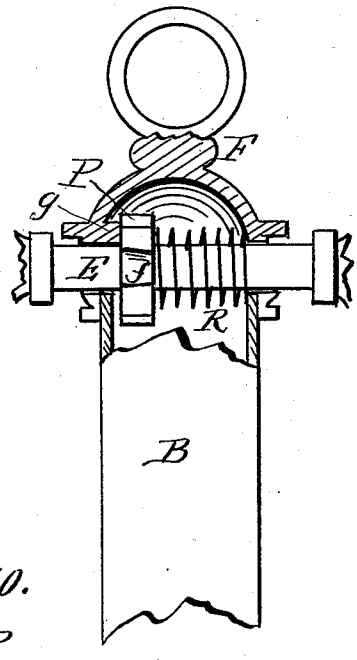


Fig. 8.

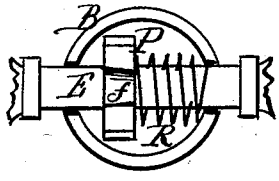


Fig. 9.

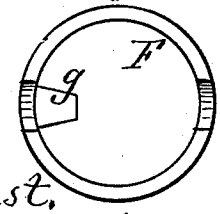
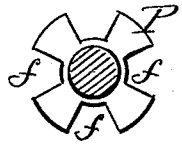


Fig. 10.



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UNITED STATES PATENT OFFICE.

HENRY E. SHAFFER, OF ROCHESTER, NEW YORK.

LAMP.

SPECIFICATION forming part of Letters Patent No. 285,310, dated September 18, 1883.

Application filed June 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. SHAFFER, of the city of Rochester, county of Monroe, and State of New York, have invented a certain new and useful Improvement in Lamps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a drop-light, showing my improvement. Fig. 2 is a sectional view of the central portion of the same on an enlarged scale. Fig. 3 is a plan of the disk K, attached to the hanger of the drop-light, and to which the lamp is attached. Fig. 4 is a bottom view of the base of the lamp. Fig. 5 is an elevation of the lamp as used for a stand-lamp. Fig. 6 is a side elevation of the same as used for a bracket-lamp. Fig. 7 is an enlarged vertical section through the top of the lamp-standard, showing the shifting joint. Fig. 8 is a plan of the same with the cap removed. Fig. 9 is a bottom view of the cap that fits over the lamp-standard. Fig. 10 is a side elevation of the toothed locking-wheel in the lamp-standard.

My improvement relates to an adjustable lamp capable of being used as a stand-lamp, a bracket-lamp, and a drop-light; and it consists in the construction and arrangement hereinafter more fully described and claimed.

In the drawings, A shows the base, and B the standard, of the lamp.

C C are the arms supporting the two lamps, D D, and these arms are attached to an axis, E, which turns in the standard, so that the lamp can be used as a drop-light, as in Fig. 1, a stand-lamp, as shown in Fig. 5, or a bracket-lamp, as shown in Fig. 6, the lamps being turned to stand upright in either position. A locking device is used to fasten the lamps in either position, as will be presently described.

In Fig. 1, which shows the drop-light, G is the crown-piece, suspended from the ceiling by any suitable means, and provided with a stiff guide-tube or rod, H, upon which slides the hanger-tube I.

To the lower end of hanger I is attached a disk, K, by which the lamp is attached to the drop-light.

L is a counter-weight, which slides freely on the hanger I, and J J are chains, cords, or other connections attached to the top of the counter-weight, thence passing up over pulleys *a a* in the crown-piece, and thence passing down and attached to the top of the hanger I. By this means the lamp is counterbalanced and can be adjusted up and down to any desired position.

The lamp is attached to the hanger in the following manner: The disk K forms an intermediate device for the attachment of the base of the lamp. It is simply a thin flat plate. In the edges, on two opposite sides, are made two open notches, *b b*, Fig. 3. On the bottom of the base of the lamp are made two corresponding tongues, *c c*, Figs. 2 and 4, which stand up from the base, and are so located that they can be inserted up through the open notches of the disk, and can then be turned around at right angles by turning the lamp bodily, and stand in the position indicated by the dotted lines, Fig. 3, in which case they embrace the edge of the disk and hold the lamp in place. The top of the lamp-base and the bottom of the counter-weight are hollowed, as shown in Fig. 2, so that when the parts come in contact the disk K will be sunken and remain out of sight, and the edges of the base and counter-weight will touch. The disk K thus arranged enables the base of a lamp to be attached readily, and forms a firm bearing for the same, and the lamp can be attached and detached readily, and can be used for other purposes separate from the drop-light. This attachment differs from others in the use of the flat disk and inverted base of the lamp fitted together face to face and provided with suitable locking devices.

The axis E, which turns to adjust the lamp to the different positions in which it is used, consists of a straight pin, which rests one half in sockets formed in the top of the lamp-standard and the other half in sockets formed in a cap, F, which fits over the top of the lamp-standard, and is soldered or otherwise fastened in place. The axis has a free end movement as well as a turning movement in its sockets.

P is a toothed wheel made fast to the axis, and R is a spiral or other spring on the axis, bearing at one end against the side of the

standard and at the other end against the toothed wheel, by which the wheel is pushed toward the opposite side of the standard, as shown most clearly in Fig. 7. The wheel has four open notches, *f f*, between the teeth, and these notches are wedge-shaped, the narrow end being on the inside and the wide end on the outside.

g is a tooth on the inside of the cap F, this tooth standing in line with the notches of the wheel, and being also wedge-shaped, so that as the wheel is pressed up by the spring the tooth will enter one of the notches and bind in place and prevent the lamp from being turned. To turn the lamp the axis is pressed back by the hand of the operator till the noteh of the wheel frees from the tooth. The lamp is then turned and released, when the spring forces the wheel back and the tooth engages with another notch. By this means the lamps can be turned into any of the positions named.

I am aware that an axis having an end movement and turning axially to adjust the position of the lamps has been before known, but made square in cross-section and resting in square sockets of the standard, in which case, even with the closest fitting of the parts, the lamp rocks more or less and is unsteady in position. In my invention the wedging form of the notches in the wheel and the wedging-tooth of the cap lock the parts so firmly that the lamps cannot rock or sway.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a drop-light, of a disk attached to the hanger and a lamp provided with a base which fits the disk, provided with suitable locking attachments, by which the base can be fastened to the disk, as set forth.

2. The combination of the disk K, attached to the hanger I, and provided with the notches *b b* and the lamp-base A, adapted to fit the disk, and provided with tongues *c c*, which enter the notches to attach the lamp to the hanger, as herein shown and described.

3. In a lamp which is adjustable to different positions on its standard, the combination of the axis E, provided with the fixed toothed wheel P, the cap F, provided with the tooth *g*, and the spring R, which presses the wheel into engagement with the tooth, as herein set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY E. SHAFFER.

Witnesses:
R. F. OSGOOD,
P. A. COSTICH.