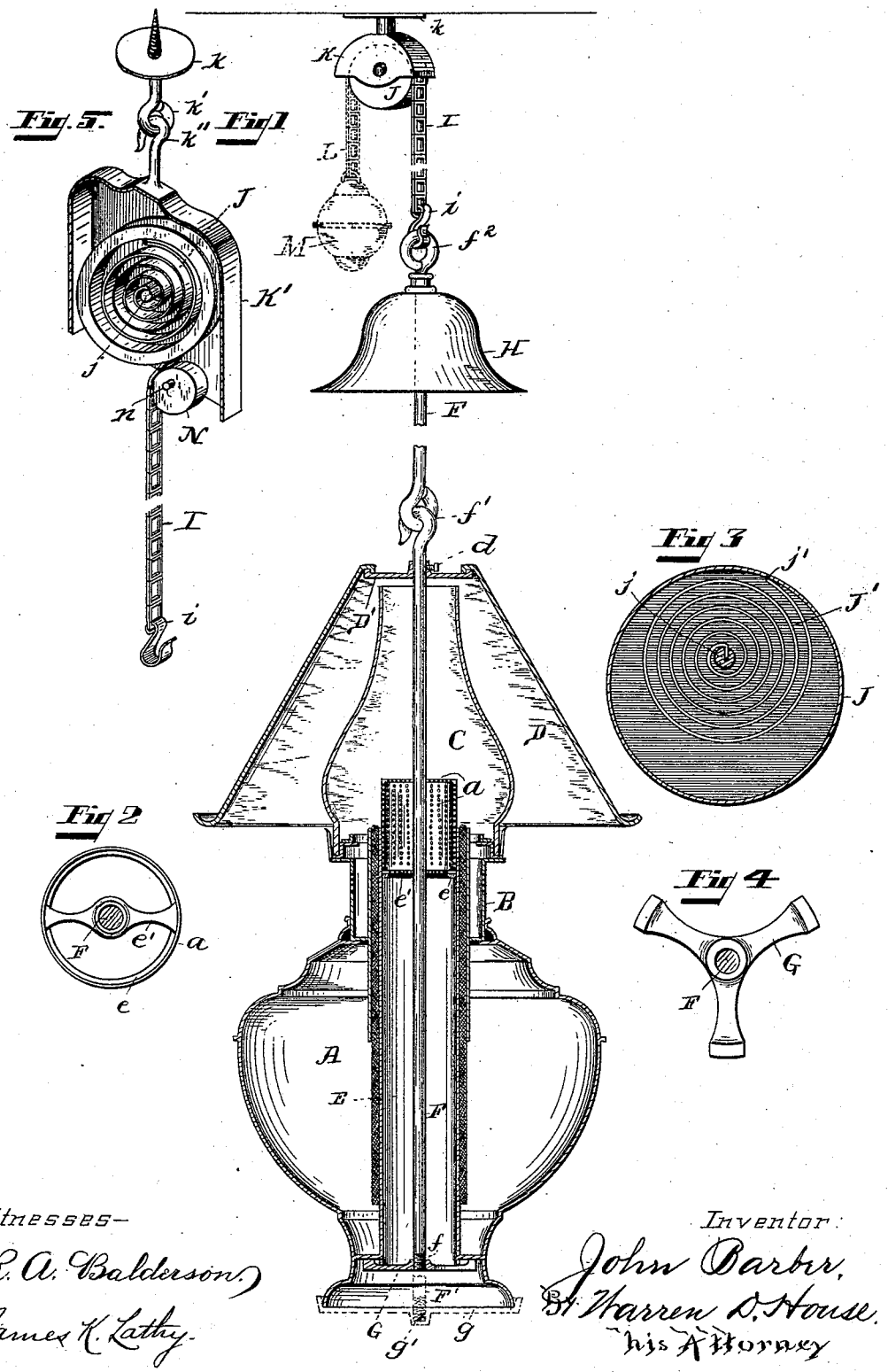
(No Model.)

J. BARBER.

LAMP SUSPENDING DEVICE.

No. 494,116. Patented Mar. 28, 1893.



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UNITED STATES PATENT OFFICE.

JOHN BARBER, OF KANSAS CITY, MISSOURI.

LAMP-SUSPENDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 494,116, dated March 28, 1893.

Application filed October 3, 1890. Serial No. 366,956. (No model.)

To all whom it may concern:

Be it known that I, JOHN BARBER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Lamp-Suspending Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in suspending devices for hanging lamps.

The objects of my invention are, first:—to provide a suspending device for a hanging lamp, wherein the lamp is sustained by means of a rod or chain secured to the body of the lamp, and passing substantially through the axis or center of the lamp to its point of support in the ceiling, in such a manner, more specifically described hereinafter, as to support the lamp and chimney and shade, without throwing a shadow, when the lamp is burning, by reason of such supporting device.

My invention also consists secondly:—of a new device for counterbalancing the weight of the lamp and oil contained within the lamp, so that, regardless of the amount of oil within the lamp, it will remain in any desired position in which it may be placed.

My invention is particularly adapted to be used in the class of lamps, commonly called the "Rochester" lamps, in which the wick is cylindrical in form. It is obvious however, that my invention may be advantageously employed for various other styles of lamps and burners, as for instance the Argand gas burner.

In the accompanying drawings, similar letters of reference indicate similar parts.

Figure 1 represents in front elevation, partly in section, my invention as applied to a "Rochester" lamp. Fig. 2 represents a plan view of the guide plate *e*. Fig. 3 represents a rear sectional view of the counterbalancing drum and spring. Fig. 4 represents a plan view of the supporting plate G. Fig. 5 represents in perspective a modified form of counterbalancing spring and drum.

Referring to the drawings, A indicates the fount or body of the lamp, B the outer draft tube and support for the chimney C, D the globe or shade, D′ the supporting plate for the shade D. Supporting the lamp is a plate G, preferably in the form shown in Fig. 4, that of a tripod, secured thereto, preferably by means of a screw threaded connection at its center, is a rod F, located within the central draft tube E and held in position in the upper end of said inner draft tube, by means of a perforated plate *e*, *e′*. The guide plate *e*, *e′* is held in place within the draft tube E by being forced therein. The guide plate *e*, *e′* may also serve as a support for the perforated deflector *a*.

The supporting plate D′ is provided with a central opening into which the rod F fits and being secured thereto by means of set screw *d*.

H indicates a smoke bell, secured at its center, in any desirable manner, to the rod F.

f′ indicates a hook and eye connection between the two parts of the rod F.

A hook *i* connects the chain I with the upper end of the rod F, which has its upper end formed in to the ring *f″*.

Secured within the casing K is a pivoted drum or pulley J, having one end of the chain I fastened to the outer circumferential surface of the drum I, and adapted to wind up the chain I, when the lamp is lifted by the hand, through the intermediacy of the spiral spring J′, one end of which is secured to the inner wall of the drum J at *j′*, the other end being fastened to the shaft *j*. It will be noted that drum J shown in Figs. 1 and 3 is eccentrically pivoted upon the shaft *j*. This is done to prevent the lamp from descending when it is filled with oil, the spring of itself being just sufficiently strong to prevent the lamp from descending when unfilled.

I have illustrated in Fig. 1 in dotted lines how a weight may be substituted for the spring J′. M indicates a weight supported at the end of L, which in this case is made a continuation of the chain I. In this form last described, the weight of the unfilled lamp is balanced by the weight M, and the weight of the oil in the lamp is compensated for by the eccentric mounting of the drum J on the shaft *j* as in the form previously mentioned and described.

In the modified form of balancing spring and drum shown in Fig. 5, K′ indicates the drum casing, provided at its upper end with a hook projection *k″*, adapted to engage with

a screw eye k, k' secured in the ceiling or other suitable place of support. In this instance the drum is mounted at its center upon the shaft j, the spring j', as in the other forms counterbalancing the weight of the lamp unfilled. Loosely, but eccentrically pivoted within the walls of the casing K', and preferably under the drum, is a roller N, the eccentric mounting of which, upon the shaft n compensates for the weight of the oil.

In the form of the lamp supporting plate herein before described, I have illustrated a tripod shaped support, this is a shape suitable for a lamp in which a drip cup is not desired, but in cases where it is desirable to use a drip cup, the supporting plate may be made in the form of a pan, indicated by dotted lines at the base of the lamp in Fig. 1, by the letter g. At the center of the drip pan or supporting plate g, is a screw threaded opening adapted to be secured to the screw threaded extension of the rod F, indicated in dotted lines and lettered F'. Of course it will be understood, in this connection that the tripod shaped support G may be dispensed with, when using the drip pan g.

The operation of my invention is as follows:—The supporting plate G, having been screwed on the lower end of the rod F, the rod is placed within the draft tube E and hooked into the eye in the upper end of the rod F at f'. The chain I is secured by means of hook i to the eye f'' in the upper end of the rod F, and the other end of the chain, in the form shown in Fig. 1 is secured to the periphery of the drum J, in such a manner as to wind the spring J' contained within the drum, when the lamp is drawn downward. The pulley block K is then secured to the ceiling or other convenient place. The tension of the spring J' is such as to prevent the lamp from descending when not filled with oil. The eccentricity in the mounting of the drum in the casing K compensates for the weight of the oil in the lamp, it requiring an amount of force to make the drum turn a complete revolution, greater than the force exerted by the gravity of the oil. When the lamp is raised by the hand, the spring J' draws up the slack in the chain.

It will be understood that any well known substitute for the chain I may be used, such as a cord or metallic strip, without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In suspending devices for hanging lamps, the combination with a lamp provided with a central draft tube and a wick inclosing the said draft tube, of a rod connected to a plate supporting the lamp and to a point of support above and located within the draft tube, substantially as described.

2. In suspending devices for hanging lamps, the combination with a lamp provided with a drip pan and a central draft tube inclosed by the wick, of a rod connected to the drip pan and to a point of support above and located within the said draft tube, substantially as described.

3. In suspending devices for hanging lamps, the combination with a lamp provided with a central draft tube, having a guide plate located at its upper end, of a rod supporting the lamp and located within the draft tube, and passing through the guide plate to a point of support above, substantially as described.

4. In a lamp suspending device, the combination with a lamp provided with the tubular wick and a tube encircled by the wick, of a support for the lamp from above and located within the tube, substantially as described.

5. In a lamp suspending device, the combination with a lamp provided with a shade, a tubular wick and a tube encircled by the wick, of means, located within the tube, of independently supporting the lamp and shade, substantially as described.

6. In a lamp suspending device, the combination with a chain connected with and supporting a lamp, of an eccentrically pivoted roller over which the chain passes, and a counterbalance operating on the chain against the weight of the lamp, substantially as described.

7. In a lamp suspending device, the combination with a chain connected with, and supporting a lamp, of an eccentrically mounted roller, over which the chain passes, and a spring for winding the chain and adapted to counterbalance the weight of the lamp, substantially as described.

8. In a lamp suspending device, the combination with a lamp provided with a central draft tube inclosed by the burner of the lamp, of a rod located within the said draft tube and supporting the lamp, a chain connected with the rod, an eccentrically mounted roller over which the chain passes, and a counterbalance operating on the chain against the weight of the lamp, substantially as described.

9. A pulley eccentrically pivoted upon a support, and provided with a spring connected to the pulley and support and adapted to be wound when the pulley is revolved in the proper direction, substantially as described.

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

JOHN BARBER.

Witnesses:
E. H. PHELPS,
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