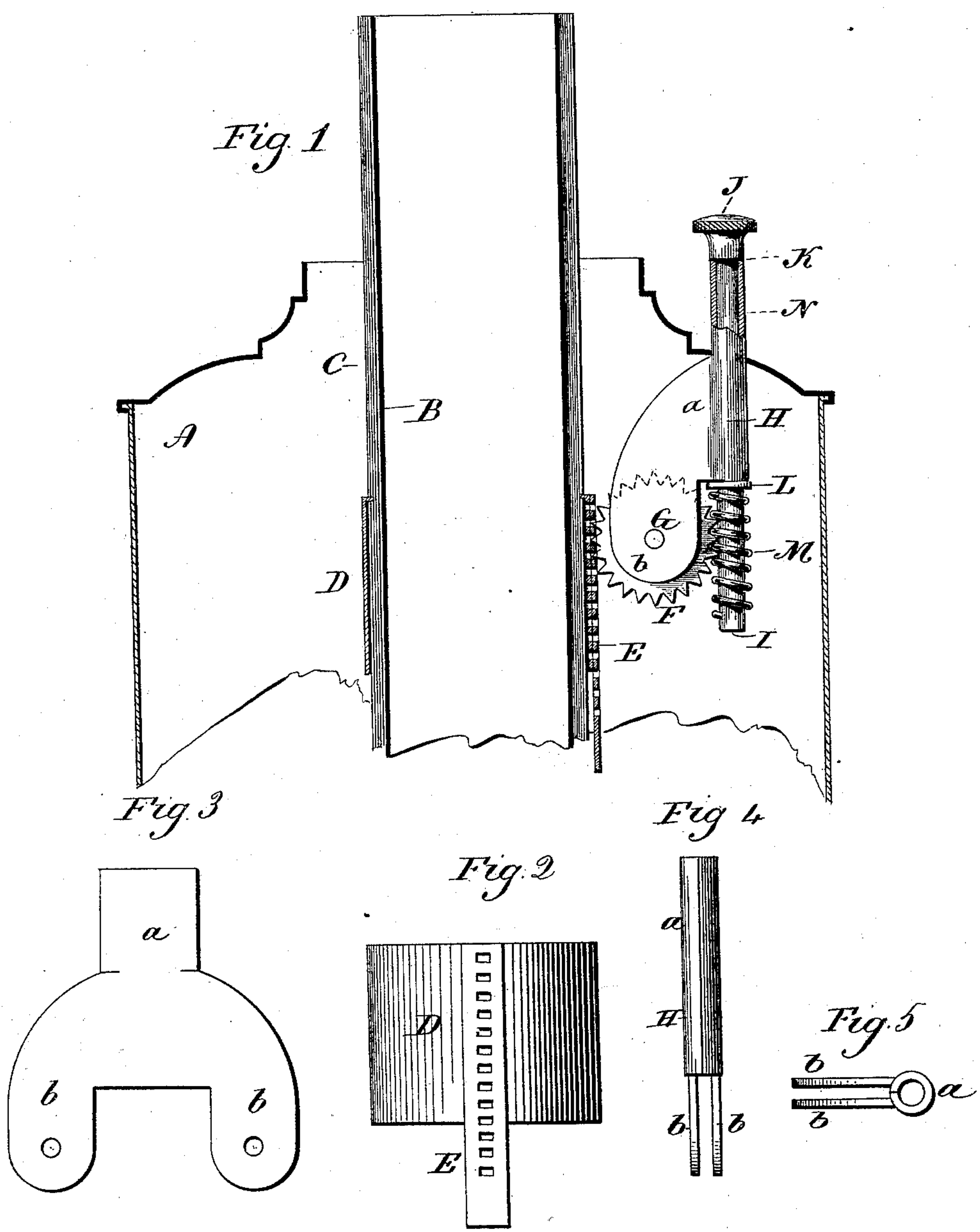


(No Model.)

W. L. UPSON.
WICK RAISER FOR CENTRAL DRAFT LAMPS.

No. 473,681.

Patented Apr. 26, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

WALDO L. UPSON, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE BRADLEY & HUBBARD MANUFACTURING COMPANY, OF SAME PLACE.

WICK-RAISER FOR CENTRAL-DRAFT LAMPS.

SPECIFICATION forming part of Letters Patent No. 473,681, dated April 26, 1892.

Application filed October 6, 1890. Serial No. 367,163. (No model.)

To all whom it may concern:

Be it known that I, WALDO L. UPSON, of Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Wick-Raisers for Central-Draft Lamps; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a vertical central section of the lamp, showing a sectional side view of the wick-raising mechanism; Fig. 2, a detached view of the wick-holder, showing the rack; Fig. 3, the blank from which the shaft and pinion bearings are formed; Fig. 4, an edge view of the said bearing complete; Fig. 5, a top view of the same.

This invention relates to an improvement in that class of devices for raising wicks in central-draft lamps in which a vertical shaft or rod is arranged through the fount outside the burner and in connection with a wick-holder within the fount, so that through the movement of the said rod or shaft the wick may be raised or lowered. In cases where the said rod or shaft is moved vertically, as by lifting or forcing downward to make the adjustment of the wick, it is very difficult to make a nice adjustment, because of the uncertain movement of the wick upon the central tube. The friction which naturally exists between the two causes the wick to stick on the start of either the up or down movement, so that as soon as started under the force applied to the rod it moves easier, and then the force which is operating the rod unavoidably gives a greater extent of movement than is desirable, raising the wick to an excessive height or forcing it downward so as to extinguish the flame.

The object of my invention is to preserve the vertical adjusting-rod, but yet make the movement easy and positive, so that the wick may be readily adjusted to the most limited extent, and the invention consists in the construction as hereinafter described, and particularly recited in the claim.

A represents the fount, B the central draft-tube, and C the wick, all of common construction.

D represents the wick-holder, which is in the form of a sleeve surrounding the wick and engaged with the wick by any of the usual means for securing such a wick-raising sleeve to the wick. On one side of this sleeve a vertical rack E is formed or attached.

Within the fount a pinion F is hung in suitable bearings on a horizontal axis G, the teeth of said pinion being adapted to engage the corresponding teeth of the rack E, as seen in Fig. 1, and so that by the rotation of the said pinion the rack with the sleeve D and the wick it carries will be raised or lowered according to the direction of such rotation.

Through a suitable vertical bearing H, made fast in the fount, a vertical rotating shaft I is arranged, it extending up through the top of the fount, where it is provided with a suitable head J, by which it may be conveniently rotated. The shaft is prevented from vertical movement by a shoulder K, resting on the upper end of the bearing, and a collar L, around the shaft below the upper end of the bearing H, so that while the shaft is free to be rotated it is held against vertical movement. Below the bearing the shaft is screw-threaded, as at M, the said screw-thread working in the teeth of the pinion F as a worm, and so that the rotation of the said shaft through the worm will impart rotation to the pinion F and correspondingly raise or lower the wick.

By the employment of the worm on the vertical shaft and the pinion F, between the said worm and the wick-raising rack, the rotation of the shaft attains a great purchase over the wick-holder, so that the wick-holder is easily moved, and the vertical movement of the rack and wick-holder is so slow, as compared with the rotative movement of the shaft, that there is no liability to an over motion or movement of the wick either in raising or lowering, and the nicest adjustment of the wick may be easily obtained.

To form the bearing H so as to carry the pinion and support the shaft, it is best made from a blank of sheet metal, as seen in Fig. 3, the

upper portion *a* of this blank being of a width corresponding to the circumference of the shaft so as to form the tubular portion of the bearing above the fount. From the lower
5 end of the part *a* two ears *b b* are formed, turning, respectively, to the right and left. The body of the blank is bent into tubular shape, as seen in Figs. 4 and 5, and the two ears are brought into planes parallel with each
10 other, as seen in those figures, the said ears being distant from each other corresponding to the thickness of the pinion *F*, so that said pinion may stand between the two ears, its axis supported therein. Thus constructed
15 the tubular portion of the bearing is inserted up through a corresponding opening in the fount, as seen in Fig. 1, and there secured, so that the ears with the pinion they carry stand in the proper position within the fount.
20 This construction of bearing is simple, cheap, and strong and not liable to derangement in the ordinary use of the lamp.

I am aware that ratchet-wheels for feeding the wicks of Argand or central-draft burners
25 have been operated by worms on a vertical axis working into the teeth of the said ratchets. I therefore do not wish to be understood

as claiming, broadly, such adjustment of the wick.

I claim—

In a wick-raiser for central-draft lamps, the combination of the wick-holder provided with a vertical rack, combined with a toothed pinion working into said rack, and a vertical shaft constructed with a worm at its lower
30 end to work in said pinion and extending upward through the fount, the upper end provided with means for the rotation of said shaft and the bearing *H*, constructed to form a tube *a* at its upper end as a support for the
40 shaft and with two ears *b b* at its lower end for the support of the pinion, the said shaft constructed to engage said bearing, so as to prevent the vertical movement of the shaft yet permit its free rotation, all substantially
45 as described.

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

WALDO L. UPSON.

Witnesses:

F. B. FAIRBANKS,
W. A. HALL.