

(No Model.)

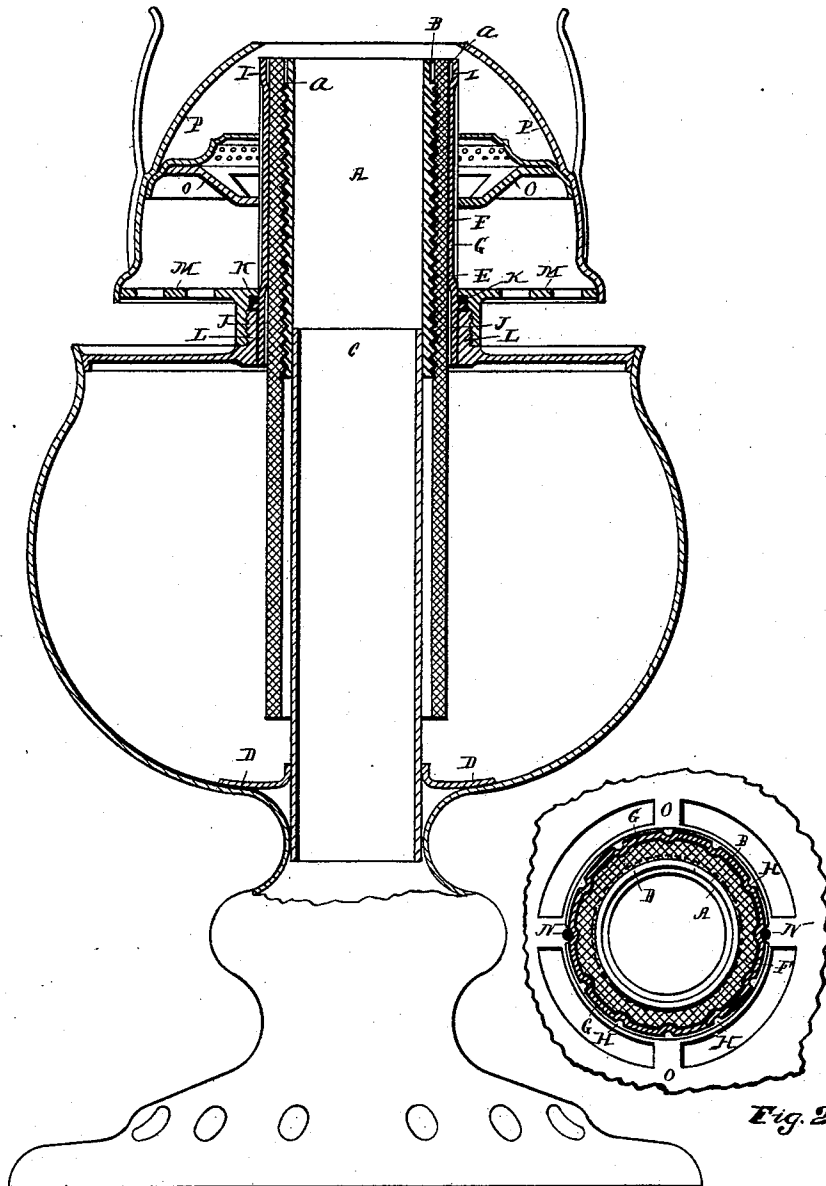
2 Sheets—Sheet 1.

S. S. WILCOX & G. W. BUNNELL.

OIL BURNER.

No. 340,179.

Patented Apr. 20, 1886.



WITNESSES:

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E. H. Royce

Fig. 1.

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(No Model.)

2 Sheets—Sheet 2.

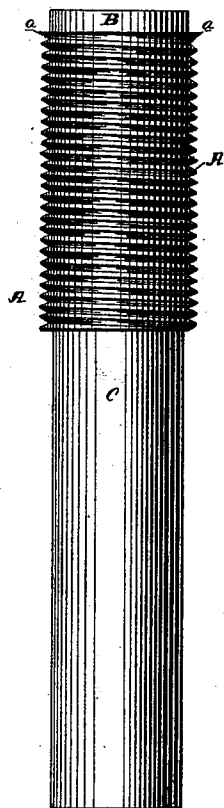
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Fig. 3.



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UNITED STATES PATENT OFFICE.

SAMUEL S. WILCOX AND GEORGE W. BUNNELL, OF BIRMINGHAM, CONN.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 340,179, dated April 20, 1886.

Application filed March 2, 1885. Serial No. 157,402. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL S. WILCOX and GEORGE W. BUNNELL, residing at Birmingham, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Oil-Burners; and we do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to an improvement in oil-burners for illuminating and heating purposes, the object being to improve the general efficiency of burners of the central-draft type.

With this end in view our invention consists in an oil-burner having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in central vertical section of a burner embodying our invention and shown as applied to a lamp represented partly in section and partly in elevation. Fig. 2 is a view of the burner partly in plan and partly in section, with the burner-cone wholly and the coupling-plate partly broken away; and Fig. 3 is a detached view in elevation of the wick and draft tubes.

The wick-tube A is provided with an external screw-thread of fine pitch, terminating below its upper end, which is reduced or cut away, as at B, to form an oil chamber, which is separated from the thread aforesaid by an unbroken horizontal shoulder, *a*, preventing the oil, after having been once delivered to such chamber, from gravitating back through the channel afforded by the thread. A draft-tube, C, of smaller external diameter than the wick-tube, has its upper end sleeved within and secured to the lower end thereof, and its lower end extended through and secured to the font D of the lamp. By making the draft-tube smaller in external diameter than the wick-tube it is cleared by the wick F, which is thus relieved of friction below the wick-tube and of all tendency to drag when rotated in being raised and lowered. The wick-operating tube G is of larger diameter than and surrounds the wick-tube, with a space, E, between them to receive the wick. The said tube is made of thin or light sheet metal and provided

with longitudinal corrugations, H, forming elevations upon its inner and depressions in its outer face, and terminating within its upper and lower ends, as at I and J, respectively, so as to escape the wick at such points. The said corrugations adapt the tube to engage with the wick, which in virtue of their shape feeds easily. They also form passages for upward currents of air, which they deliver in immediate proximity to the flame, the said currents flowing upward from below the coupling-plate O of the burner. Moreover, the corrugations are formed without breaking or distorting the tube. The externally-screw-threaded collar L of the font receives the lower end of the wick-operating tube, which is provided near such end and upon its outer face with a ledge, K, which rests upon the upper edge of the collar, upon which it is held with a capacity for free rotation by the extension over its upper face of the shoulder *b* of the perforated plate M, the threaded neck Q of which screws down over the collar aforesaid. Ribs N N, consisting of short sections of wire and secured in opposite corrugations in the wick-operating tube, and projecting beyond the outer face thereof, are engaged by a coupling-plate, O, located within and secured to the movable cone P of the burner, and cut away, as at *c c*, to receive the said ribs, whereby the wick-operating tube is coupled with the movable cone, which is rotated by hand and imparts its motion to the operating-tube which controls the wick.

We are aware that a tube having a screw-thread and a tube having longitudinal ridges have heretofore been combined for supporting and operating a wick. We are also aware that a construction by which an oil-retaining chamber is formed at the base of the flame is not new. We do not, therefore, broadly claim such constructions, but only the specific constructions herein shown and described.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with an externally-screw threaded wick-tube, of a thin-metal operating-tube of larger diameter than the wick-tube and surrounding the same, and longitudinally corrugated to produce elevations upon its inner and depressions in its outer face, and a burner-cone and a coupling-plate surround-

ing, coupled with, and operating the said operating-tube, the corrugations of which engage with the wick and form passages for currents of air flowing upward from below the coupling-plate, substantially as set forth.

2. The combination, with an externally-screw-threaded wick-tube, of a thin-metal operating-tube longitudinally corrugated to produce elevations upon its inner and depressions in its outer face, and provided with external ribs, and a movable burner-cone carrying a plate engaging with the operating-tube through the said ribs, substantially as set forth.

3. The combination, with the font of a lamp, of an externally-threaded collar secured thereto, an externally-threaded wick-tube, a wick-operating tube fitting within the said collar and provided with a ledge resting upon the upper edge thereof, a plate screwed upon the collar and provided with a shoulder extending over the ledge of the wick-operating tube which it holds in place, and a movable burner-cone coupled with the wick-operating tube, substantially as set forth.

4. In a lamp, the combination, with a font, of a draft-tube passing through it, a wick-tube connected with the draft-tube, and a wick-operating tube inclosing the wick-tube, the draft-tube being of smaller external diameter than the wick-tube, substantially as set forth.

5. The combination, with an externally-threaded wick-tube provided at its upper end with an oil-chamber separated from the thread by an unbroken horizontal shoulder, of a wick-operating tube made larger than the wick-tube and surrounding the same, substantially as set forth.

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

SAMUEL S. WILCOX.
GEORGE W. BUNNELL.

Witnesses:

EDWARD H. ROGERS,
C. L. SWAN, Jr.