C. C. RICHMOND.
Lamp-Wick.

No. 203,373. Patented May 7, 1878.

Fig. 1

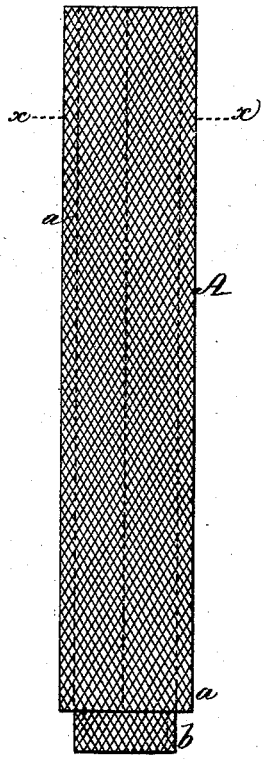
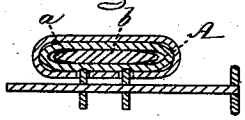


Fig. 2

Fig. 3



Witnesses;
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UNITED STATES PATENT OFFICE.

CHARLES C. RICHMOND, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN LAMP-WICKS.

Specification forming part of Letters Patent No. **203,373**, dated May 7, 1878; application filed July 13, 1877.

To all whom it may concern:

Be it known that I, CHARLES C. RICHMOND, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Lamp-Wicks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an elevation of my improved lamp-wick. Fig. 2 is a section on the line *x x* of Fig. 1. Fig. 3 is a horizontal section through the wick-tube of a lamp-burner with my improved wick inserted therein.

The ordinary flat lamp-wick, especially when used with heavy oils, is considered objectionable for the reason that it will not allow of the upward flow of a sufficient quantity of oil to protect the wick and prevent it from becoming charred at the top.

My invention has for its object to overcome this difficulty; and consists in a wick composed of a woven tubular outer wick, in combination with one or more woven auxiliary wicks extending up through it, by which construction a space is afforded between the inner and outer wicks which facilitates the upward flow of the oil, and enables the wick at all times to supply the flame with a sufficient quantity of oil.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a lamp-wick adapted for use in a burner having a flat wick-tube. This wick is composed of an outer tubular wick, *a*, within which is placed an auxiliary wick, *b*, the space between the inner and outer wicks facilitating and augmenting the upward flow of the oil, and insuring a sufficient quantity thereof, even if of a heavy nature, being at all times raised to supply the flame and prevent the top of the wick from becoming charred.

The inner wick *b* may be of the same width as the interior of the outer wick *a*, but I prefer to make it of less width, as shown in the drawings, for the reason that it renders the whole wick thinner and softer at the edges than at the center, which is a great advantage, as the thick central portion fits the wick-tube tightly, and affords a good hold for the teeth of the regulating-wheels of the burner; while the thin soft edges, fitting loosely within the wick-tube, as seen in Fig. 3, allow the oil to flow more freely upward than is the case with a wick which is of the same width throughout its entire cross-section, and fits snugly within the wick-tube, as heretofore.

The wicks *a b* are secured together by a row of stitching extending longitudinally from one end to the other; but this stitching may be dispensed with, if desired, in which case the inner wick would be kept in place by its friction against the interior of the outer one.

If it should be desired to increase the thickness of the wick at the center, more than one auxiliary wick, *b*, may be employed; and, if desired, my improved wick may be used as a tubular wick for Argand lamps, in which case the inner wick would also be tubular, or two or more flat auxiliary wicks be arranged around the interior of the outer wick, a space being thus secured in either case to facilitate the upward flow of the oil.

I am aware that a wick composed of a loosely-woven outer wick and an inner hard non-conducting core has been employed, as also a wick composed of an outer case or covering formed of knit or woven fabric filled with loose longitudinal fibers. I therefore lay no claim to either of the above constructed wicks, the objection to the former being that the non-conducting core is incapable of feeding the supply of oil up within the outer wick, and, in making the latter wick, a difficulty is experienced in arranging the loose fibers at uniform distances, so they may possess the required even density throughout, and air-spaces consequently exist, the result being that the air passes up unequally and breaks the continuity of the flame, rendering it ragged and uneven. Furthermore, the loose fibers do not render the wick hard enough for the feed-wheel to properly carry up the wick; but a wick constructed in accordance with my invention I believe possesses the two essential

requisites of being capable of being fed up properly and of supplying oil through its inner woven core.

What I claim as my invention, and desire to secure by Letters Patent, is—

A lamp-wick composed of an outer woven tubular wick, *a*, in combination with one or more auxiliary woven wicks, *b*, placed within and extending up through it, substantially as and for the purpose set forth.

Witness my hand this 10th day of July, A. D. 1877.

CHARLES C. RICHMOND.

In presence of—

P. E. TESCHEMACHER,

N. W. STEARNS.