

J. P. SMITHERS.
Lamp.

No. 220,881.

Patented Oct. 21, 1879.

Fig. 1.

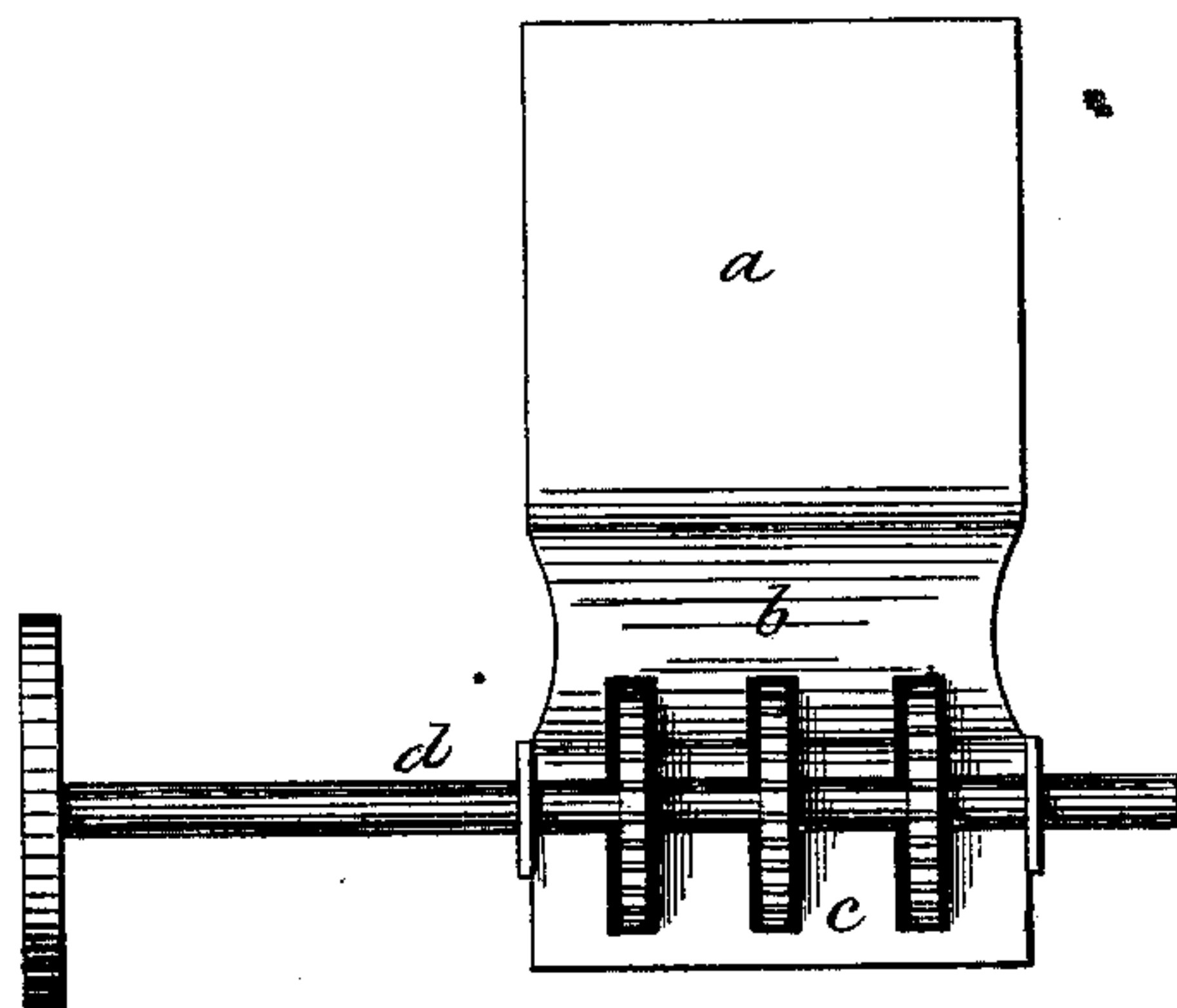
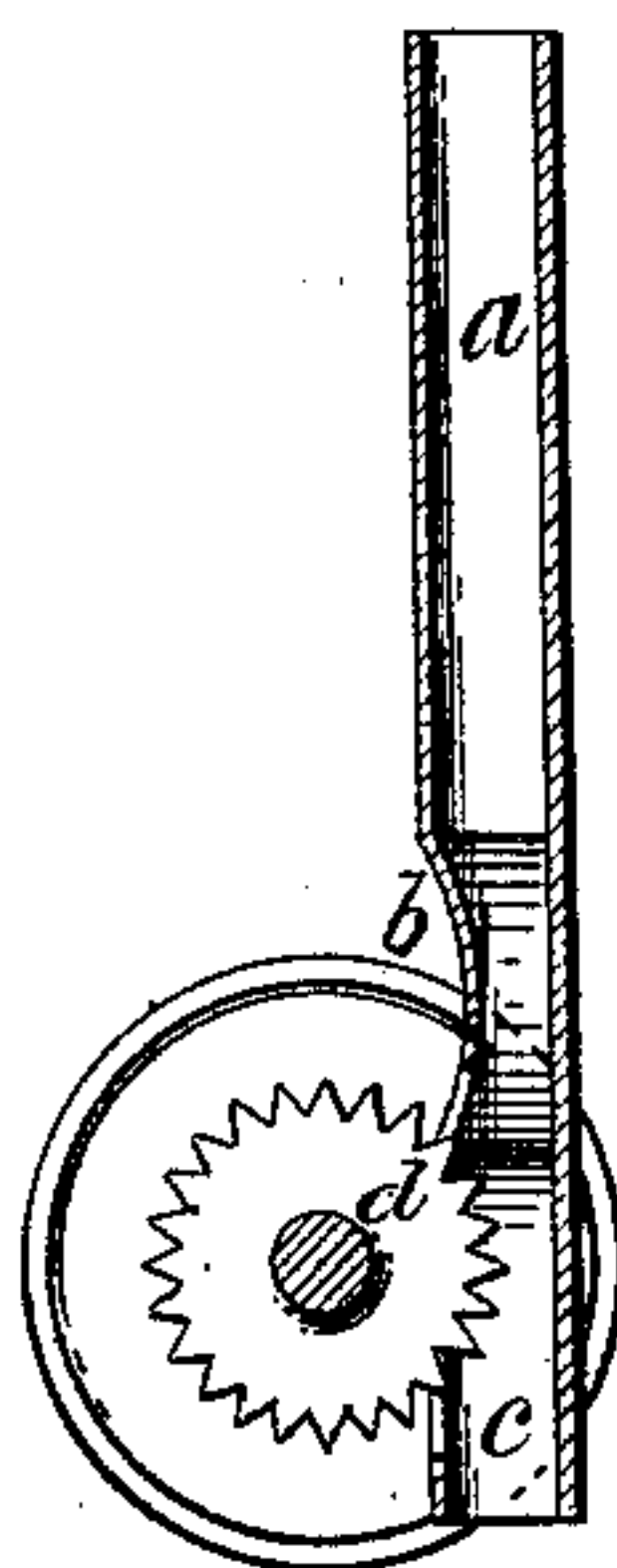


Fig. 2.



Attest:

Chas. M. Higgins.
John E. Favin

Inventor:

Joseph P. Smithers
by S. K. Walcott
his attys.

UNITED STATES PATENT OFFICE.

JOSEPH P. SMITHERS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **220,881**, dated October 21, 1879; application filed February 28, 1879.

To all whom it may concern:

Be it known that I, JOSEPH P. SMITHERS, of Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Lamps, of which the following is a specification.

My invention applies to the wick-tubes of flat-wick lamp-burners, its aim being to render the same incapable of causing explosion; and it is an improvement on that class of wick-tubes patented to me September 24, 1878, No. 208,429, in which the upper part of the wick-tube is a loose fit for the wick, to permit its free movement, while its lower end tightly embraces the wick, and prevents the possibility of flame being conducted to the reservoir.

In the drawings, Figure 1 presents a front elevation, and Fig. 2 a side sectional elevation, of the wick-tube and ratchets of an ordinary burner embodying my present invention.

In my former invention the contraction in the wick-tube was arranged at its lower extremity and remote from the ratchets or wick-elevator, while a lateral enlargement or chamber was formed between its upper and lower ends and below the ratchets, into which the wick could bend when lowered. Now, my present invention dispenses with this intermediate chamber, renders the construction more simple, and enables the wick to be more readily inserted.

In the drawings it will be observed that the upper or main portion, *a*, of the wick-tube is of sufficient size to form an ordinary loose fit for the wick, permitting its free movement, while intermediate between its upper and lower ends a contraction, *b*, is formed in the tube, which tightly embraces the wick for a short distance, thus preventing the possibility of any flame extending along the wick to the reservoir, but at the same time not materially affecting the absorbent power of the wick. This contraction in the wick-tube is preferably made both flatwise and edgewise, as shown in the drawings; but the contraction may be made in but one of the directions with the same effect.

It will also be seen that the lower extremity of the tube, which opens into the reservoir, is a loose fit for the wick similar to the upper end,

while the wick-operating ratchets *d* are arranged in direct proximity to the contraction, and just above the lower loose end, or intermediate between the two, as shown. By this arrangement it will be observed that as the ratchets seize the wick just at the contraction, it obtains such a purchase thereon as enables the wick to be forced up or down through the contraction with certainty and ease, while, as the lower extremity is a loose fit, it enables the wick to be inserted and seized by the ratchets with the same facility as in ordinary wick-tubes.

The loose lower end, however, is not essential, for the contraction may be arranged below the ratchets, and it may be continued to the lower extremity of the tube, if sometimes preferred, as the wick may also be easily inserted from the upper loose end; but the construction shown is thought much more convenient.

For the burners of lamp-stoves, however, where the wick is large, and is usually inserted from the top, the above-named modification may be used.

It will be thus observed that this improvement renders the construction of my safety wick-tube very cheap and simple, as it dispenses with the intermediate chamber, does not require a special wick, and accomplishes the desired results by simply forming an intermediate contraction in the wick-tube and arranging the ratchets directly thereat.

It may also be observed that this construction does not appreciably increase the cost of the burner, while it embodies a great element of safety, with the same certainty and ease of operation as in ordinary lamp-burners.

I do not claim a wick-tube having a transverse crease near its upper end; but

What I claim as my invention is—

1. A lamp-wick tube having its main portion formed a loose fit for the wick, to permit its free movement, and formed, at the direct location of the wick-ratchets, with a contraction extended in a continued line across its side or sides, and adapted to tightly embrace the wick in a distinct transverse line or zone, substantially as and for the purpose set forth.
2. A lamp-wick tube having its upper and

lower ends a loose fit, to permit the free insertion and movement of the wick, with an intermediate contraction adapted to tightly embrace the wick in a continuous transverse line or zone and prevent the conduction of flame, substantially as shown and described.

3. A lamp-wick tube having its upper and lower ends formed a free fit for the wick, with an intermediate contraction forming a tight

fit for the wick, in combination with wick-operating ratchets arranged between the contraction and the lower loose end, substantially as and for the purpose set forth.

JOSEPH P. SMITHERS.

Witnesses:

JOHN E. GAVIN,
CHAS. M. HIGGINS.