

No. 733,447.

PATENTED JULY 14, 1903.

W. H. WILDER.
WICK RAISER.

APPLICATION FILED DEC. 26, 1902.

NO MODEL.

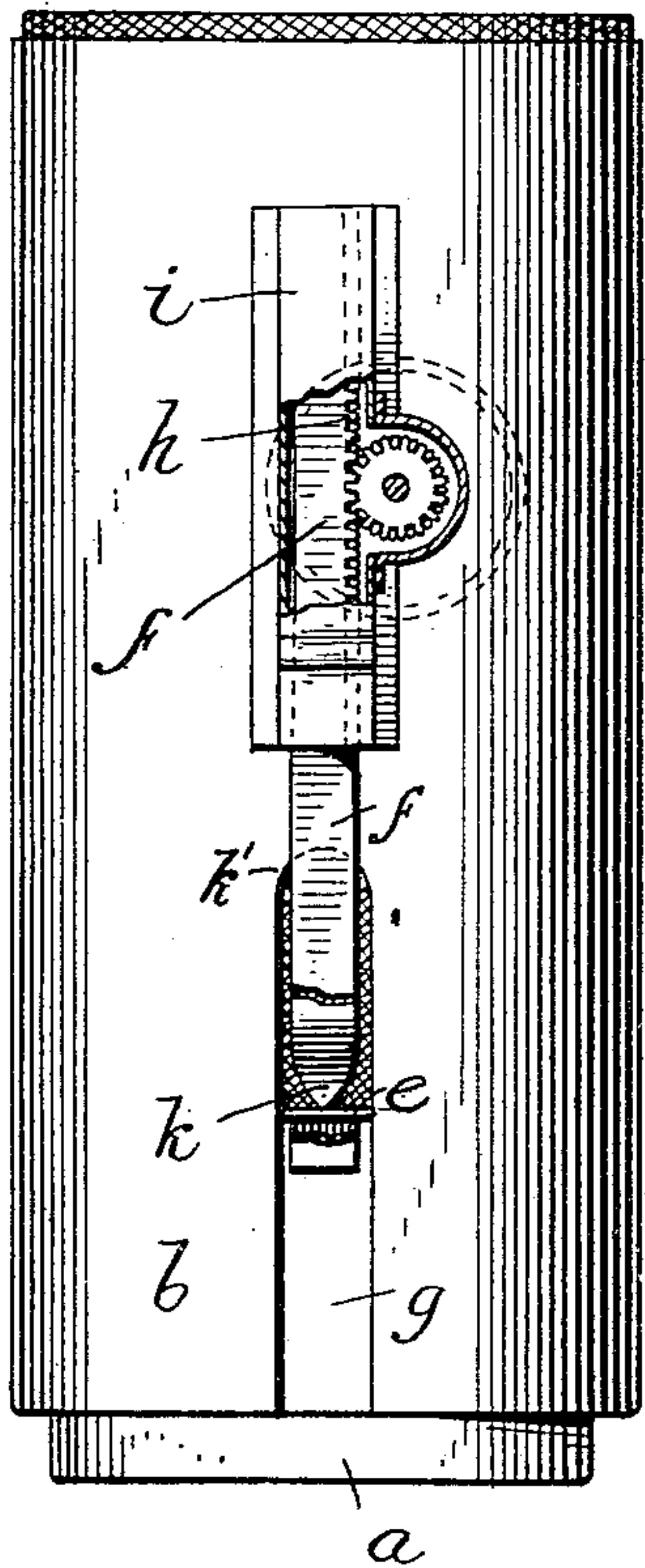


Fig. 1

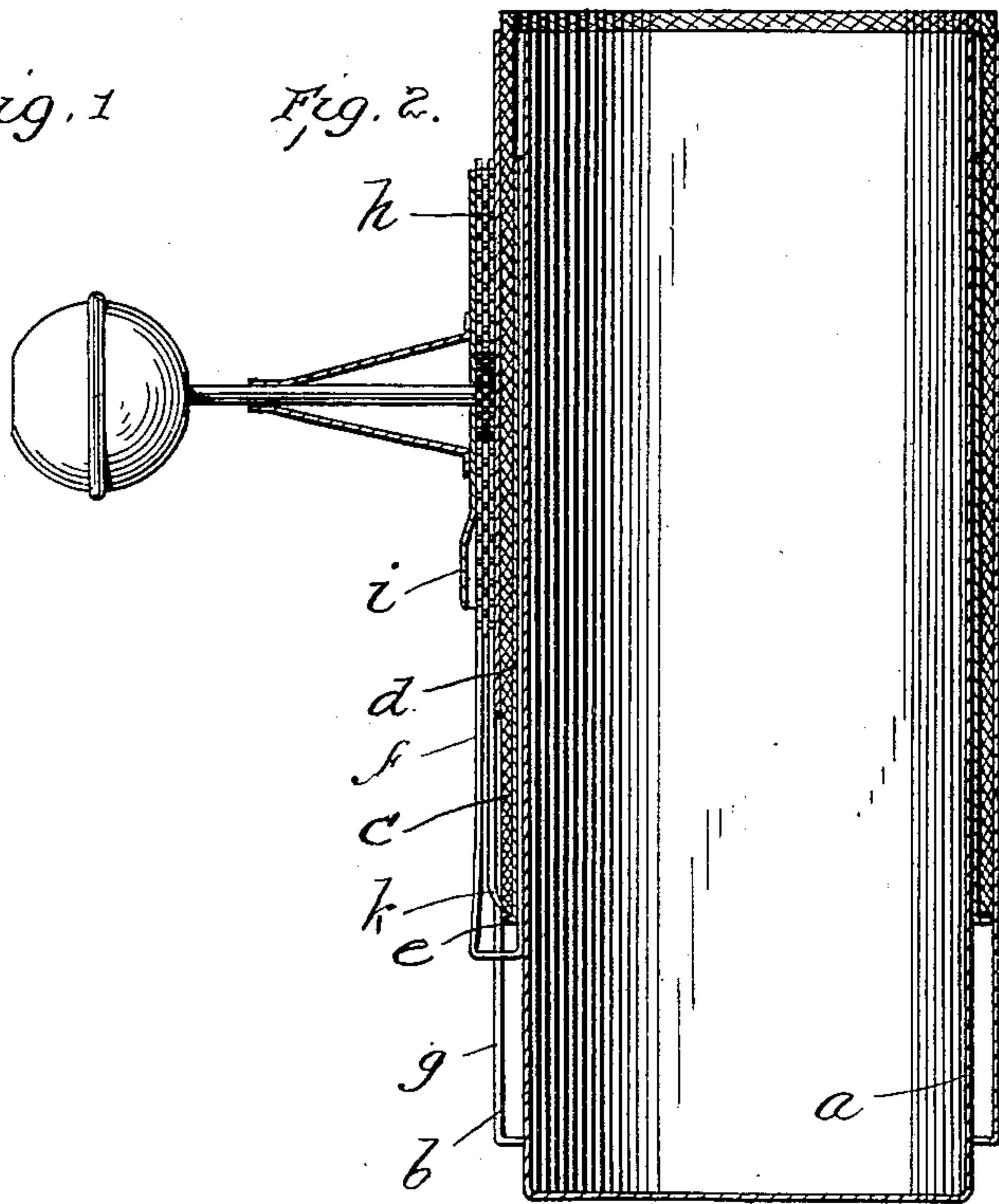
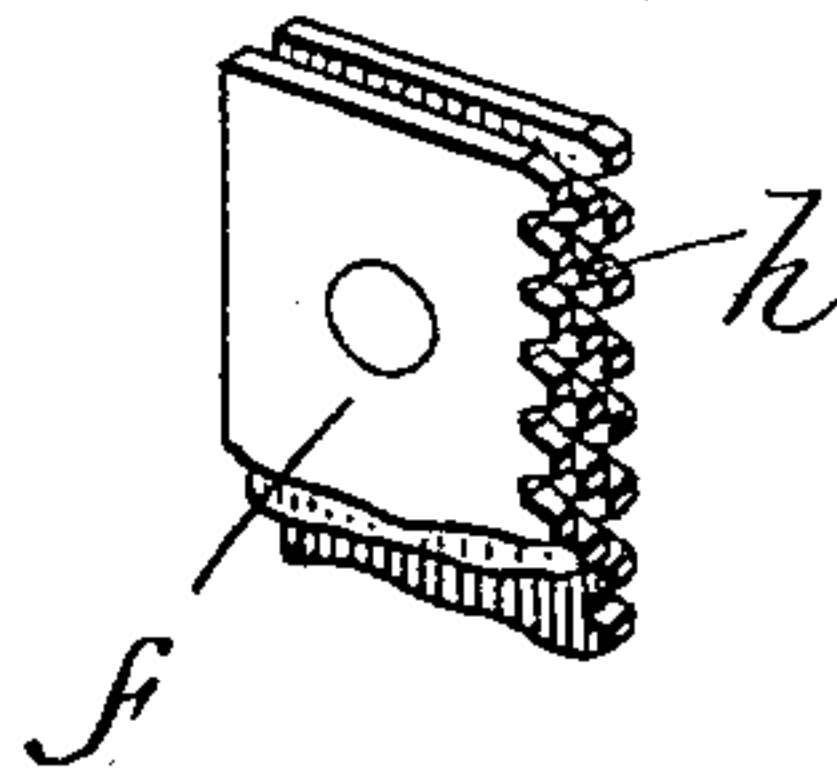


Fig. 2.

Fig. 3.



Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM H. WILDER, OF GARDNER, MASSACHUSETTS.

WICK-RAISER.

SPECIFICATION forming part of Letters Patent No. 733,447, dated July 14, 1903.

Application filed December 26, 1902. Serial No. 136,693. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WILDER, a citizen of the United States, residing at Gardner, Massachusetts, have invented certain new and useful Improvements in Wick-Raisers, of which the following is a specification.

My invention is an improvement in wick-raisers, and is adapted especially to the raising and lowering of round wicks.

I have devised a construction which is not only very effective, but which permits in its manufacture the use of the cheapest grade of material instead of the most expensive kind, as heretofore found necessary.

Wick-raisers in use include a rack-bar moving in a guide secured to the outer periphery of the wick-tube, this rack being engaged by a pinion on the end of a spindle which terminates in a handle. Difficulty has been experienced in keeping the pinion and rack in engagement, as they frequently get out of mesh, and it is the object of the present invention to overcome this and to make impossible disconnection of the parts.

In the accompanying drawings, Figure 1 is an elevation of a wick-tube with parts broken away. Fig. 2 is a vertical section. Fig. 3 is a detached view of the wick-raising bar. Fig. 4 is a detail view showing the toothed edge of the bar.

The wick-tube is of ordinary construction, consisting of an inner tube *a* and an outer tube *b*, secured thereto, forming the wick-space between them. The wick *c* is of the ordinary tubular type and is carried by a tubular support *d*, having the usual flange *e* at the bottom. The tubular support, with its wick, fits within the space between the outer and inner tubes, and the wick is raised and lowered by a device which engages the wick-support *d* and is operated by a pinion suitably engaging the raising and lowering devices.

f represents a U-shaped metallic connection one arm of which extends through an elongated slot *g* in the outer tube *b*, passing up into the interior of the wick-space and inside of the wick-support *d*, so that when the wick is in place the bottom edge of the support rests upon the bottom of the part *f*. The opposite arm of the section *f* is made up preferably of a series of plates of equal width and thickness, and these plates are toothed, as

shown at *h*, Fig. 4. The teeth of the outer plates are in line, but the teeth of the center plate are out of line, with the teeth of the outer plates. The series of plates are suitably secured, as by riveting, and this arm (the outer) of the U passes up through a guideway *i*, formed on the outer periphery of the wick-tube, and here the teeth are engaged by a pinion or gear held within a suitable casing with its teeth corresponding to the teeth of the rack, the gear being made up in like manner by several disks with the teeth out of line, so as to mesh with the teeth of the rack. It will thus be seen that a great improvement is secured over the ordinary rack-and-gear connection of a single thickness, as with a gear-and-rack connection such as described and shown herein there is a locking engagement which precludes accidental detachment. It will be observed that as the U-shaped member rises under the action of the turning of the spindle of the gear it moves upward the wick through its ring-support, as the parts of the U inclose the said support. It will also be seen that as the inner limb *f* of the U-shaped member extends upwardly between the tubular wick-support *d* and the inner wall of the wick-tube it serves to prevent binding of the parts and makes the up-and-down movement a free one. In order, however, to move the wick downwardly in the reverse action of the handle, I provide the plate *f'* of the toothed series with an inwardly-turned projection *k*, and this engages the flange *e* of the tubular wick-support and moves it downwardly. When it is desired to remove the wick with its support bodily, the flange *e* of the support *d* is released from the projection *k* of the plate *f'* by reason of the fact that the plate bears upon the wall forming the upper edge of the elongated slot, (see *k'*, Fig. 1,) and this forces the plate *f'*, carrying the projection *k*, outwardly, releasing it from engagement with the wick-support.

What I claim is—

1. A wick-raiser including a raising and lowering connection comprising a U-shaped member having a rack with teeth out of line with each other and a gear having teeth corresponding thereto, substantially as described.

2. A wick-raiser including a toothed bar

made up of a series of plates with teeth in staggered relation and a gear having teeth corresponding thereto, and adapted to engage therewith, substantially as described.

- 5 3. A wick-raiser including a U-shaped element having a toothed edge made up of a series of toothed plates with a part of the teeth out of line, a gear correspondingly toothed and engaging the toothed bar, means for engaging
10 the wick-support so as to raise and lower the same in the movement of the raising and lowering element, substantially as described.

4. A wick-raiser comprising a raising element consisting of a toothed bar made up of
15 a series of plates with the teeth of one plate out of line with the teeth of the other plates, and a gear correspondingly toothed, and engaging therewith.

5. In combination with a toothed member
20 made up of plates with teeth in staggered relation, a gear having teeth corresponding thereto and adapted to engage therewith.

6. A wick-raiser including a U-shaped element inclosing a wick-support, the outer member having rows of teeth out of line and a
25 gear toothed to correspond thereto, substantially as described.

7. In combination, a member made up of a series of plates with teeth in staggered relation and a corresponding member engaging
30 therewith, substantially as described.

8. A wick-raiser including a U-shaped element inclosing a wick-support, the outer member having rows of teeth with a gear toothed to correspond thereto, the inner member being
35 interposed between the wick-support and the wall of the tube, substantially as described.

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

WILLIAM H. WILDER.

Witnesses:

H. M. GATES,

C. H. STOCKWELL.