

(No Model.)

A. R. WELCH.
WICK RAISING OR LOWERING DEVICE.

2 Sheets—Sheet 1.

No. 554,404.

Patented Feb. 11, 1896.

Fig. 1.

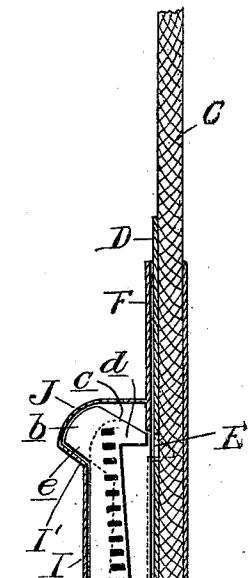
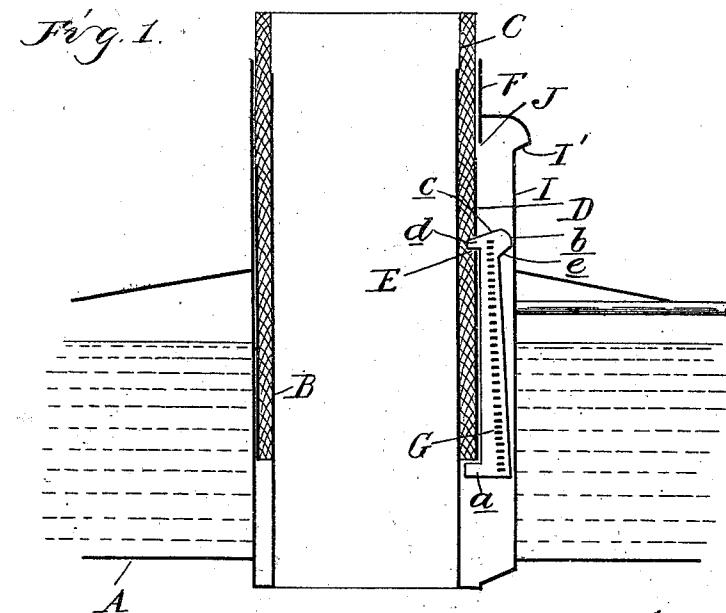
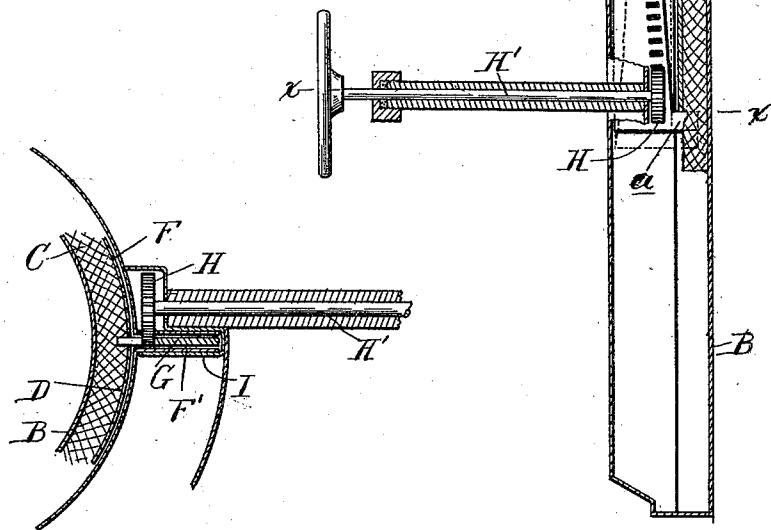


Fig. 2.

Fig. 1.



Witnesses
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Inventor
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(No Model.)

2 Sheets—Sheet 2.

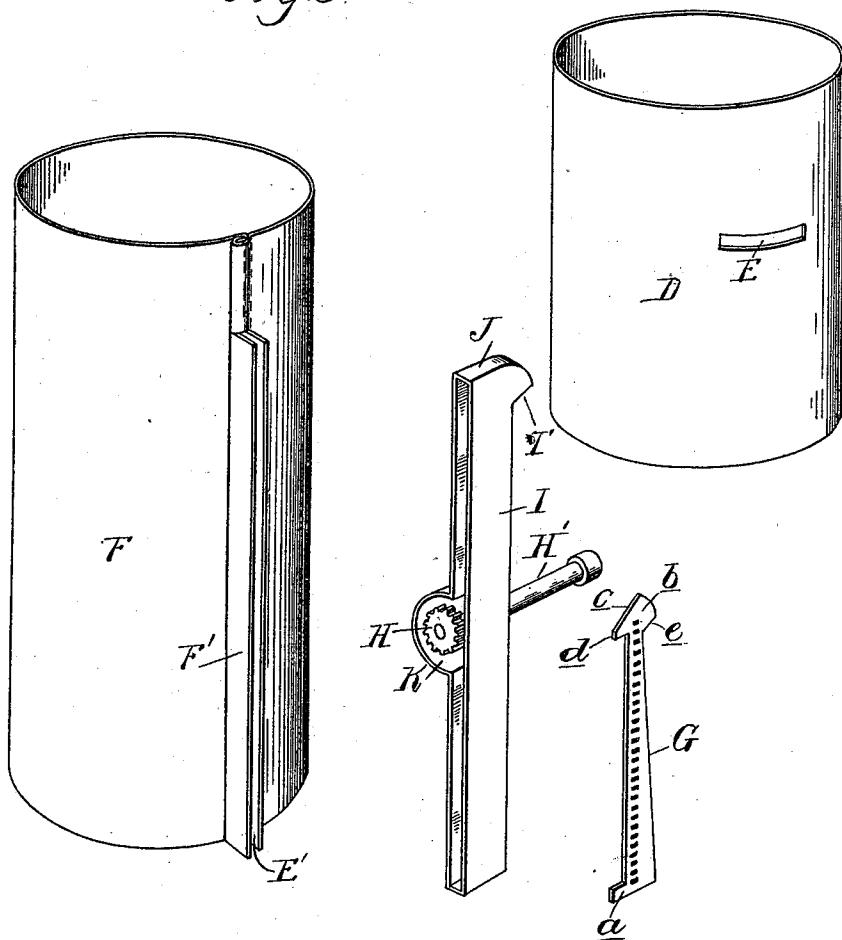
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Fig. 3.



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UNITED STATES PATENT OFFICE.

ALLIE R. WELCH, OF CHELSEA, MICHIGAN, ASSIGNOR OF ONE-HALF TO
FRANK P. GLAZIER, OF SAME PLACE.

WICK RAISING OR LOWERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 554,404, dated February 11, 1896.

Application filed December 24, 1894. Serial No. 532,807. (No model.)

To all whom it may concern:

Be it known that I, ALLIE R. WELCH, a citizen of the United States, residing at Chelsea, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Wick Raising or Lowering Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention consists in the peculiar construction, arrangement and combination of the various parts, whereby the cost of manufacture is lessened and the construction simplified and improved.

15 In the drawings, Figure 1 is a vertical central section through an oil-stove burner embodying my invention. Fig. 2 is a similar section through one side of the wick-tube, showing the opposite side of the rack-bar from that shown in Fig. 1 and the parts in the different position. Fig. 3 is a perspective view of the wick-tube, wick-ring, and the raising devices detached. Fig. 4 is a horizontal section on line $\alpha\alpha$, Fig. 2.

25 A is the ordinary oil-tank preferably ring-shaped.

B is the central air-tube.

C is the usual wick fitting over the air-tube B and around which is the wick-ring D, which 30 is provided with a horizontal slot E.

F is the wick-tube inclosing the wick and wick-ring. This tube is preferably made of sheet metal having a longitudinal slot E' extending from near the top to the bottom. I 35 preferably construct the tube as shown in Fig. 3, having the two flanges F' bent outwardly beside the slot to form a vertical guide for the rack-bar G. One of these flanges is provided with an aperture through which the pinion

40 H protrudes to engage with the rack-bar G. This rack-bar is preferably struck out of sheet metal, its teeth being formed by striking apertures therethrough, as shown. It is tapering, narrowing from bottom to top, its front edge being straight and its rear edge inclined. At the top it is provided with the rearwardly-extending head b and the forwardly-extending nose d, adapted to enter the aperture E in the wick-ring.

45 c is an inclined or cam face on the top of the rack-bar and its nose, and e is an inclined

bearing or face on the under side of the head b. The lower end of the rack-bar is provided with a stop or lug a.

I is a casing or cover engaging over the flanges F' and secured preferably by soldering. This casing has a hood-shaped top J, the under face of which has the inclined bearing I'. On one side of this casing is an enlargement K, in which is supported the pinion H on the shaft H', having a suitable hand-wheel at its end.

The parts being as in Fig. 2, the wick and wick-ring are engaged over the air-tube and slid down until the wick-ring strikes the lug a, then the pinion being turned the rack-bar is drawn downward. The inclined face e on the head striking the inclined bottom I' on the hood will throw the nose-piece forward and engage it through the aperture E in the wick-ring, so that further movement of the pinion will in either direction move the wick-ring and raise or lower the wick. The head after being drawn from the hood is guided in the casing I, so that except at the top of the movement the nose on the rack-bar is held in engagement with the wick-ring. When it is desired to withdraw the wick-ring, the rack-bar is raised by the pinion until the inclined face c strikes the bearing at the top of the slot E', when further movement will rock the rack-bar into the position shown in full lines, Fig. 2, disengaging the nose from the wick-ring. Thus it will be seen that the rack-bar while normally held in engagement with the wick-ring is automatically disengaged therefrom to permit of the withdrawal of the wick.

While I have shown the guide for the rack-bar formed by the flanges F' and an inclosing casing or boxing I as being the preferable construction, it will be evident that the casing may be secured directly to the wick-tube without the flanges.

What I claim as my invention is—

1. The combination with a wick-tube, of a wick-ring, a wick-raising bar having a rigid lateral projection and an inclined section in proximity to the projection, means for raising and lowering the bar, a fixed section on the burner over which the inclined section of the bar passes as the bar is forced down for forcing the projection into the wick, and a cam

for forcing the projection out from the wick as the bar is raised, substantially as described.

2. The combination with the wick-tube, and the wick-ring, of a rack-bar, a bearing or lug 5 on the lower end of the rack-bar engaging beneath the lower end of the wick-ring, a bearing at the upper end of the rack-bar engaging the wick-ring, devices for actuating the rack-bar and an inclined face on the rack-bar 10 adapted to strike a bearing at the top of its movement to disengage the upper bearing from the wick and permit its removal.

3. The combination with the wick-tube, 15 wick-ring detached rack-bar and the vertical guideway therefor, of the casing I over the rack-bar, the hood J at the top, the inclined bottom of the hood, the head on the rack-bar, the nose on the head adapted to engage in the wick-ring, and the inclined bearings c e, for 20 the purpose described.

4. The combination with a wick-tube having the metal intermediate the ends of the tube at the seam bent out parallel with each other to form flanges, a casing fitted over the 25 flanges having an enlargement at one side, a rack loosely mounted in the casing, and a pin-

ion in the enlargement meshing with the rack, substantially as described.

5. The combination with a wick-tube, of means for raising and lowering the wick, comprising a bar having a penetrating projection and plurality of inclined surfaces arranged oppositely to force the projection in and out of the wick respectively, and means for actuating the bar, and fixed sections on the burner 35 with which the inclined surfaces engage, substantially as described.

6. In a lamp, the combination with a wick-tube, means for raising and lowering the wick, comprising a movable bar having a wick-penetrating projection thereon and means for forcing the projection into and out from the wick, comprising two oppositely-arranged inclined surfaces and opposing surfaces with which the inclined surfaces engage, substantially as de- 40 scribed.

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

ALLIE R. WELCH.

Witnesses:

M. B. O'DOGHERTY,
L. J. WHITTEMORE.