

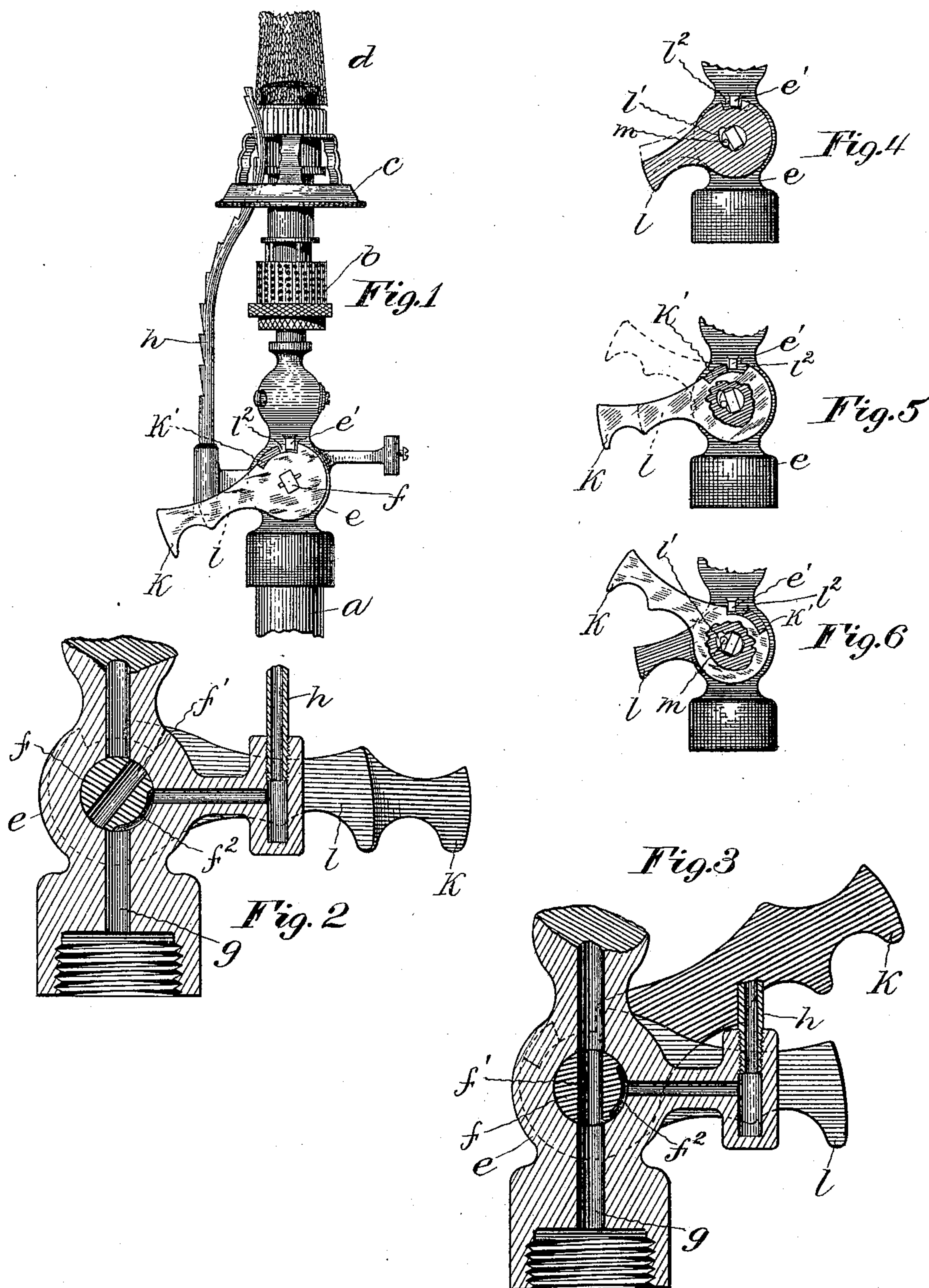
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Patented July 25, 1899

F. A. CORTIS.
LAMPLIGHTING DEVICE.

(Application filed Jan. 21, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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LAMPLIGHTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 629,431, dated July 25, 1899.

Application filed January 21, 1899. Serial No. 702,944. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. CORTIS, of Meriden, in the county of New Haven and State of Connecticut, have invented certain
5 new and useful Improvements in Lamplighting Devices, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

My invention relates more especially to the
10 class of lamps using gas as an illuminating fluid; and the object of my invention is to provide a device that shall have material advantages as an aid in the operation of lighting a lamp.

15 To this end my invention consists in the device as a whole, in the combination of parts, and in the details and their combination, as hereinafter described, and more particularly pointed out in the claims.

20 Referring to the drawings, Figure 1 is a side view of a lamp embodying my improvement. Fig. 2 is a detail view, in central vertical section, of the valve, on enlarged scale, looking from the rear of Fig. 1 and with parts in position with the by-pass open. Fig. 3 is a like
25 view, but with the parts in the position with the main fluid-way open and the by-pass closed. Fig. 4 is a detail side view of the valve with the main valve-lever removed and
30 the auxiliary lever in position with the by-pass closed, the position of the auxiliary lever with by-pass open being shown in dotted lines. Fig. 5 is a like view with the main valve-lever in place, but broken away, the
35 position of the main valve-lever with the main fluid-way of the valve open being shown in dotted outline. Fig. 6 is a like view showing the parts in position with the main fluid-way of the valve open and the by-pass closed.

40 My invention finds a ready application to the class of lamps employing gas as an illuminating fluid and a mantle for increasing the brilliancy of the light, and such a device has been selected herein for the purpose of dis-
45 closing the invention.

In the accompanying drawings the letter *a* denotes a supply-pipe for supplying gas to the lamp; *b*, the air-shutter, *c* the gallery, and *d* the mantle, of a lamp of the class above
50 described and of ordinary construction. In

lamps of this class it is desirable to apply flame to the burner before a sufficient quantity of gas has been admitted thereto the explosion of which would result in serious injury to the fragile mantle, and in my im- 55 proved device I have provided means whereby such a result may be attained in a ready and effective manner.

A valve-body *e* is located in operative relation to the burner and is provided with a 60 valve *f*, the fluid-way *f'* through which communicates by a passage *g* direct to the lower part of the burner of the lamp. The valve *f* has also a by-pass *f*², that leads to a ladder *h* in a certain position of the valve, in the 65 form shown this result being attained when the valve has been but partially moved in the opening operation of the valve. The ladder *h* leads from this by-pass to a point preferably near the base of the mantle *d*. 70

The spindle *i* of the valve is provided with a main valve-lever *k* and an auxiliary valve-lever *l*, the former being rigidly secured to the spindle, but the latter having a limited rotary movement independent of the valve- 75 spindle. These levers are supported on a reduced portion of the valve-spindle, a pin *m* projecting from the shoulder formed by this reduced portion into a recess *l'* in the edge of the opening in the valve-lever *l*, this construction allowing a limited movement of 80 the auxiliary valve-lever independent of the valve-spindle. This auxiliary lever is employed for the purpose of opening the by-passage only to admit gas to the burner for light- 85 ing purposes. This lever is moved to an extent to open said by-passage only and is returned to its closed position in the closing movement of the valve. A recess *l*² is formed in the outer edge of the auxiliary valve-lever 90 and engages a stop *e'* on the valve-body *e*, this stop limiting the rotary movement of the lever *l*.

The main valve-lever *k* has a recess *k'* in its outer edge, that also engages the stop *e'* 95 to limit the rotary movement of the lever, this stop by engagement with the recesses in each of the levers, as described, controlling the movement of the valve and determining its open and closed positions, and also the po- 100

sition of the valve in its intermediate position to communicate with the passage through the ladder *h*. The outer end of the main valve-lever extends beyond the outer end of the auxiliary valve-lever, so that the former may be moved independent of the latter.

The operation of the device is as follows: The several parts being in the position shown in Fig. 1 of the drawings, the auxiliary valve-lever *l* is moved upward until the end wall of the recess *l*² encounters the stop *e'*. The parts are then in the position shown in Fig. 2, with the by-pass admitting fluid to the ladder *h*. The main valve-lever *k* is now moved upward, carrying with it the valve *f*, the pin *m* on which moves around in the recess *l*¹ in the auxiliary valve-lever *l* to the position shown in Fig. 6, the main fluid-way through the valve being open and the by-pass closed, as shown in Fig. 3 of the drawings. The parts being in the position shown in Fig. 2, flame is applied to the lower part of the ladder and travels along the same to the base of the mantle. The parts being now moved from this position to that shown in Fig. 3, fluid is admitted through the main fluid-way to the burner, but before the flame on the ladder has been extinguished and which serves to light the lamp, this being accomplished before a sufficient quantity of fluid has been admitted to the burner the explosion of which would seriously injure the mantle.

It is to be understood that my invention is not limited to the precise means of accomplishing this result as herein shown and described, any means involving the use of a lever pivoted on the valve to rotate the same, but having independent rotary movement thereof for the purpose of admitting fluid to the burner through a separate passage and before the main fluid-way of the valve is fully opened, coming within the scope of my invention.

I claim as my invention—

1. In combination with a valve-body and valve located therein, a main valve-lever secured to the valve, and an auxiliary valve-lever mounted on the valve to rotate the same but also having rotary movement independent thereof.

2. In combination with a valve-body and valve located therein, a valve-spindle secured to the valve, a main valve-lever secured to the spindle, and an auxiliary valve-lever mounted on the spindle to rotate the valve, but also having rotary movement independent of the spindle.

3. In combination with a valve-body and valve located therein, a main valve-lever secured to the valve, an auxiliary valve-lever mounted on the valve to rotate the same, but also having rotary movement independent thereof, and a stop to limit the rotary movement of the auxiliary lever.

4. In combination with a valve-body and a valve located therein, a lever mounted on the valve and having a recess in the edge of its

central opening, and a recess in its outer edge, a projection from the valve adapted to engage a wall of the recess in the central opening, a projection to engage the wall in the outer edge of the lever, and means for rotating the valve independent of said lever.

5. In combination with a valve-body and valve located therein, a main valve-lever secured to the valve, an auxiliary valve-lever mounted on the valve to operate the same but having rotary movement independent thereof, and provided with a recess, and a pin on the valve projecting into the path of movement of an end wall of said recess.

6. In combination with a valve-body and valve located therein, a main valve-lever secured to the valve, an auxiliary valve-lever mounted on the valve to operate the same but having rotary movement independent thereof and provided with a recess, a pin on the valve projecting into the path of movement of an end wall of said recess, and a stop to limit the rotary movement of the auxiliary valve-lever.

7. In combination with a valve-body and valve located therein, the latter having a reduced portion forming a shoulder, a valve-lever pivoted on the reduced portion of the valve and having a recess, a pin projecting from the face of the shoulder on the valve into said recess, and means for moving the valve independent of said lever.

8. In combination with a valve-body and valve located therein, a main valve-lever secured to the valve and having a recess in its outer edge, an auxiliary valve-lever mounted on the valve to operate the same but having rotary movement independent thereof and a recess in its outer edge, and a stop adapted to engage the recesses in each of said levers to limit the rotary movement at different points with respect to each other.

9. In combination with a valve-body and valve located therein, a main valve-lever secured to the valve, an auxiliary valve-lever mounted on the valve and having a recess, a pin projecting into the path of movement of an end wall of said recess whereby the auxiliary lever may move the valve, or the latter be moved independent of said lever, and a stop projecting into the path of movement of said levers to limit their movement in different positions with respect to each other.

10. In a lamplighting device in combination with a burner and appurtenant mechanism, a ladder for conducting flame to the burner, a valve for controlling the flow of fluid through the burner, an auxiliary lever mounted on the valve to operate the same but having rotary movement independent thereof, and means for operating the valve independent of said auxiliary lever.

11. In combination in a lamplighting device, a burner with appurtenant mechanism, a ladder for leading flame to the burner, a valve for controlling the flow of fluid to the burner, a main valve-lever secured to the

valve, an auxiliary valve-lever mounted on the valve to operate the same but having rotary movement independent thereof, and a stop to limit the movement of said auxiliary lever with the valve in position to admit fluid to the ladder.

12. In combination in a lamplighting device, a burner with appurtenant mechanism, a ladder for leading flame to the burner, a valve for controlling the flow of fluid to the burner and having a main fluid-way and a by-pass, a main valve-lever secured to the valve, an auxiliary valve-lever mounted on the valve to operate the same but having rotary movement independent thereof, and a stop to limit the movement of the auxiliary

lever with the by-pass in position to admit fluid to the ladder.

13. In combination with a valve-body having a main fluid-way and a branch fluid-way, a valve located in the valve-body and having a main fluid-way and a by-pass, a main valve-lever secured to the valve to open the main fluid-way, and an auxiliary valve-lever mounted on the valve to open the by-pass but having rotary movement independent of the valve.

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