

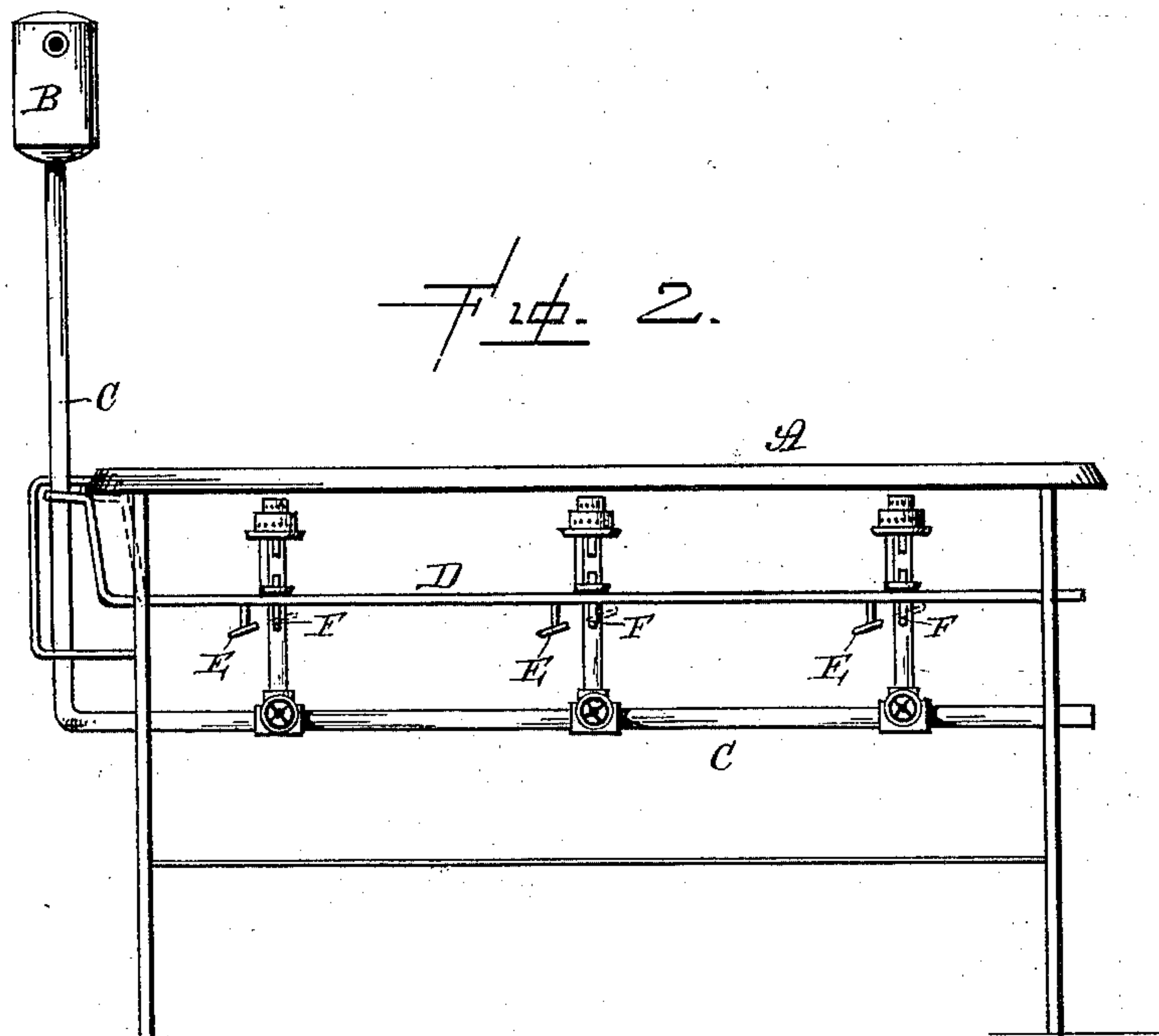
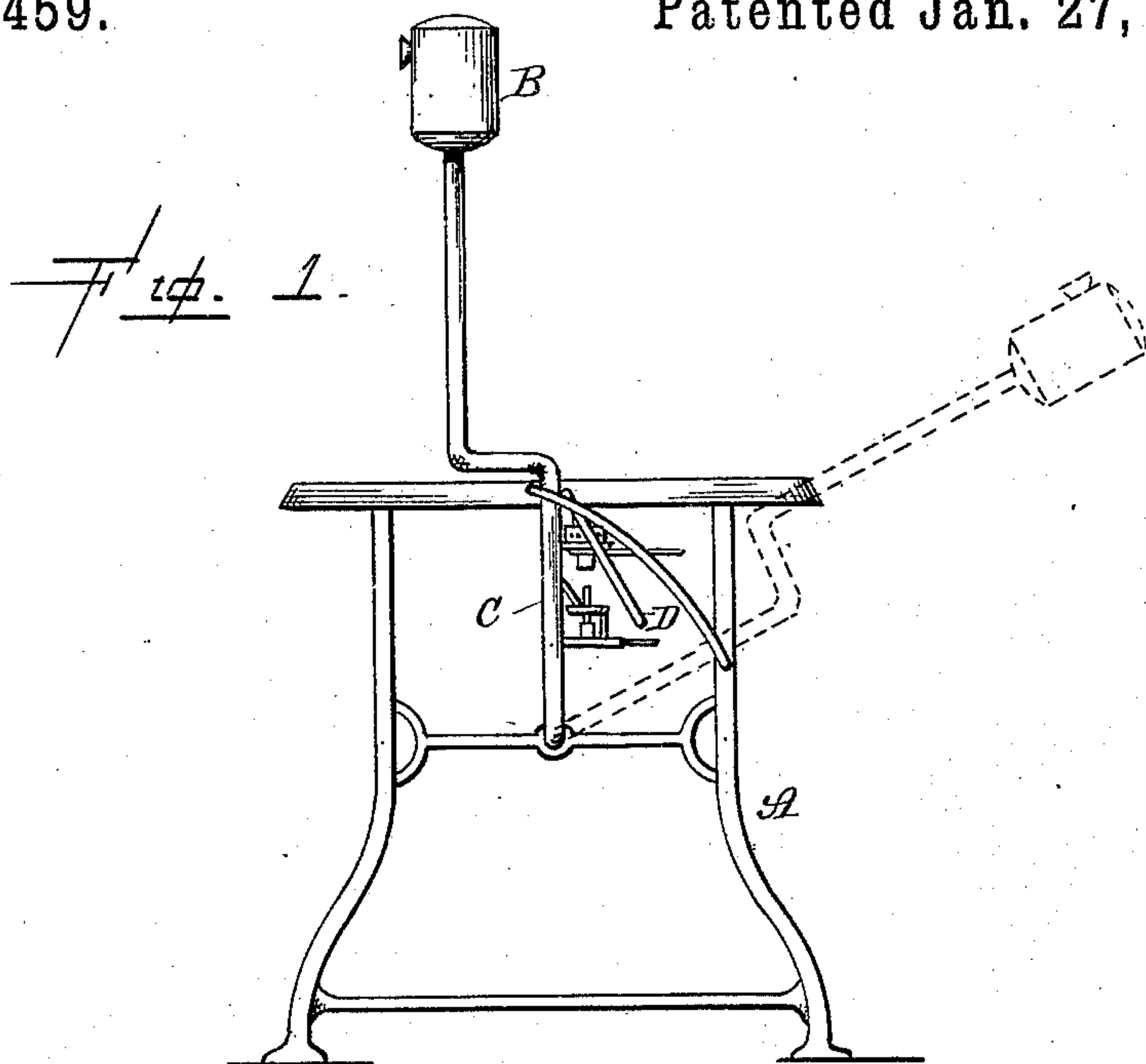
(No Model.)

2 Sheets—Sheet 1.

Z. DAVIS.
VAPOR STOVE.

No. 311,459.

Patented Jan. 27, 1885.



Witnesses. -

Louis P. Gardner
J. W. Garner

- Inventor -

Z. Davis,
per
J. A. Lehmann,
att'y

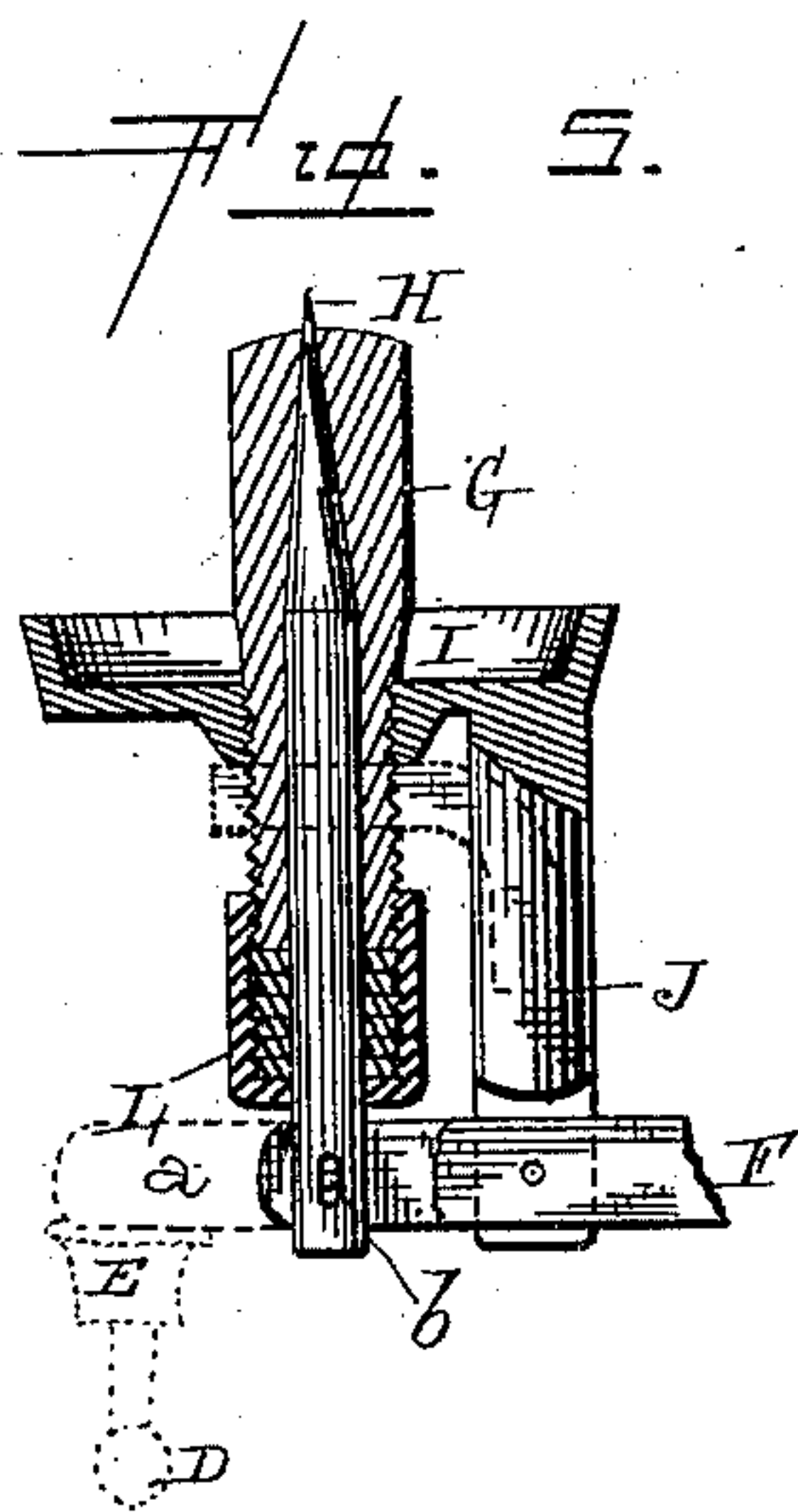
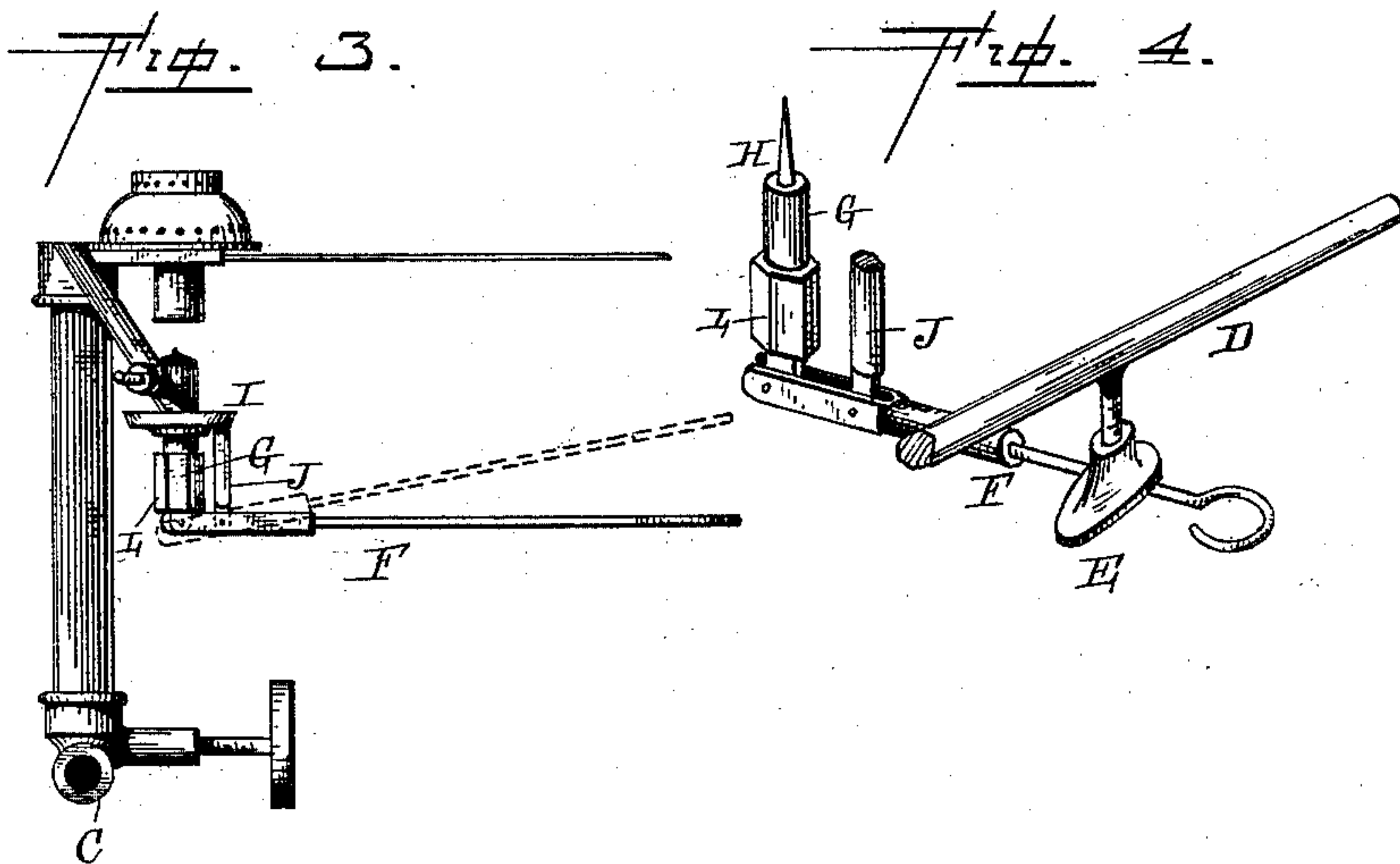
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UNITED STATES PATENT OFFICE.

ZEBULON DAVIS, OF CANTON, OHIO.

VAPOR-STOVE.

SPECIFICATION forming part of Letters Patent No. 311,459, dated January 27, 1885.

Application filed December 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, ZEBULON DAVIS, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful
5 Improvements in Vapor-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference
10 being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in vapor-burners; and it consists in, first, the combination, in a vapor-burner, of an end-
15 wise-moving valve, a pivoted lever for moving the valve, and a support or fulcrum for the lever, which projects down from the burner and supports the lever between its outer free end and its point of connection with the
20 needle-valve; second, the combination, in a vapor-burner, of an endwise-moving valve, a pivoted lever for moving the valve, and a support for the lever, the support being formed as a part of the drip-cup and adapted to move
25 concentrically to the needle-valve; third, the combination of the partially-rotating supply-pipe having one or more vapor-burners connected thereto, the endwise-moving needles, the pivoted levers, and the endwise-moving
30 rod provided with suitable inclines; fourth, in the arrangement and combination of parts, which will be more fully described hereinafter.

Figure 1 is an end elevation of a vapor-stove embodying my invention. Fig. 2 is a side
35 elevation of the same. Fig. 3 is a detail view of the burner. Fig. 4 is an enlarged detail view of one of the operating-levers and its extinguishing mechanism. Fig. 5 is an enlarged detail view of the burner and the operating-
40 lever.

A represents the frame; B, the tank, and C the supply-pipe leading therefrom. This pipe is journaled in the frame, and is made to partially revolve when the tank is turned to
45 one side for the purpose of being filled, as shown in dotted lines in Fig. 1. All of the burners being rigidly secured to this pipe C, when the pipe is turned in its bearing, the burners are carried with it, as shown in the
50 patent granted to me November 6, 1883, bearing No. 287,911.

As ignorant and careless persons will at-

tempt to fill the tank without first extinguish-
ing the burners, the tank and the supply-pipe
are made to move as shown, for the purpose 55
of turning the tank into a position where it
can be filled. In order to leave nothing to
the memory or judgment of these careless or
ignorant operators, it becomes necessary to
provide a mechanism which will absolutely 60
extinguish every burner before the tank can
be moved into a position where it can be filled.
For this purpose an endwise-moving rod, D,
carrying a number of inclines, E, is provided.
This rod D has suitable bearings in the ends 65
of the frame A, and has one of its ends turned
upward, as shown in Figs. 1 and 2, so as to
extend directly across the line of travel of the
supply-pipe C when the tank is to be moved
into the position shown in dotted lines. The 70
end of this rod D extending across the line of
travel of the pipe C serves to lock the pipe,
when the burners are open or are free to be
opened, in the vertical position shown in solid
lines in Fig. 1, before the tank can be moved 75
into the position shown in dotted lines. This
rod D must be moved endwise by hand, as
shown in dotted lines in Fig. 2, so as to un-
lock the pipe C and leave it free to move.
When the rod D is moved endwise, the in- 80
clines E on the screw-threaded arms, to which
the inclines are secured, will strike against
the lever F of the burners. In case the le-
vers F have not been moved to extinguish the
burners, they project across in front of the in- 85
clines or the arms to which they are attached,
and hence prevent the rod D from being
moved endwise. If the outer ends of the le-
vers F have been depressed to close the needle,
and by some accident or oversight have 90
not been moved far enough, the inclines will
strike against the top of the levers, as shown
in Fig. 4, and thus force the outer ends of the
levers downward before the rod D has been
moved far enough to allow the pipe C to be 95
moved into a position where the tank can be
filled. In case one of the burners has not
been quite extinguished by the movement of
the needle, there is just as much danger to
the operator in filling the tank as if the burn- 100
ers were left at a full blaze. It therefore be-
comes necessary that the rod D and the in-
clines connected to it should positively ex-
tinguish every burner, and thus leave no pos-

sible chance for an accident of any kind. The inclines upon the arms are made vertically adjustable, so that they can be adjusted to each burner independently in case any of the levers should be out of line. The incline can then be adjusted into that position where it can exert just enough pressure upon the lever to close the needle, and no more.

I do not limit myself to any detail of construction in making the inclines adjustable in relation to the rod D and the levers, for this may be varied at will. I have made them adjustable in a number of ways, and merely show the screw-thread as one of the simplest forms.

If preferred, the end *a* of the lever F may be made to extend on beyond the pivot *b*, and in that case the endwise-moving rod D, with its inclines, will be transferred to the opposite side of the burners to that shown in Fig. 4, so that the inclines will strike against the under sides of the ends *a*, as shown in dotted lines in Fig. 5.

The needle-barrel G, through which the needle H works in the usual manner, is made screw-threaded externally at its lower end, and screwed upon this barrel is the drip-cup I, which is of the usual construction. Projecting from the under side of this drip-cup, or projecting from the needle-barrel itself, or from any other part of the burner, as shown by dotted lines in Fig. 5, is a suitable support, J, in the lower end of which the lever F is pivoted. The needle H is connected to the inner end of the lever F, as shown in Fig. 5, while the outer end of the lever extends a suitable distance outward, and serves as a means for operating the needle. The support for the lever is made to project downward from any suitable source, as shown, so that the pivot upon which the lever turns shall be placed between the point at which the lever is connected to the needle at its outer end. When the outer end of the lever is forced downward, either by hand or foot, or the accidental dropping of any object upon it, or the accidental catching of a woman's dress, the needle is forced upward, so as to instantly extinguish the burner, and thus prevent any possible chance for an accident. Frequently a single burner by some accident will become extinguished while the other burners are in full blast, and the escape of the oil or vapor will cause an explosion. The lever is made to operate, as shown and described, so that any object coming in contact with it from above will extinguish the burners. The endwise movement of the needle through the needle-barrel would soon cause a leakage of the gas were it not that the packing-box L is used. This box L is made screw-threaded internally, and in the box are placed a number of disks of asbestos. As soon as there is the slightest leakage of gas the box is given a slight turn, so as to compress the packing more tightly, and thus stop the leak. Asbestos packing is used, as shown, because it is indestructible by heat. This packing-box L being vertically adjustable

upon the needle-barrel, it is necessary that it should be entirely disconnected from the operating-lever. Where the lever is pivoted at the lower end of the needle-barrel, as shown in my patent above referred to, it is impossible to tighten the packing-box, for then the lever being connected thereto would be moved out of position. Where the lever is pivoted, as shown, so that its pivot comes between the point where it is connected to the needle and the outer end of the lever, the packing-box is made freely adjustable. The drip-cup or the support to which the lever is pivoted being made to turn freely upon the needle-barrel, the lever F can be adjusted into any desired position, and can be given any lateral movement necessary without bringing any strain or friction between the needle and the packing.

As gasoline-vapor is very penetrating, it becomes absolutely necessary as a matter of safety to have the needle packed in such a manner that the vapor or fluid cannot escape around the lower end of the needle. As long as the needle is given an endwise movement it will wear the packing, and hence it is absolutely necessary that the packing-box should be made independent of the lever, so that the packing can be tightened at any moment.

In the patent granted to me above referred to, the lever is made cam-shaped at the end, and pivoted in the bearings formed upon the lower end of the packing-box. I am also aware that a lever has been provided with a screw-thread, and given a rotary longitudinal movement for the purpose of operating the needle, and this I disclaim.

The great advantage gained by pivoting the lever as here shown is that it is pivoted concentrically to the needle, so that it can be turned around with the needle into any desired position, so that no lateral movement of the lever in the use of the burner will bring any undue friction upon either the needle or the packing.

Having thus described my invention, I claim—

1. The combination, in a vapor-burner, of an endwise-moving valve, a pivoted lever for moving the valve, and a support or fulcrum for the lever, and which projects down from the burner and supports the lever between its outer free end and its point of connection with the needle-valve, substantially as shown.

2. In a vapor-burner, the combination of the endwise-moving needle and the pivoted lever for moving the same, the lever being pivoted in a suitable bearing or support which projects down from the drip-cup, and which bearing is adapted to move concentrically to the needle, substantially as described.

3. The combination, in a vapor-burner, of the endwise-moving needle, the needle-barrel, the drip-cup which is applied to the needle-barrel, a suitable support which projects down from the drip-cup, the pivoted lever, and the adjustable packing-box, substantially as specified.

4. The combination of the partially-rotat-
ing supply-pipe having one or more vapor-
burners connected thereto, the endwise-mov-
ing needles, the pivoted levers, and the end-
5 wise-moving rod provided with suitable in-
clines, substantially as described.

5. The combination of the vapor-burners
provided with endwise-moving needles, and
pivoted operating-levers, with the endwise-
10 moving rod D, provided with suitable de-
vices for depressing the operating-levers of

the burners when the rod is moved endwise,
one of the ends of the rod being made to act
as a lock to prevent the lowering of the tank
until the burners have been extinguished, sub- 15
stantially as set forth.

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

ZEBULON DAVIS.

Witnesses:

F. A. LEHMANN,

B. LEWIS BLACKFORD.