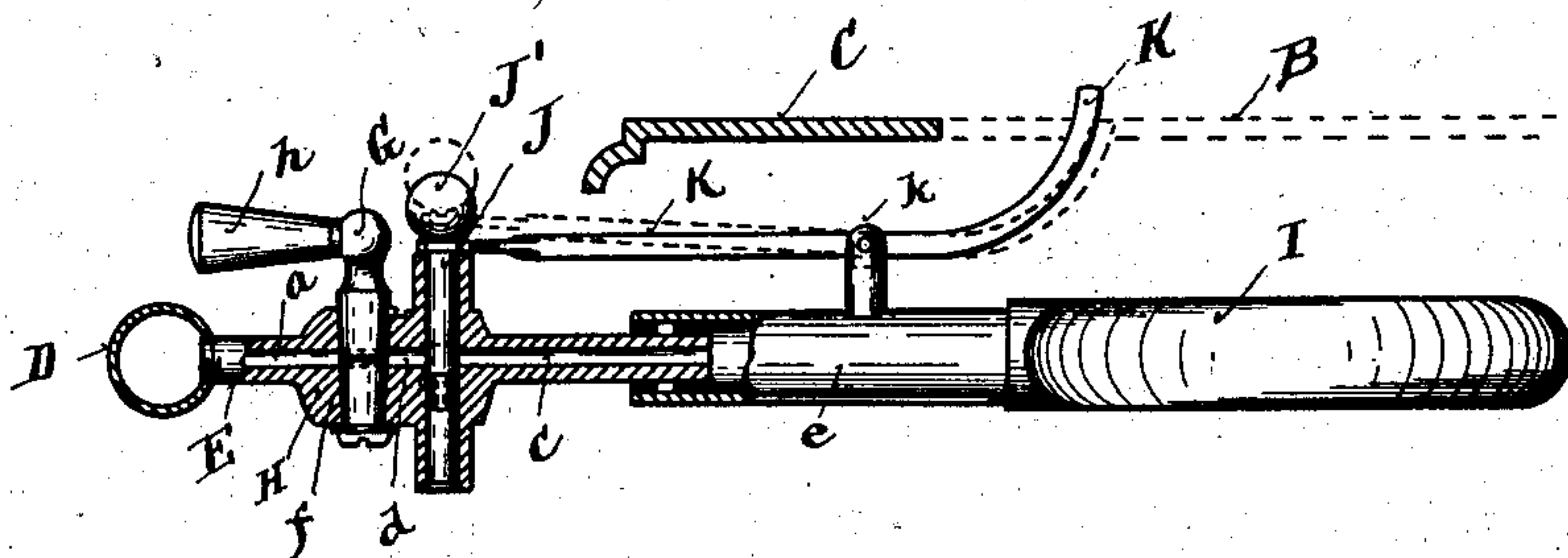
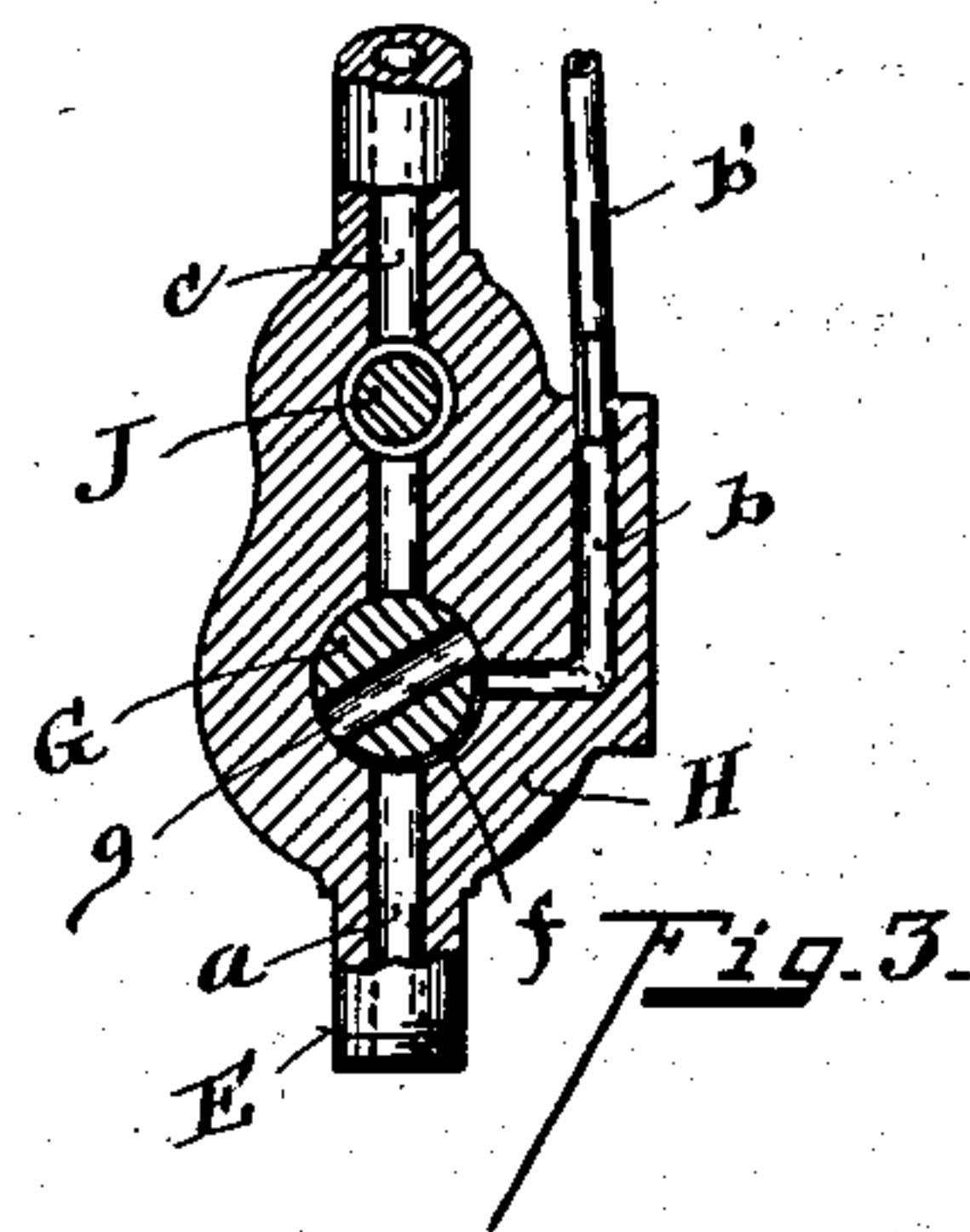
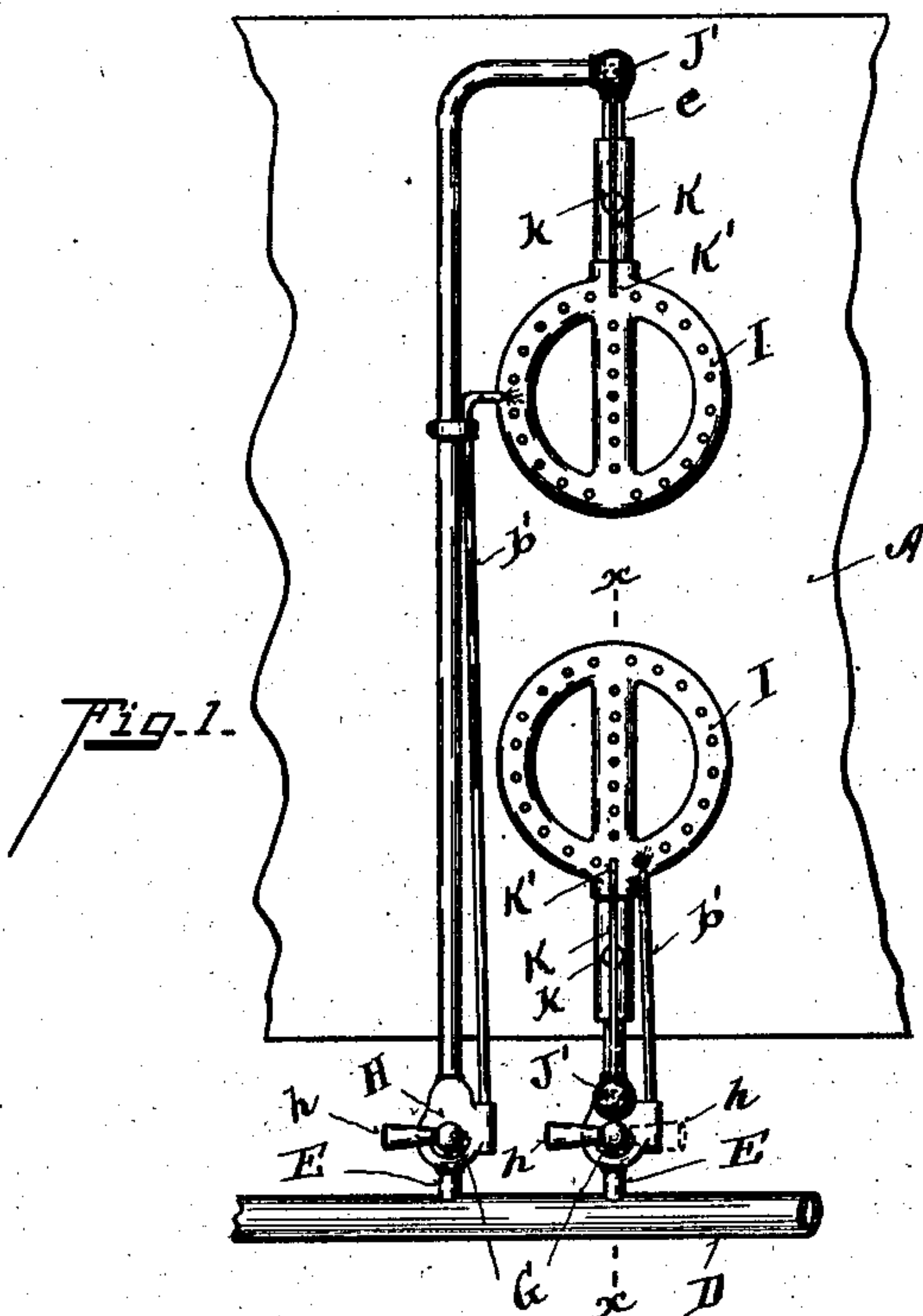


No. 728,267.

PATENTED MAY 19, 1903.

F. C. MILLER.  
AUTOMATIC CUT-OFF FOR GAS STOVES.  
APPLICATION FILED JULY 15, 1901.

NO MODEL.



Witnesses

Oliver B. Kaiser

Edward L. Alexander

Inventor

Frederick C. Miller

By

Wood & Wood

Attorneys



# UNITED STATES PATENT OFFICE.

FREDERICK C. MILLER, OF NEWPORT, KENTUCKY.

## AUTOMATIC CUT-OFF FOR GAS-STOVES.

SPECIFICATION forming part of Letters Patent No. 728,267, dated May 19, 1903.

Application filed July 15, 1901. Serial No. 68,334. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK C. MILLER, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Automatic Cut-Offs for Gas-Stoves, of which the following is a specification.

The object of my invention is to automatically light the burner or burners in a gas range or stove by the act of putting on cooking utensils or other articles to be heated and to automatically cut off the gas when the utensil is taken off.

The features of my invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a top plan view of a section of a burner base-plate of a range with my improvement applied thereto. Fig. 2 is a sectional elevation on line *x x*, Fig. 1. Fig. 3 is a transverse horizontal section through the valves.

A represents a section of the top plate of a gas stove or range.

B represents the burner-opening.

C represents the rim surrounding the opening on which the utensil rests.

D represents the gas-supply pipe.

E E' represent branch burner-pipes tapping the main supply-pipe.

G represents a plug-valve tapping the valve-stock H and controlling the supply-passage-way *a*, which supplies the pilot-pipe or conduit *b* and also the main conduit or passage *c*, leading to the main body of the burner I. The pilot-pipe *b'* is projected forward and terminates near one of the openings in the main burner I.

J represents a regulating-valve in the main conduit between the supply-valve and the burner, which normally cuts off the main supply of gas to the burner I, but independent of the pilot-light. This valve J is a piston-valve and seats and reciprocates in a cylinder and is oscillated by means of a lever-stem K, which is pivotally supported at *k* upon the supply-pipe *e*.

K' represents the stem of the lever, which projects upwardly above the burner-opening

B in the rim C. This projecting end is thus sure to be engaged with the utensil set upon the rim C, so that it is depressed far enough to lift the valve J above the passages *d* and *c*, allowing a flow of gas to the burner. The inner end of the stem K is forked or bifurcated and surrounds the valve J, which is provided with a head J', so that it may be lifted out readily from its seat and from engagement with the lever. This is very useful, as the least accumulation of dirt in the valve prevents the delicate movement thereof necessary to get a perfect result. An inconceivably small amount of dirt will prevent the valve from falling freely or rising, and when this occurs if the valve-plug is simply lifted out and wiped off and then returned the action will again be entirely accurate. This valve being seated by gravity allows it to reciprocate in a vertical plane. Any other form of loose connection of the valve with the lever-stem may be employed in lieu of the form here shown.

It will be observed that the passage-way *a* is placed in a direct line to the passage-way *c*, leading to the main burner. The valve G is provided with a straightway passage *g*, preferably pierced diametrically through the valve-plug, which valveway when turned in the position shown in Fig. 3 cuts off the supply of gas to the burner.

*f* represents a by-passage leading from the passage *a* and is preferably formed by cutting away the periphery of the valve-plug at this point.

*h* represents the stem of the valve-plug G and when in the position shown in Figs. 1 and 3 gas is being supplied to the pilot-pipe *b'*. When it is desired to cut off the supply of gas to the pilot, the stem *h* is turned in the opposite direction to the position shown in dotted lines, Fig. 1, when the supply of gas is entirely cut off from both pipes.

Mode of operation: When it is desired to use the range, the stem of valve G is turned in the position shown in full lines, Fig. 1, and the gas is lighted at the end of the pilot-pipe *b'*. When a utensil is placed upon the rim C of that burner, it depresses the lever-stem K, which raises the valve J and allows a supply of gas to pass to the main burner, where it is



immediately ignited by the pilot-light. As soon as the utensil is lifted off, the valve J automatically descends and closes the passages *c* and *d*. The supply of gas is regulated  
5 by turning the valve G to the right without affecting the pilot-light.

In the rear burner, as shown in Fig. 1, the semi-automatic valve J is placed at the rear end of the supply-pipe E', and the plug-valve  
10 is placed at the front end, so as to be convenient to the operator.

The construction herein shown and described is very simple and presents many advantages.

15 First. The semi-automatic valve J is of simple construction, can be readily lifted out and cleaned, and is positively operative, first, by the weight of the utensil to open the valve, and, second, by its own weight to positively  
20 close the same the instant the utensil is lifted off of the range or stove.

Second. The main valve is adapted to either independently or simultaneously regulate and control the supply of gas to both the main  
25 and pilot pipes and altogether independent of the regulating-valve in the main conduit between the supply-valve and the burner.

It will be observed that the valve G may be turned so as to regulate the supply to passage  
30 *c* without affecting the supply to the pilot-light, which continues until the valve is turned to close the passage *a*. This is useful, for the reason that in igniting the burner the gas frequently "lights back" in the main conduit. With my attachment the supply-valve  
35 may be turned to shut off the gas from the main conduit while the pilot-light remains burning, thus extinguishing the gas burning back in the main conduit and when the main  
40 valve is turned on again insuring a relighting of the burner from the pilot-light without the necessity of igniting another match.

Having described my invention, I claim—

1. In a gas-burner, a main and a pilot-light conduit, a valve-orifice in the main conduit, 45 a piston-valve supported in said orifice by gravity in its normally closed position, a head on the upper end of said piston-valve enlarged relative to the size of the body of the piston-valve within the orifice, a lever hav- 50 ing one end projected above the burner, the other end of said lever having a loop engaging under the enlarged head of the piston-valve, said loop being of greater diameter than the diameter of the valve-stem and of 55 less diameter than the said head, whereby when the lever is actuated the valve will be lifted, but permitting the piston-valve to be bodily withdrawn from its orifice independently of the position of the lever. 60

2. A gas-burner, a supply-pipe, a lever pivoted to the burner having one end projected above the same, a plug-valve seated in the supply-pipe by gravity, said plug-valve resting by gravity alone upon the opposite end 65 of the said lever, whereby a vessel placed on the burner will lift the valve, but leaving the valve free to be bodily detached, substantially as specified.

3. A gas-burner, a supply-pipe, a plug- 70 valve seated by gravity therein, a lever pivoted to the burner having one end projected above the same, the opposite end of said lever and the upper end of the plug-valve having looped engagement, whereby the lever will 75 serve to lift the valve, but leaving the valve bodily detachable, substantially as specified.

In testimony whereof I have hereunto set my hand.

FREDERICK C. MILLER.

Witnesses:

OLIVER B. KAISER,

EDWD. T. ALEXANDER.