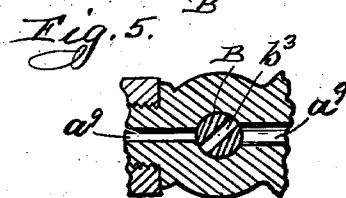
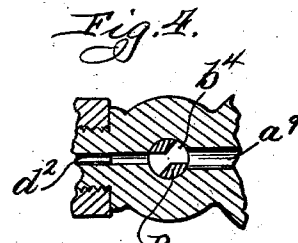
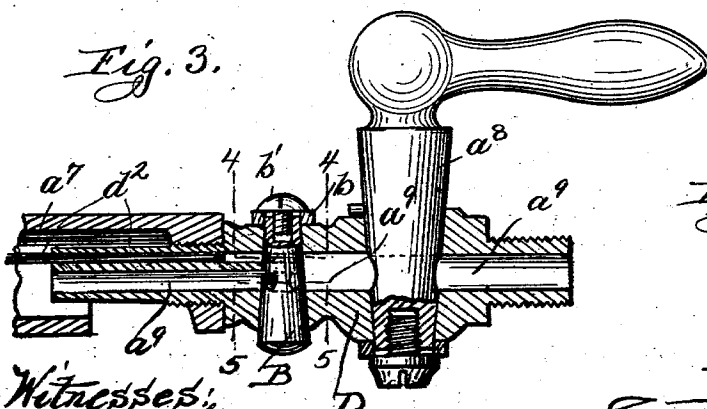
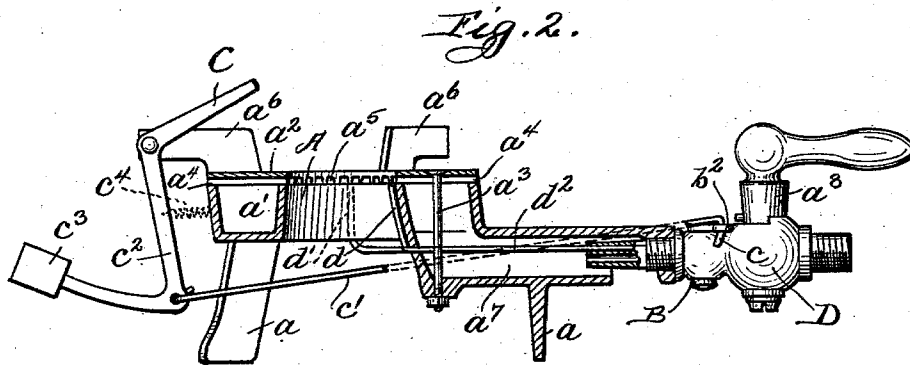
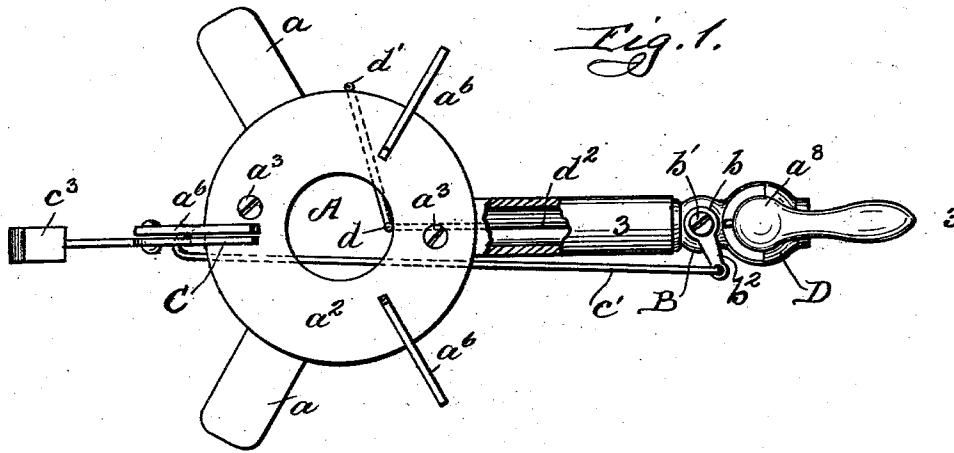


No. 757,482.

PATENTED APR. 19, 1904.

E. D. McCahill.
GAS BURNER ATTACHMENT.
APPLICATION FILED MAR. 28, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDMOND D. McCAHILL, OF CHICAGO, ILLINOIS.

GAS-BURNER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 757,482, dated April 19, 1904.

Application filed March 28, 1903. Serial No. 149,930. (No model.)

To all whom it may concern:

Be it known that I, EDMOND D. McCAHILL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Burner Attachments, of which the following is a specification.

My invention relates to attachments for gas and vapor burners; and it consists of the arrangements and combinations of parts hereinafter described, and more particularly pointed out in the appended claims.

In the accompanying drawings, which form a part of this specification and exemplify the preferred embodiments of the various features of my invention, Figure 1 is a top plan view of a gas-burner provided with my improvements, the supply-pipe being shown partly in section for purposes of clearer illustration. Fig. 2 is a view, partly in section and partly in side elevation, of the parts of Fig. 1. Fig. 3 is an enlarged sectional view on the line 3 3 of Fig. 1. Fig. 4 is a sectional view on the line 4 4 of Fig. 3, and Fig. 5 is a sectional view on the line 5 5 of Fig. 3.

Referring to the drawings, the reference-letter A indicates a suitable burner of any general and well-known construction for burning gas or any combustion mixture, and for convenience of illustration is here shown as provided with suitable legs or supports *a*. The burner consists of a body of any suitable size and shape, forming a combustion-chamber *a'* and having a suitable top plate *a''*, held in place by bolts *a'''* passing through the plate and body and providing radial openings around its outer and inner lines, as at *a''* and *a'''*, for the escape of the gas or combustion mixture. For convenience of illustration the burner is shown in the drawings as consisting of an ordinary gas-ring of the usual annular form and in which the top plate is provided with a central opening in the usual manner, it being understood that the form of the burner may be changed and varied without in any manner departing from the scope of my invention. The top plate is provided with a plurality of radial bars *a''''*, arranged at intervals around the ring or burner for the purpose of affording supports or rests for vessels or dishes.

The burner is provided with a suitable supply-pipe *a'*, leading to a suitable source of supply.

The supply-pipe is governed and controlled by a main valve *a''*, which is preferably in the form of the usual plug-valve or turn-cock and is arranged in any well-known manner, having the usual handle for turning the same and suitable stop devices for governing the range of movement thereof. The supply-pipe is also provided with an auxiliary or secondary valve B and which is adapted to be opened and closed automatically when vessels are placed upon or removed from the burner, so as to shut off and open the supply of fuel to the burner. The auxiliary valve B is preferably in the form of a rotary cock adapted to open and close the passage *a'''* of the supply-pipe and is held in its seat by a suitable plate or washer *b*, which is provided with a square opening adapted to receive the squared end of the valve B in order that the latter may be rotated by turning the plate or washer. The plate or washer is held in position on the valve and the valve itself caused to snugly fit its seat by means of a screw *b'*, which passes through the plate and engages a thread in the valve, it being understood that the plate or washer rests between the head of the screw and the material of the supply-pipe.

To open and close the valve B when vessels are respectively placed upon or removed from the burner, I connect the washer or plate *b* with an arm C, which is pivoted to one of the bars *a''''* of the burner. For this purpose the plate or washer is provided with a lateral extension *b''*, which is in turn provided with an opening or hole near its outer end to receive the hooked end *c'* of a connecting-rod *c*, which operatively connects the valve B and the arm C. The operating-arm C is pivoted on one of the bars and is adapted to be normally held above the line of the bar in the position of Fig. 2 by any suitable means, and for this purpose the bar is shown in the form of a bell-crank lever whose lower end *c''* extends below its pivot-point and is provided with suitable means to normally maintain the arm elevated. This actuating means may be of any suitable form and character—such, for

example as a weight c^3 or a spring c^4 , it being obvious that the spring may exert its force upon the arm through either its contracting or expanding power, according to its location.

5 The rod c' passes under the burner and connects the lever and valve, as shown in the drawings.

From the above description of the construction and arrangement of parts it is obvious
10 that when the main cock or valve a^8 is open, as during the period of time when the burner is in use, the supply may be controlled by the auxiliary valve B and that by the force of the actuating means this valve will stand in
15 its closed or turned-off position when the arm C is unaffected by the presence of a vessel on the burner and is in its position shown in Fig. 2.

When a vessel is placed on the burner, it depresses the arm C and opens the valve B,
20 whereby the fuel is supplied to the burner, and when the vessel is removed the arm C, under the strain of its actuating means, will rise to the position of Fig. 2 and close or shut off the valve, and consequently the fuel-supply.

25 In order that the burner may be self-lighting when the valve B is operated, I provide a pilot-flame, preferably supplied to both the inner and the outer ring of openings when an annular form of gas-burner is employed by the branches d and d' , respectively. The
30 pilot-flame is controlled by the valve B, and for this purpose the valve is provided with the usual way or passage b^3 , which is turned into and out of register with the supply-passage a^9 , as clearly appears from Fig. 5, and
35 with a by-pass b^4 , which at all times registers with the supply-passage a^9 on one side and with a pilot feed-pipe d^2 on its other side. The by-pass is of any suitable form, and a simple and efficient embodiment is shown in Fig.
40 4, where it is illustrated as enlarged at each side of its center in order to connect with the inlet side of the pipe a^9 and with the pilot-pipe d^2 in either position of the valve B.

45 When the valve B is turned to the position of Fig. 5 to shut off the supply to the gas-chamber, the auxiliary port or by-pass b^4 assumes the position shown in Fig. 4, so that the pilot-flame is supplied, and when the valve B is
50 turned to its open position, with the passage

b^3 in register with the supply-passage a^9 , the by-pass still registers, with and completes the passage through from the inlet side of the supply-passage a^9 to the pilot-pipe d^2 , the
55 range of movement of the valve B being such that the by-pass maintains this communication in either position of the valve, so that the pilot-flame continues to burn so long as the main valve a^8 is open.

The valve mechanism may be supplied in
60 any suitable manner and may be of any convenient and suitable form. I prefer to mount the valves in a joint or connection D, which is provided on one side with the main passage a^9 and on the opposite side of the main valve
65 with a continuation of the main passage and with a pilot-passage, as clearly shown in Figs. 2 and 3.

Having described my invention, I claim—

1. In combination, a burner having a supply-pipe and a pilot-pipe, a rotary valve hav-
70 ing a passage to open the supply-pipe and a by-pass always in register with the supply-pipe and the pilot-pipe, a bell-crank lever pivoted on the burner, one end of the lever
75 being normally elevated above the burner, an arm attached to the valve, a rod connecting the valve-arm and the other end of the bell-crank lever, and means for maintaining the
80 former end of the lever in its elevated position.

2. A burner having a supply-pipe, a valve having a passage to open and close the pipe and a by-pass always in register with the supply-pipe, a pilot-pipe constantly in register
85 with the by-pass, a bell-crank lever pivoted on the burner, one end of the lever being movable toward and away from the burner-openings, a weight on the other end of the lever, and a rod connecting the lever and valve
90 whereby to open and close the main passage of the valve when the lever is oppositely operated.

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

EDMOND D. McCAHILL.

Witnesses:

E. MOLITOR,

J. McROBERTS.