

No. 763,728.

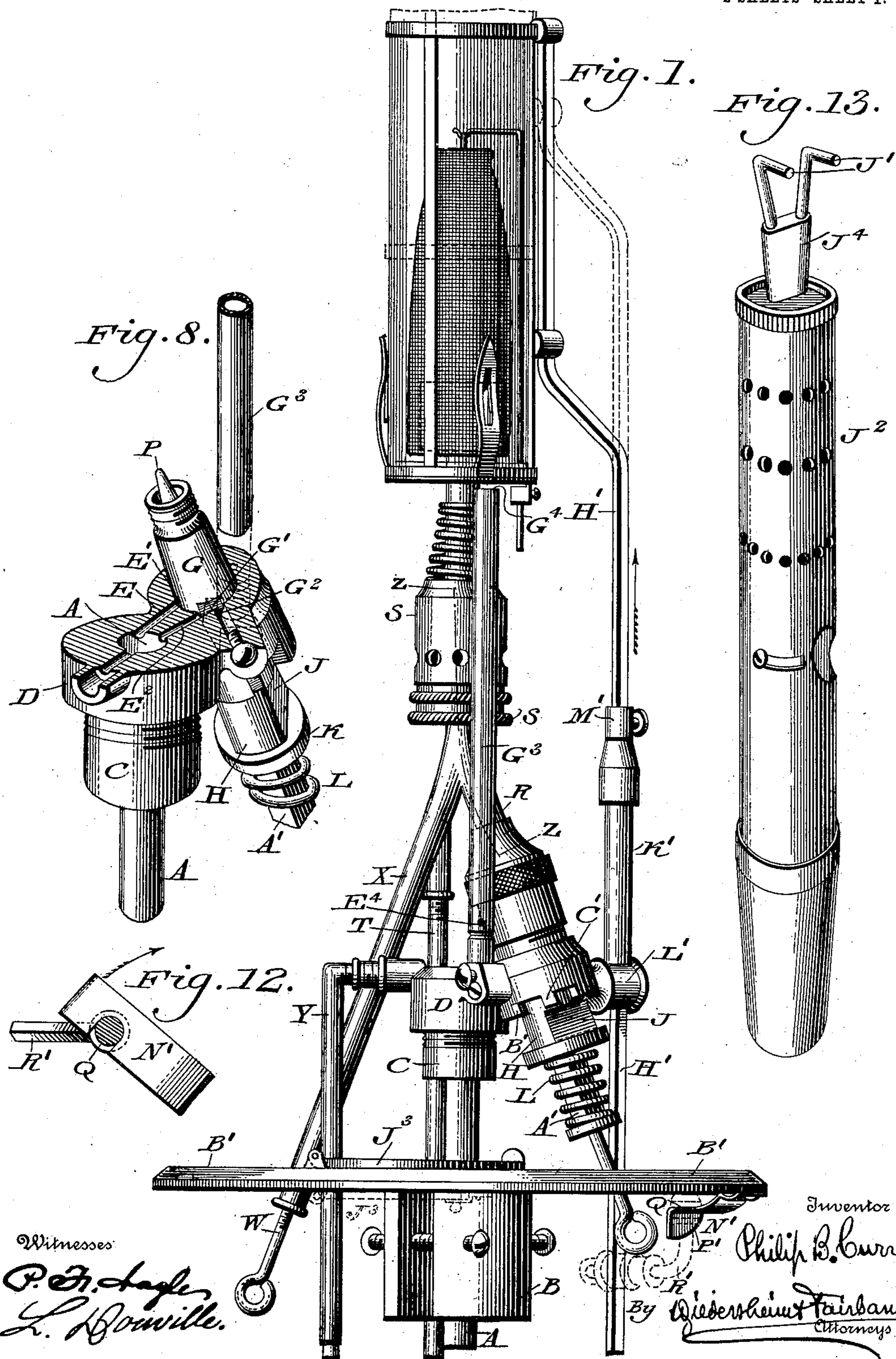
PATENTED JUNE 28, 1904.

P. B. CURRAN.
BURNER.

APPLICATION FILED APR. 12, 1899.

NO MODEL.

2 SHEETS—SHEET 1.



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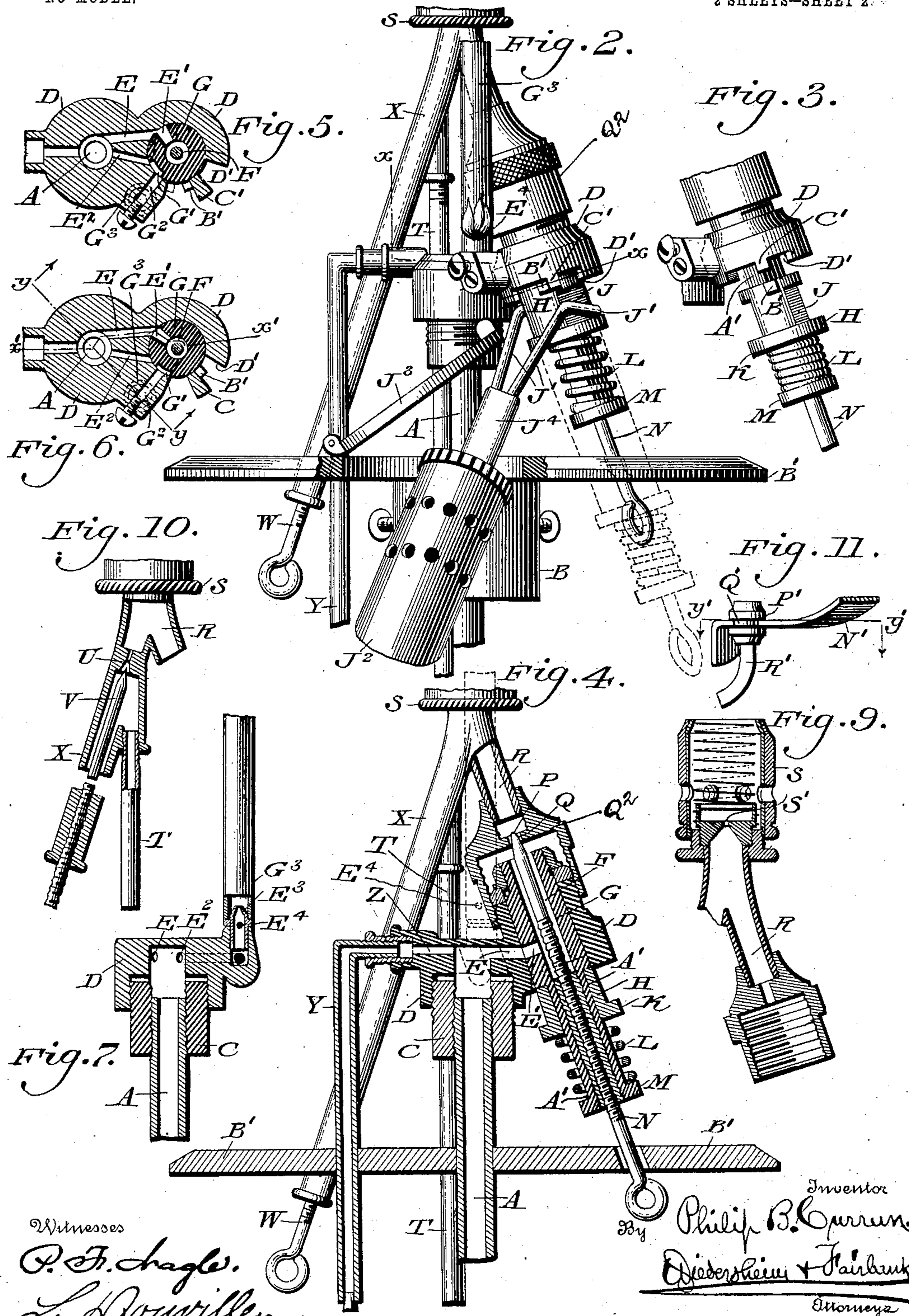
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

PHILIP B. CURRAN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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BURNER.

SPECIFICATION forming part of Letters Patent No. 763,728, dated June 28, 1904.

Application filed April 12, 1899. Serial No. 712,720. (No model.)

To all whom it may concern:

Be it known that I, PHILIP B. CURRAN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Burners, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to burners; and it consists of novel means for initially permitting a portion of the gas in the act of starting to be deflected and enter a Bunsen burner, which latter is extended upwardly in proximity to the burner proper, a portion of the gas simultaneously entering said burner.

It further consists of a novel construction of a valve and its adjuncts which is adapted to be readily operated by the application of a wrench or fingers carried by the lighting-torch thereto.

It also consists of novel means for supplying compressed air to the burner, if desired.

It further consists of a novel construction of a casing, valve-plug, and ports and passages common thereto, whereby a portion of the hydrocarbon is simultaneously admitted to the Bunsen burner at the time it enters the burner proper.

It also consists of novel devices for enabling the chimney to be raised and lowered.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figure 1 represents a side elevation of a burner and its adjuncts embodying my invention. Fig. 2 represents a side elevation of the lower portion of the burner seen in Fig. 1, showing the manner of initially applying the lighting-torch to the burner. Fig. 3 represents a perspective view showing the position certain of the parts seen in Fig. 2 assume after the application of the lighting-torch thereto. Fig. 4 represents a sectional view, partly in elevation, showing certain of the ports for conducting the gas to the main burner after the act of starting, the section being taken on

line $x'x'$, Fig. 6. Figs. 5 and 6 represent transverse sectional views on the line xx , Fig. 2, showing the position of the valve-plug and its ports and adjuncts relative to the Bunsen burner employed and to the ports in the valve-casing. Fig. 7 represents a section on line yy , Fig. 6, showing the relative position of the Bunsen burner to the casing supporting it and the ports contained in said casing. Fig. 8 represents a perspective view, partly sectional, showing the relative position of the ports in the burner and valve-casing to the Bunsen burner. Fig. 9 represents a section on line zz , Fig. 1. Fig. 10 represents a sectional view, partly in elevation, showing the pipe and its adjuncts for conveying compressed air to the burner, which may be desirable under certain conditions. Fig. 11 represents a side elevation of a clip employed for locking the chimney-carrier in desired position. Fig. 12 represents a section on line $y'y'$, Fig. 11. Fig. 13 represents a perspective view of the wrench or fingers on the lighting-torch.

Similar letters of reference indicate corresponding parts in the drawings.

Referring to the drawings, A designates an inlet for the gas, the same passing through the base B' and support B of the apparatus and entering the plug C, which is secured to the casing D, through which latter the gas passes into the port or inlet-opening E at the lower end of the tubular body portion thereof and thence through the port E' into the passage F of the valve G when the parts are in the position seen in Figs 4 or 6, said plug being held in position in its casing by any suitable means.

H designates a longitudinally-movable sleeve which is attached to the lower portion of the valve G and is provided with the squared surfaces J, to which the wrench portion or fingers J' of the lighting-torch J² are applicable, said fingers J' being seated in the part J⁴, attached to said torch, and extending for a short distance longitudinally and then laterally deflected.

K designates a flange at the lower portion

of the sleeve H, against which one end of the spring L abuts, the lower portion of the latter contacting with the flange M of the valve-plug G.

5 N designates a pin or needle or other valve which is adjustably mounted within the stem of the valve G and provided with the point P, which controls the flow of gas through the port Q in the fitting Q² to the pipe R and
10 thence through the port S' to the burner S.

The casing D, which contains the port E already described and which is connected with the pipe R by means of the fitting Q² has in addition a port E², the relative position of
15 which will be best understood from Figs. 5, 6, and 8, said port E² serving to conduct the gas in the act of starting through the recess G' in the plug G, said gas passing thence through the port G² into the Bunsen burner G³, the
20 relative position of said Bunsen burner to said ports being apparent from the dotted lines in Figs. 5 and 6 and also from Figs. 7 and 8. The Bunsen burner employed has a nipple E³ in its lower portion and a port E⁴ in the sides
25 of said nipple and burner, through which gas is discharged and which when lighted ignites the gas in the body of said Bunsen burner, the flame of the latter then reaching the burner proper at G⁴.

30 T designates a pipe for conducting compressed air to the burner S, the port U, through which said air passes to said burner, being controlled by means of the valve V, which is contained in the tube or casing X,
35 the handle W of said valve being prolonged through the base B, as is also the handle of the valve P, for the purpose of enabling the same to be readily accessible.

Y designates an alcohol-supply pipe which
40 is provided with a suitable closure at its lower portion, said pipe discharging through the port Z into the port E, as will be understood from Fig. 4, so that alcohol may be directed into the supply-pipe to cleanse the latter should
45 the same be clogged.

The sleeve H, which is longitudinally movable upon the squared portion A' of the plug G, is provided with a lug or stop B', which is adapted to contact with a lug or stop C' on the
50 casing D, in which is a recess D', into which latter said lug is adapted to move when it is desired to form an open communication between the ports E E' and the passage F, it being apparent that when the stop B' is in contact with the abutment or stop C', as in Figs.
55 2 and 5, the port E² is in communication with the port G² through the recess G', whereby the gas is initially conducted to the Bunsen burner G³, at which period a small portion of
60 the gas simultaneously passes through E and E' to the passage F.

H' designates a chimney-support, (best seen in Fig. 1,) the same consisting of a rod movably mounted in the guide K', which is attached

to the casing D by means of the eye L', said
65 rod having an adjustable collar M' attached thereto.

N' designates a clip or latch which is attached to a suitable portion of the support B and provided with a recess P', which is adapted
70 to engage with the head Q' of the arm R', the latter being held on the rod H' and made adjustable thereon by means of a set-screw or other similar device.

By slipping the head Q' of the arm R' in the
75 recess P' it is seen that the chimney-support is effectually held from being moved either up or down in addition to the clamping action of the adjustable collar M'.

The operation is as follows: The gas enters
80 the pipe A from the gas-supply pipe and passes when the parts are in the position seen in Figs. 2, 5, and 8 through the port E², which communicates with the recess G' and the port G² to the Bunsen burner G³. In the act of
85 lighting the lighting-torch J² is pushed against the door J³, which is attached to the support B', through which latter the torch is passed, and the wrench portion or fingers J' of the
90 torch engage the squared portion J of the collar or sleeve H, which latter is turned until the lug B' strikes the lug or abutment C', as will be understood from Figs. 2 and 5, when
communication between the inlet A, ports E² G², the recess G', and the Bunsen burner is
95 established, as stated, it being noted that at the same time a partial communication is established between the inlet A, the ports E E', and the passage F, the gas passing thence
100 through the ports Q, pipe R, and port S' to the burner S, Fig. 9, the relative position of the parts being now as seen in Fig. 5. The torch J² is now disengaged from the sleeve H and raised to the Bunsen burner, whereupon the gas issuing from the top G⁴ thereof
105 is ignited, thus heating the main burner S, after which the fingers or wrench portion J' of the torch are reengaged with the sleeve or collar J, the latter being drawn downwardly by means of the flange K until the lug B' is
110 below the lug C', after which the sleeve H is rotated until the lug B' is in the recess D', as seen in Fig. 6, whereupon full communication is established between the inlet A, the ports E E', the passage F, the port Q, the pipe R,
115 and the main burner S, it being of course understood that before this latter operation or movement has been completed the flame from the Bunsen burner has heated the main burner and ignited the gas therein, and when this operation has been completed communication
120 between the inlet A, the ports E² and G², and recess G' has been cut off, the parts now appearing as seen in Fig. 6 and the burner being in full operation.

125 By means of the valve P and handle N the supply of gas to the burner S can be regulated with great exactness from the exterior of the

lamp, it being noticed that the plug G in Fig. 2 is shown in dotted lines as extended below the support B', which may sometimes be desirable, as does the handle W of the valve V, so as to allow all the manipulation to be done from the exterior of the lamp.

It will be understood that the door J³ can be attached to the under side of the support B', if desired, as indicated in dotted lines in Fig. 1, or said door can open either way, as some lamps will not permit the door to open but one way.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a burner, a support, a recessed catch on said support, a guide, a chimney-supporting rod vertically movable in said guide, means on said rod abutting against said guide to

limit the downward movement of the rod and an arm on said rod formed with means for engaging the recess on said catch.

2. In a burner, an inlet-pipe, a tubular casing adjacent the head of said pipe, said casing having a plurality of ports communicating with said pipe, a valve-sleeve in said casing, means for locking said sleeve in a plurality of positions with respect to said ports, a valve-seat forming the outlet from said casing, a valve coacting with said seat and having a stem passing longitudinally through said sleeve, and a tube forming a gas-passage from said outlet to the burner.

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