(No Model.)

W. W. SEELEY.

GAS BURNER.

No. 603,661. Patented May 10, 1898.

Fig. 1.

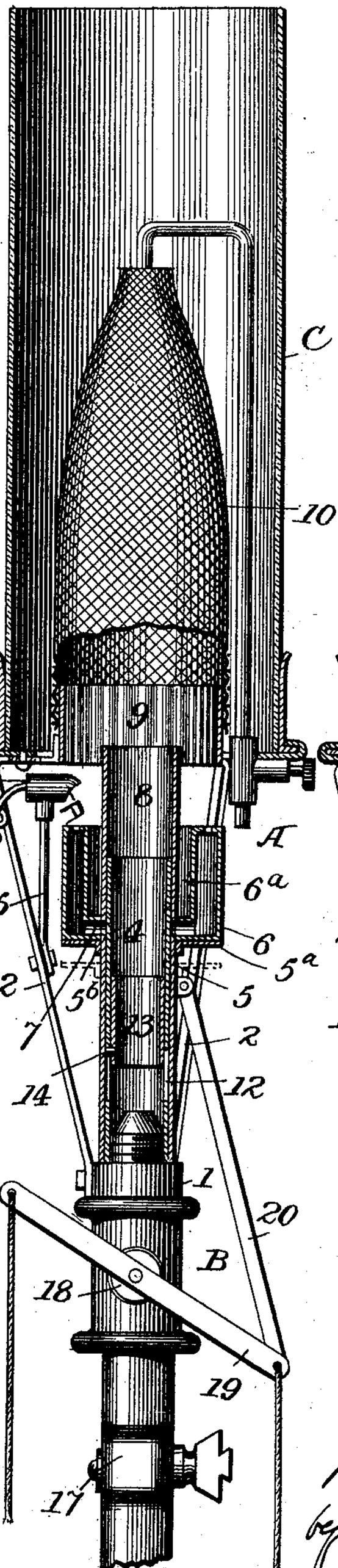


Fig. 2.

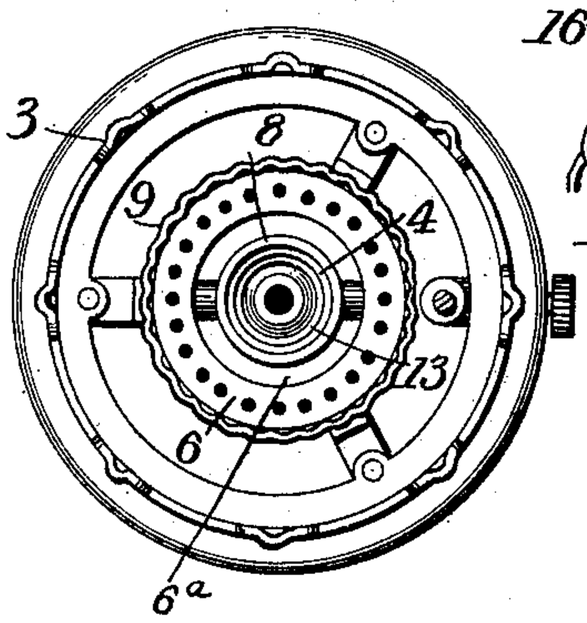
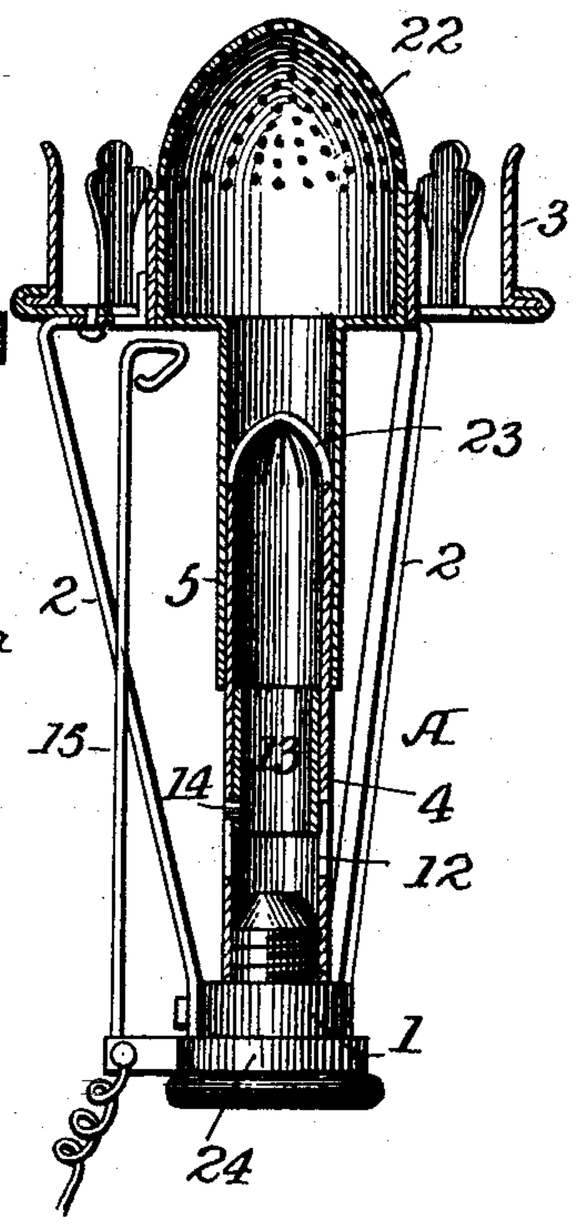


Fig. 3.



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WILLIAM WESLEY SEELEY, OF BROOKLYN, NEW YORK.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 603,661, dated May 10, 1898.

Application filed July 29, 1897. Serial No. 646,407. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WESLEY SEELEY, a citizen of the United States, residing at Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to certain new and useful improvements in that class of gas-burners which are surrounded by globes or chimneys, having for its object to provide a burner which may easily and quickly be lighted without the necessity of removing the surrounding chimney or of applying a flame to the top of the chimney.

With this object in view the invention consists in the novel features of construction and arrangement of the parts hereinafter more fully described.

In the accompanying drawings, forming a part of this specification and in which like letters and numerals of reference indicate corresponding parts, Figure 1 is a vertical sectional elevation of a gas-burner embodying the invention. Fig. 2 is a cross-sectional view of the invention. Fig. 3 is a detail sectional view of a modified form of burner.

Briefly stated, the invention comprises a suitable burner and a globe or chimney and its frame normally surrounding the burner, the chimney and burner being connected together and capable of a relative longitudinal movement, whereby the top of the burner is rendered accessible for the purpose of lighting.

The invention also comprises an automatic lighting device which is arranged in proper position and operated to ignite the gas escaping through the burner-top whenever the separation of the burner and its chimney is effected.

Referring more particularly to the drawings, A designates the base of the burner, which may be of any suitable form or construction and is adapted for attachment to a bracket or support B. As shown, the base constitutes a collar 1, which surrounds and is fixed to the bracket, and radiating from the collar are arms 2, supporting at their upper ends a suitable holder 3 for the chimney or globe C.

Extending upward from the collar 1 is a tube 4, in or upon which is adapted to slide a tubular slide 5, which supports at its upper end a suitable burner 6. In the present instance this burner consists of an annular chamber having a correspondingly-shaped air-passage 6^a, provided in the upper face with a series of perforations for the escape of the gas and communicating with the interior of the tubular slide through short connecting radial passages 7. In order that the burner may be carried below the chimney C as far as possible, it is provided with a central dome 8, which receives the upper end of the tube 4 when the burner is loosened, and preferably this dome projects above the top of the burner and is so formed as to constitute a flame-deflector.

Surrounding the tubular slide 5 and longitudinally adjustable thereon is a sleeve 5^a, from which projects an annular flange 5^b, which may be adjusted to close the lower end of the central air-passage 6^a, as shown in full lines, Fig. 1, or be carried below the burner, as indicated in dotted lines, to permit air to flow through said passage.

Supported upon the interior of the holder 3 is an annular flange 9, which serves to guide the tubular slide 5 in its up-and-down movement. In some instances it may be desirable to employ an ordinary Welsbach mantle 10 in connection with the burner, in which event the lower end of the mantle surrounds the flange 9 and is protected thereby from injury by coming into contact with the slide 5, and preferably the flange is vertically corrugated to permit the ready placing or removal of a mantle upon it.

Whenever it is desired to light a burner which is surrounded by a chimney or globe, as in the present instance, it is either necessary to remove the chimney to render the tip of the burner accessible or to turn on the gas while the chimney is in place and apply a light at the top thereof to ignite the volume of gas or of gas and air within the chimney. This latter, however, not only results in smoking the chimney, but frequently causes it to be broken by the explosion, and if a mantle be employed, owing to the extremely frail and brittle nature of the material of which it is made, it is also very often fractured and rendered useless. The objections are, however, all overcome by arranging the tubular slide which carries the burner to be moved

along the plane of the chimney, in order that a flame may be applied directly to the burner-tip. When a mantle is used in connection with the burner, the tube 4 is provided with an air-opening 12, which when the burner and tubular slide are elevated is open to permit the passage of air, together with the gas, through the slide and burner. When, however, the slide is in its lowered position, it moves over and closes the air-opening. As a further means of regulating the ingress of air through the opening 12 the tube 4 is provided upon its interior with a slide 13, which may be adjusted to either partially or wholly close the opening by means of a pin 14, which extends into the opening, it being understood, of course, that when a mantle is not used in connection with the burner the opening 12 is wholly closed by its slide 13, and the sleeve 5^a and its flange 5^b are adjusted to open the central air-passage 6^a.

Coöperating with the burner 6 is a suitable automatic igniter D, arranged to light the burner whenever the tubular slide 5 is lowered. As shown, the igniter is an electric one and comprises a yielding arm 15, secured to and insulated from one of the supporting-arms 2. This arm constitutes an electrode and is provided at its upper end with a head or projection 16, arranged to be struck and pressed back by the burner 6 as it is raised and lowered, and connected to this head 16 is a conducting-wire leading from a suitable battery or other source of electrical supply. (Not shown.) The burner 6 is in the electric circuit with the arm 15 and constitutes a second electrode. It will thus be seen that whenever the burner 6 is lowered it makes contact with the head 16 of the arm 15 and presses it back until the top edge of the burner is carried below the head, causing the separation of the head and burner, and thereby generating a spark which will ignite the gas flowing through the openings of the burner.

The bracket B is provided with a passage which communicates with and supplies gas to the vertical tube 4, and this passage is controlled by the usual cock 17. Likewise located within the passage above the cock 17 is a by-pass valve 18, arranged to be operated through a lever-arm 19, and connecting this lever-arm with the tubular slide 5 is a link 20. Normally when the burner is elevated within its chimney the valve 18 is open; but when it is desired to light the burner the cock 17 is opened and the lever-arm 19 is pulled down. This downward movement of the lever-arm gradually closes the by-pass valve 18, allowing, however, a sufficient quantity of gas to flow to the burner to maintain a flame until the burner is again elevated. Simultaneously with the lowering of the lever-arm the tubular slide 5 and burner 6 are also lowered through the medium of the link 20 until the air-opening 12 is closed and the ingress of air into the vertical tube 4 shut off while the burner is being lighted.

In Fig. 3 is illustrated a modified form of burner formed with a perforated dome 22, which extends above the main body of the burner, and in order that the burner may be lowered as far as possible upon the tube 4 the upper end of said tube is shaped to conform to the inner surface of the dome 22 at its center when the burner is lowered, and slots 23 are formed in the end of the tube for the escape of gas to the burner. In this figure also there is shown a somewhat modified form of spring electrode 15, which is attached to the collar 1 by means of a split clamp 24, surrounding and insulated from the block.

Without limiting myself to the precise construction and arrangement of the parts shown and described, what I claim is—

1. The combination with a base adapted to support a chimney and provided with a vertical tube having an air-opening, of a tubular slide carrying a burner and movable longitudinally upon the tube and a second slide adapted to control the air-opening, substantially as described.

2. The combination with a base supporting a chimney, of a burner normally surrounded by the chimney, said burner and base being relatively movable to bring the burner without the chimney and an igniter arranged to light the burner when it is brought without the chimney, substantially as described.

3. The combination with a base supporting a chimney and provided with a vertical tube, of a tubular slide carrying a burner and movable longitudinally upon the tube, said slide constituting an electrode, and a second electrode supported upon the frame in position to make contact with the first electrode during the movement thereof upon the vertical tube, substantially as described.

4. The combination with a base supporting a mantle and a chimney surrounding the mantle, of a burner normally projecting within the mantle, said burner and base being relatively movable to bring the burner without the mantle and an igniter arranged to light the burner when it is brought without the mantle, substantially as described.

5. The combination with a base adapted to support a chimney and provided with a vertical tube, of a tubular slide carrying a burner and movable longitudinally upon the tube, a cock and a by-pass valve controlling the passage through the vertical tube, an operating-arm for the valve, and connections intermediate said arm and the tubular slide for lowering said slide simultaneously with the closing of the valve, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM WESLEY SEELEY.

Witnesses:
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