

No. 791,356.

PATENTED MAY 30, 1905.

R. MOMAND.
GAS BURNER.

APPLICATION FILED JULY 2, 1904.

Fig. 1.

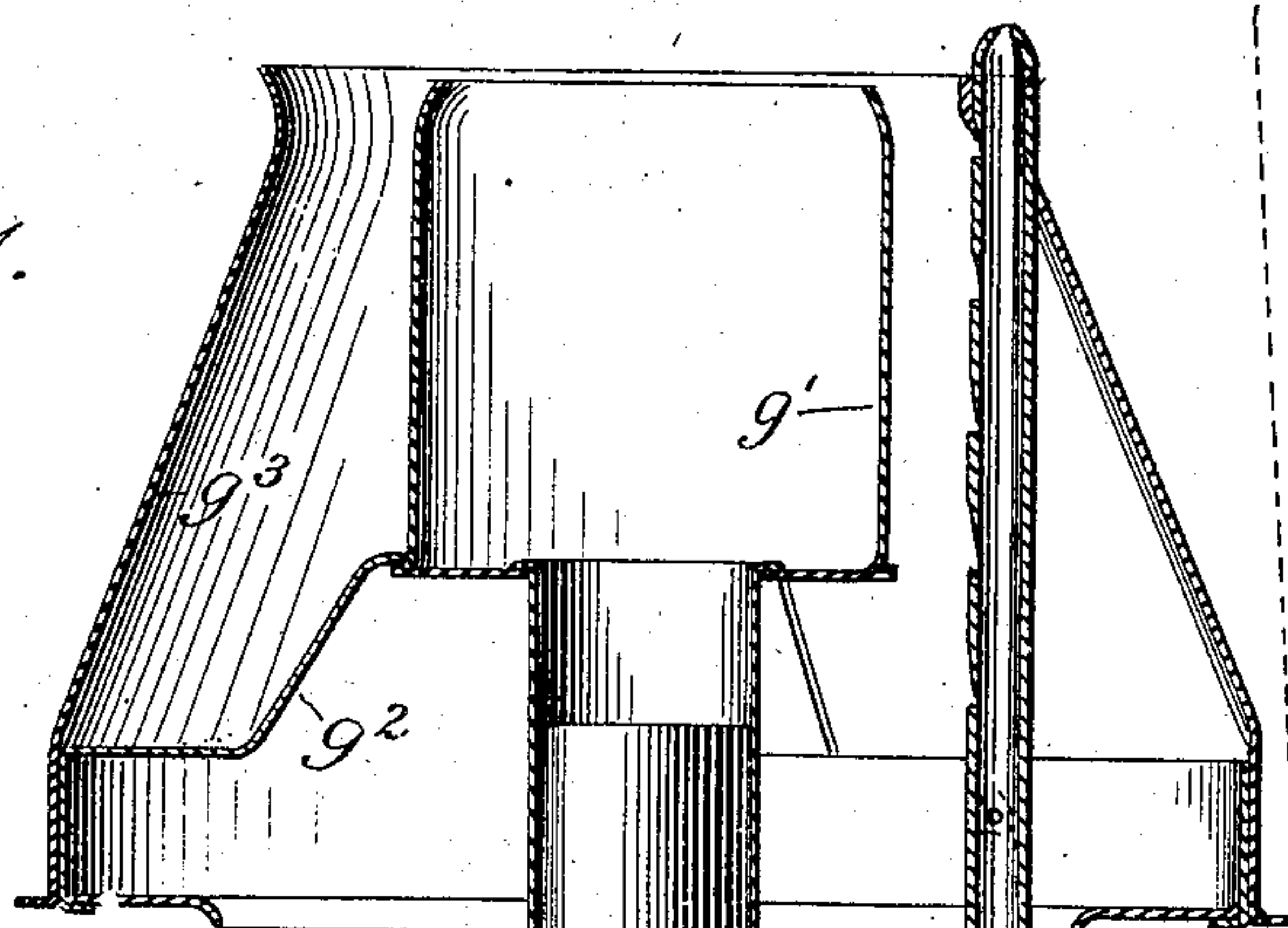


Fig. 2.

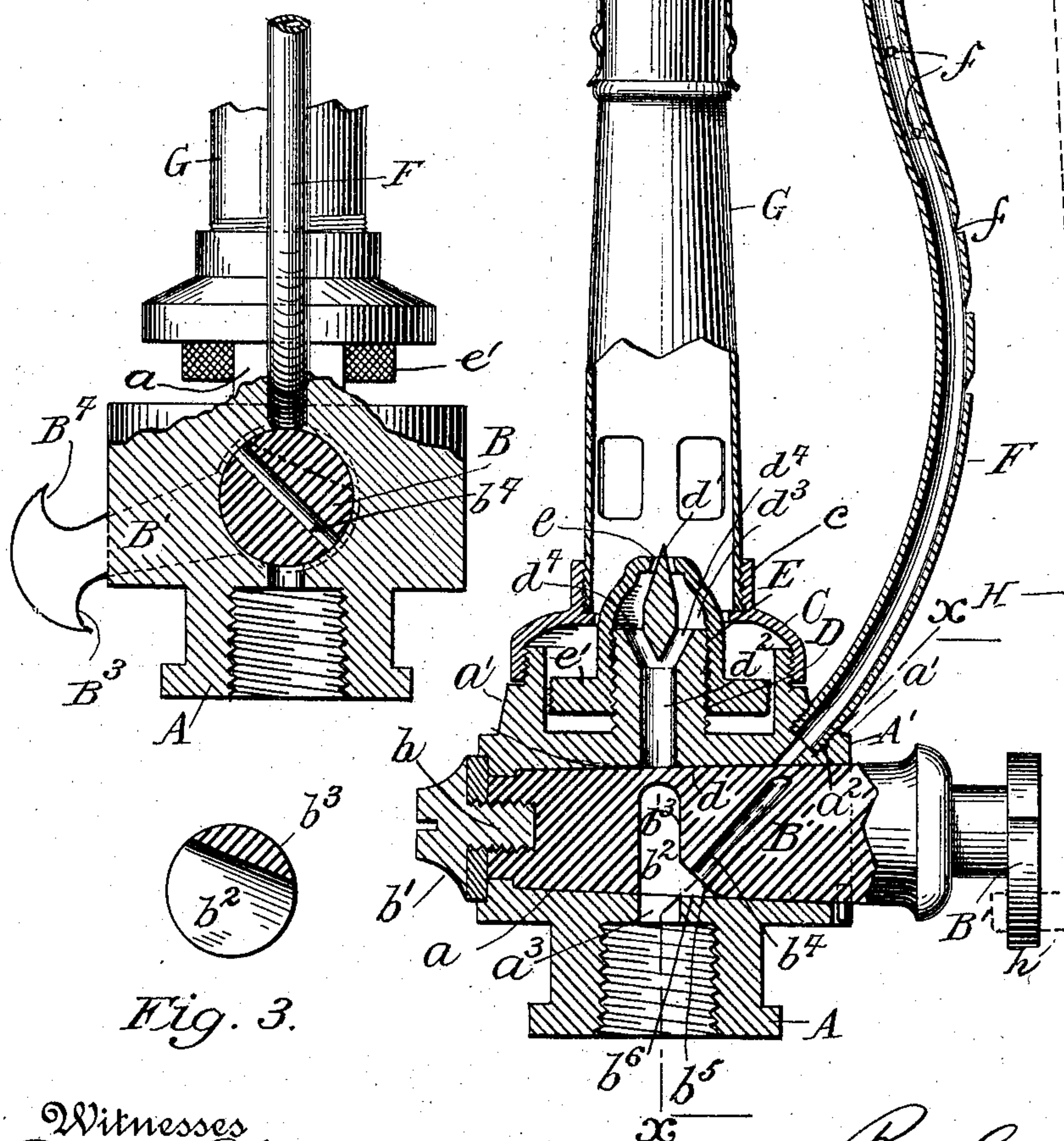


Fig. 3.

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UNITED STATES PATENT OFFICE.

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GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 791,356, dated May 30, 1905.

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To all whom it may concern:

Be it known that I, RAGLAND MOMAND, a citizen of the United States of America, and a resident of the borough of Manhattan, in the city, county, and 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 gas-burners; and it refers particularly to the type known as the "Bunsen" burner as used for street-lighting.

The main features of improvement comprised in my said invention consist in means whereby with a single turning movement of the stop cock or valve controlling the passage of gas to the burner gas is admitted at full pressure to the burner proper and to a burner by-path or igniting-ladder provided with centrally-arranged apertures in the form of a ladder and whereby when the stop-cock is fully turned to completely open the passage to the burner proper in such act the by-path to the igniting-ladder has been opened to charge the latter with fuel and has also been closed.

In the construction of the apparatus aforesaid care has been taken to provide an ample clearance anterior to the openings for the passage of gas to both the burner proper and the igniting by-path in order that full pressure of the gas is instantly available, thereby materially facilitating the prompt ignition of a complete gaseous flow.

The invention further includes the various features of burner construction and arrangement of parts, as will be described hereinafter and pointed out in the claim.

In the drawings accompanying this application, Figure 1 is a vertical sectional view of my improved burner with by-path igniting-ladder. Fig. 2 is a detail sectional view on the line X X of Fig. 1 of that part of the burner construction including the stop-cock, and Fig. 3 is a section through the burner-feeding passage of the stop-cock.

The same letters of reference indicate corresponding parts in the several figures.

The burner proper consists of the vertical interiorly-threaded member A, which is adapted to screw upon a gas-supply tube, (not

shown,) said member A extending upwardly into a circular body portion A', provided with a horizontal tapering circular opening extending therethrough, in which is rotatably fitted a stop-cock, which is composed of a correspondingly-tapered circular member B, having an external actuating member B', which will be particularly described hereinafter. The reduced end of the stop-cock B is provided with an axially-threaded recess, in which is adapted to be fitted the threaded stem b of a nut or cap b'.

Surmounted upon the body portion A' are the opposite beveled shoulders a' a', provided each with an external thread adapted to receive the enlarged interiorly-threaded end of a coupling or reducer C. The upper surface of the body portion A' is provided with an exteriorly-threaded central plug-like portion D, that terminates at its upper end in a tapering or needle point d', while inclosing said plug-like portion, and screwed thereon is an interiorly-threaded thimble E, having at its upper end an orifice e for the reception of the needle-point d' to form a valve controlling the exit of gas, said thimble having at its lower end a knurled nut e', whose periphery is exposed at opposite sides of the shoulders a' a' to render it readily accessible for the purpose of turning the thimble E up or down. A vertical channel d² within the plug-like portion D passes through the plug-like portion D and body portion A', said channel being adapted to aline with a valve-passageway b², provided transversely in the stop-cock B, when the latter is turned accordingly, the solid portion b³, which forms the connecting-web to unite the two parts of the stop-cock that are nearly separated by said passage b², serving to close said channel d² when the stop-cock is turned to register said solid portion b³ thereover. The upper end of the vertical channel d² communicates with a chamber d³ through apertures d⁴ d⁴, said chamber d³ being inclosed by the upper portion of thimble E, from whence escape is had through orifice e as the thimble is moved vertically to provide a passage between the needle-point d' and said orifice.

Extending through the upper surface or shell of body portion A' at a shoulder a' thereof is an inclined threaded aperture a^2 , adapted to receive the lower end of an igniting tube or ladder F. The stop-cock B, which, as aforesaid, is provided with the main gas-passage b^2 , is also pierced with an aperture b^4 , which extends diagonally therethrough from a point b^5 , where the material of the stop-cock bordering on the main passage b^2 is cut away to form a clearance b^6 , that fully exposes said aperture b^4 to the inflow of gas through an opening a^3 in the lower body portion A'.

G indicates a Bunsen tube exteriorly threaded at its lower end and adapted to be screwed into the reduced portion c of coupling C, said tube G being provided with a tubular extension g , that fits thereover, and carrying at its upper end an annular seat g' for the usual mantle-carrier. (Not shown.) Attached to the extension g are a series of radial arms g^2 , which support a skirt g^3 . The igniting tube or ladder F extends upwardly beside the burner-tubes and is partly inclosed at its upper end by the skirt g^3 . A succession of perforations f are formed in said igniting tube or ladder, being disposed semispirally about the same, the lowermost perforations f facing outwardly and the succeeding perforations being located in manner to form a semispiral line toward the uppermost openings, which are faced inwardly and adapted to impinge jets of flame toward the point where gas issues from the burner.

As previously stated, the stop-cock B is provided with an actuator B', this consisting of a right-angular arm which is provided at its free end with the opposite hook-like en-

gaging portions B³ B⁴. These are in the position indicated in Fig. 2 when gas-supply is shut off from both the main burner and the by-path b^4 ; but when a torch, as H, having a spur h , is projected through the base of the lamp (it being understood that these burners are intended to be used with lamps that are elevated on posts for street use) the spur h will engage with the hook B³ and will force upwardly the arm B'. In this operation the stop-cock B is turned to register the passage b^2 and its clearance b^6 with the opening a^3 , admitting gas through the channel d^2 to the burner and during the initial degrees of the turning movement of said stop-cock admitting gas through the by-path b^4 to the igniting tube or ladder F; but with the continuation of said turning movement of the stop-cock the admission of gas to by-path b^4 is shut off without diminishing the extent of the passage b^2 leading to the burner.

Having now described my invention, I declare that what I claim is—

In a gas-burner, a hollow body portion having a gas inlet, outlet, and by-path orifice, and a stop-cock rotatably fitted within said body portion, said stop-cock having a transverse passage adapted to aline with the inlet and outlet, and having a diagonal by-path passage adapted to aline with said orifice; together with a clearance formed in said stop-cock, off the transverse passage, at the entrance to said by-path orifice.

Signed at New York this 22d day of June, 1904.

RAGLAND MOMAND.

Witnesses:

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