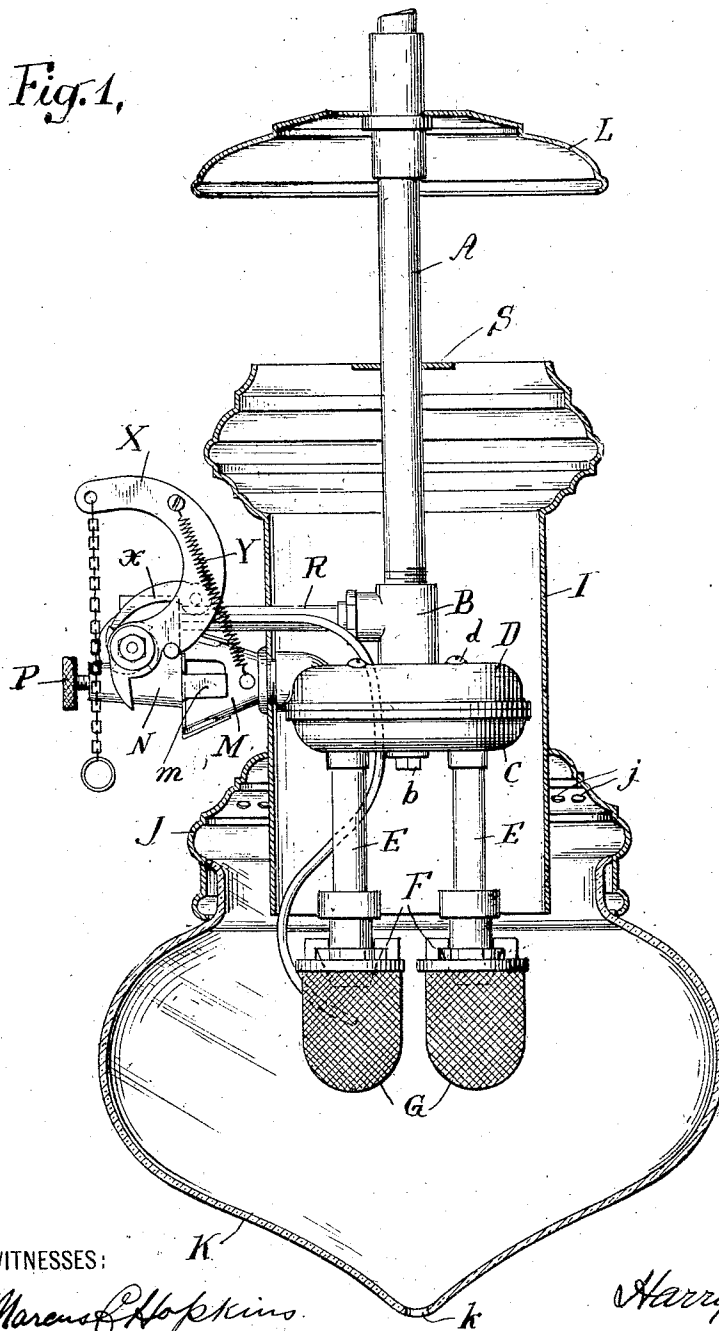


Patented Jan. 7, 1913

2 SHEETS-SHEET 1.

1,049,769.

Fig. 1.



WITNESSES:

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INVENTOR

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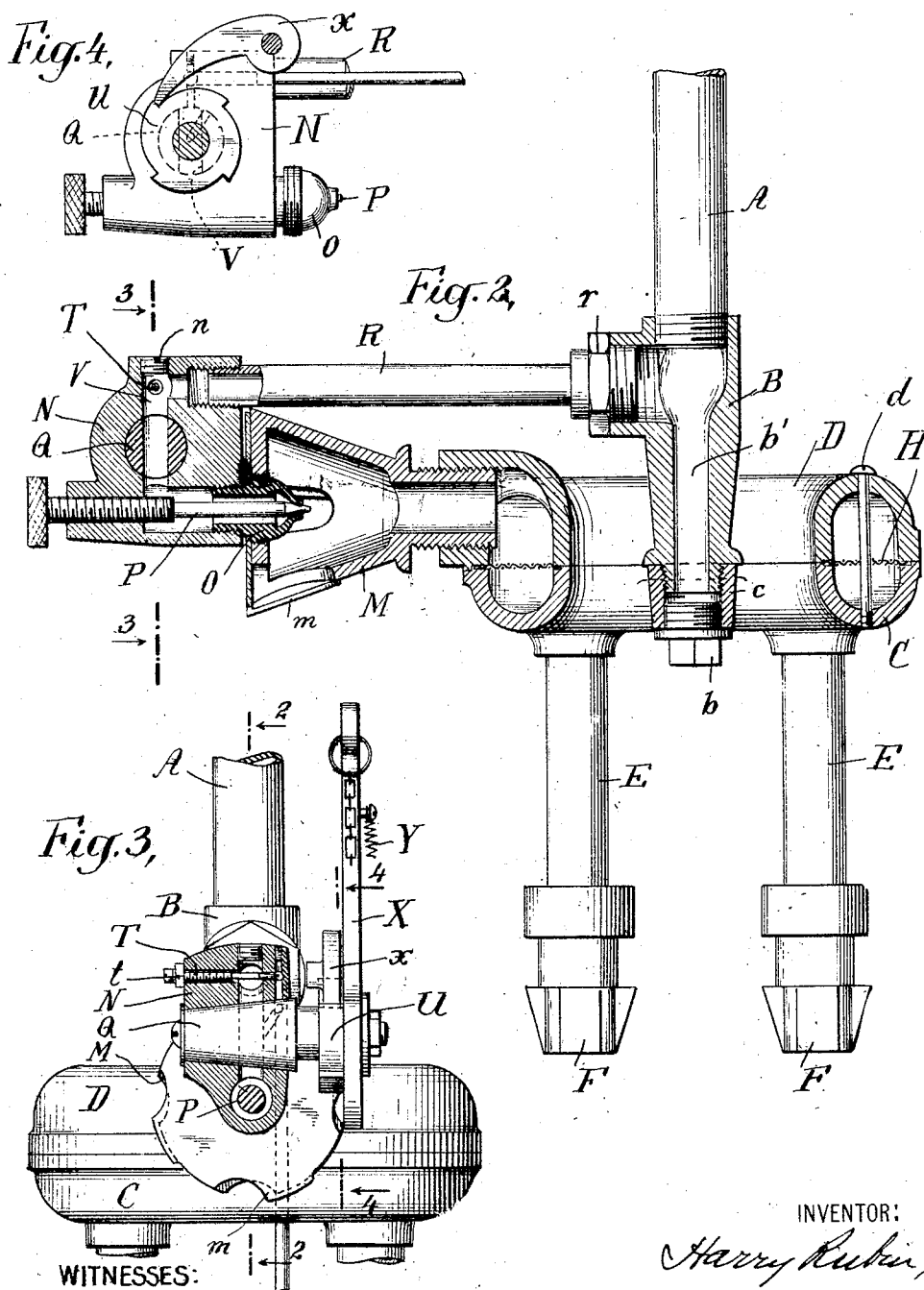
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1,049,769.

Patented Jan. 7, 1913.

2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

HARRY RUBIN, OF NEW YORK, N. Y.

GAS ARC-LAMP.

1,049,769.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed September 22, 1911. Serial No. 650,816.

To all whom it may concern:

Be it known that I, HARRY RUBIN, a citizen of the United States; residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Gas Arc-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is directed to a general arrangement, organization and construction of gas lamps, the novel features of the invention being particularly suited to multiple burner lamps of the inverted type.

The invention resides in the several features hereinafter particularly described and claimed and embodied in the lamp illustrated in the accompanying drawing in which—

Figure 1 is an elevation of a multiple burner gas lamp in which the casing and globe are shown in section exposing the interior; Fig. 2 is a sectional view of the burner, manifold and connected piping; Fig. 3 is a section taken in the direction of the arrows on line 3—3 of Fig. 2; and Fig. 4 is a section taken in the direction of the arrows on line 4—4 of Fig. 3.

Referring to the drawings, the lamp is supported by the supply pipe A which is screwed into the upper end of a fitting B, the lower end of which fitting B is in turn screwed into a tapped hole in the center of a bridge c extending across the lower half C of a hollow manifold ring which is preferably concentric with the pipe A. A plug b is screwed upwardly into the tapped hole in the bridge c and serves as a closure for a well b' in the fitting B the purpose of which will be more fully described hereinafter. A suitable number of nipples E are screwed into bosses on the under side of the lower half C of the manifold, these nipples E being equally spaced about the ring and provided upon their lower extremities with refractory burners F upon which inverted mantles G are placed. An upper half D of the manifold ring is placed upon the lower half C, an annular screen H being interposed between the two halves dividing the annular space within the manifold into upper and lower chambers. The two halves C and D are secured together by a suitable

number of screws d. A casing is provided for the lamp which casing consists in part of a cylindrical flue or chimney I which extends upwardly from a point just above the burners F and incloses the ring manifold and nipples E. An ornamental hood J surrounding the lower end of the flue I serves to hold a glass globe K. Perforations j are provided in the hood J for the exit of heated air and a small perforation k at the lowermost part of the globe K affords entrance for air to the globe. A heat bell L is supported on the supply pipe A some distance above the upper end of the flue I. An air funnel M of a bunsen has a threaded end which is passed through an aperture in the wall of the flue I and is screwed into a boss on the upper half D of the manifold ring and this funnel is provided with air inlet apertures which may be closed or opened to any desired degree by the rotation of a shutter m mounted upon the funnel.

A valve housing N is connected to the air funnel M by a threaded nipple O which is provided with a jet opening adapted to be regulated by the needle valve P threaded into the housing N in alinement with nipple O. A cock Q is mounted in the valve housing N to open and close a passageway V which communicates with the jet opening in nipple O. The outer end of the passageway V is closed by a threaded plug n which may be removed to give access to the passageway V in order that it may be cleaned. A pipe R is screwed into the valve housing N and opens into the passageway V above the cock Q. This pipe passes through an opening in the wall of the flue I and is connected by a union r to the upper end of the fitting B. The casing is mainly supported at the junction of the funnel M and the manifold ring and by a bridge piece S at the top of the flue I engaging the pipe A.

A pilot light leads from the passageway V above the cock Q to the burners and a needle valve T provided with a lock nut t adjusts the constant flow of gas there-through. A ratchet U is mounted upon the stem of the cock Q and is actuated by a pawl x on a spring returned lever X in such manner that the cock Q opens and closes the passageway V during alternate down strokes of the lever X.

A four toothed ratchet wheel U is mounted fast on the cock Q and a pawl x carried

by the lever X engages one tooth of the ratchet U and turns the cock Q one-quarter revolution each time the lever X is moved downwardly. The lever X is automatically returned by a spring Y after each downward movement.

The manner in which the gas is led to the burners is as follows: Flowing in through the supply pipe A the gas is directed into the well *b'* where any particles that may have been carried by the gas collect and are not carried into the needle valves and small parts from which their removal would be troublesome. In order to remove such particles and dirt as may from time to time collect in well *b'* it is only necessary to remove plug *b* which is so located as to be easily accessible. After having deposited any dirt or particles that it may have carried, in the well *b'* the gas flows through the pipe R into the upper end of the passageway V. From this point gas flows through the adjustable needle valve T to the pilot light pipe and the flow of gas to the pilot light is not interrupted by the operation of the cock, Q. However if at any time it is desired to discontinue the supply of gas to the pilot light this can be done by entirely closing the needle valve T. The supply of gas for the burners is admitted to the lower end of the passageway V when the cock Q is opened and passing by the needle valve P is directed through the air funnel M and from thence passes together with a suitable quantity of air drawn from without the casing of the lamp, into the manifold ring above the screen H. The chamber within the manifold ring and above the screen H first fills with gas and air distributing the gas and air before they pass downwardly through the screen H and even distribution of well mixed gas and air is effected by the time the mixture reaches the mouths of and passes down the nipples E leading to the burners. The relatively large area of the screen H permits the mixture to pass quietly to the burners and prevents roaring. It will be noted that the arrangement of the several parts as shown is peculiarly advantageous in lamps of this character, affording central support by the supply pipe, easy access to the drip and dirt collecting well and a thoroughly practical assemblage of the principal parts, well adapted to the ornamental designs so essential in this type of lamp.

It is obvious that various minor changes in form and detail may be made without departing from the spirit of the invention.

Having thus described my invention what I claim is:

1. In a gas lamp, the combination of a supporting vertical gas supply pipe, a catch-all well forming a downward continuation of said supply pipe, a burner having a

supporting member provided with an opening having a removable closure in the lower end of said opening, said catch-all well being connected with the upper end of said opening in the supporting member, whereby access may be had to said catch-all well, substantially as described. 70

2. In a gas lamp, the combination of an upright flue, a gas supply pipe extending downwardly into said flue and terminating in a well, a ring manifold surrounding said well and supported therefrom, a branch gas duct leading laterally from said supply pipe through the wall of said flue to the outside thereof, an air and gas duct leading from outside said flue through the wall thereof to said manifold, and controlling and mixing devices located outside said flue and connecting said ducts; substantially as described. 80

3. In a gas lamp, a supporting vertical gas supply pipe, a catch-all well forming a downward continuation of said supply pipe, a ring manifold concentric with and surrounding said well, a casing for said lamp, a conduit branching from said supply pipe above said catch-all well passing outside said casing and again passing into said casing to connect with said manifold, a bunsen located in said conduit outside said casing, and a removable closure at the lower extremity of said catch-all well, said catch-all well extending through and projecting below said manifold to render said closure accessible; substantially as described. 85 100

4. In a gas lamp, a central gas supply pipe, a fitting mounted upon the lower end of said supply pipe, said fitting providing a catch all well with a gas outlet above said well, a ring manifold supported upon said fitting and concentrically surrounding the same, a removable closure for the lower extremity of said catch all well, and a plurality of burners depending from said manifold, substantially as described. 105 110

5. In a gas lamp, the combination of an upright flue, a gas supply pipe extending downwardly into said flue and terminating in a well, a ring manifold surrounding said well and rigidly secured thereto and supported therefrom, a branch gas duct leading laterally from said supply pipe through the wall of said flue to the outside thereof, an air and gas duct leading from outside said flue through the wall thereof to said manifold and rigidly connected thereto, and controlling and mixing devices located outside said flue and connecting said ducts, said controlling and mixing devices comprising a valve housing consisting of a single casting, a gas cock mounted in said housing, a pilot light regulating valve mounted in said housing in advance of said cock, a bunsen located outside said flue and connected to supply said manifold with gas and air, and 115 120 125 130

a bunsen regulating valve mounted in said housing beyond said cock; substantially as described.

5 6. In a gas lamp, a burner and a single bunsen connected to supply said burner with gas and air, a one piece valve housing, a gas cock operatively mounted in said housing, a pilot light regulating valve operatively mounted in said housing in advance of said
10 cock and a bunsen regulating valve operatively mounted in said housing beyond said cock; substantially as described.

15 7. In a gas lamp, the combination of a flue or chimney, a gas supply pipe extending downwardly into said flue, a valve housing upon the exterior of said flue and a gas cock mounted therein, a laterally extending gas duct connecting said supply pipe with the valve housing and extending through the
20 side of said flue, a burner located at or near the lower end of said flue and pipe connections between said burner and said valve housing, said pipe connections extending laterally through the side of said flue and

serving to support the same, and a brace secured between said supply pipe and flue, substantially as described.

8. In a gas lamp, the combination of a flue or chimney, a gas supply pipe extending downwardly into said flue, a valve housing
30 upon the exterior of said flue and a gas cock mounted therein, a laterally extending gas duct connecting said supply pipe with the valve housing and extending through the side of said flue and serving to support the
35 same, a burner located at or near the lower end of said flue and pipe connections between said burner and said valve housing, and a brace secured between said gas supply pipe and said flue, substantially as described.
40

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

HARRY RUBIN.

Witnesses:

MARCUS C. HOPKINS,
AGNES BELL.