No. 882,967. PATENTED MAR. 24, 1908.

G. ROBSON.

GAS LIGHTING AND EXTINGUISHING MECHANISM.

APPLICATION FILED AUG. 24, 1906.

2 SHEETS—SHEET 1.

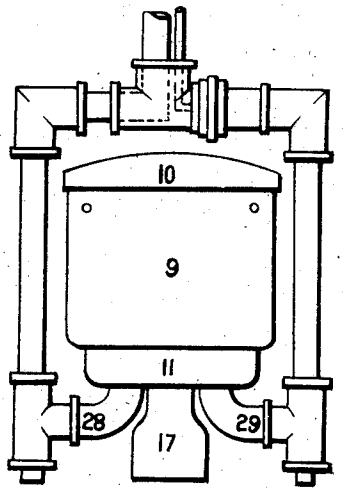


FIG. 1.

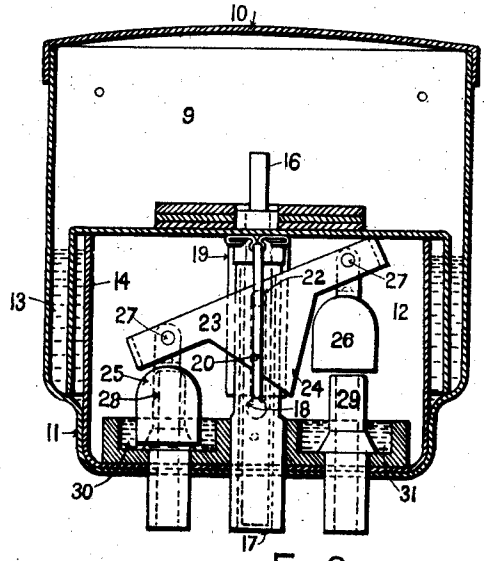


FIG. 2.

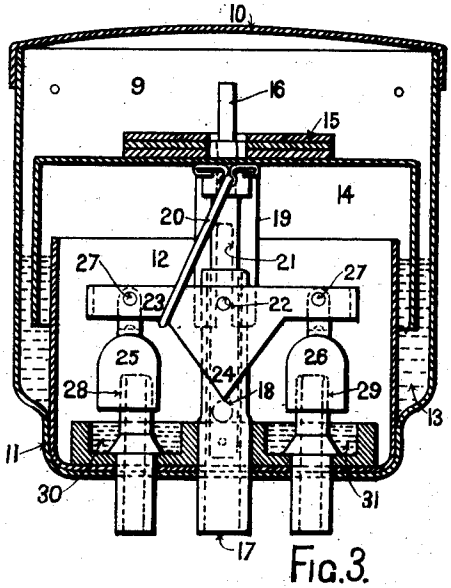


FIG. 3.

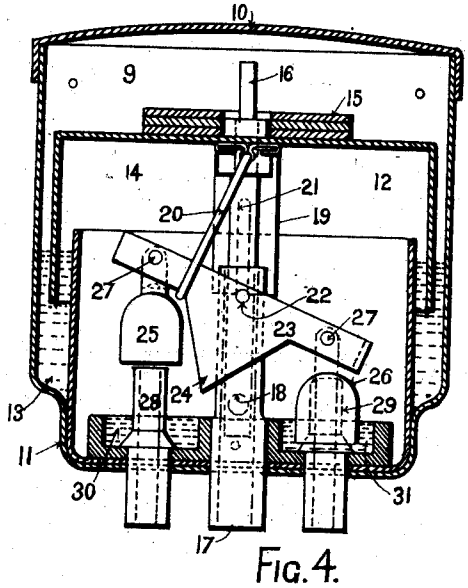


FIG. 4.

Witnesses

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2 SHEETS—SHEET 2.

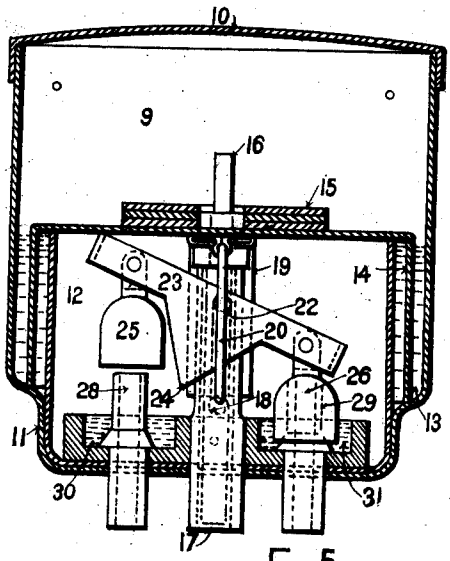


FIG. 5.

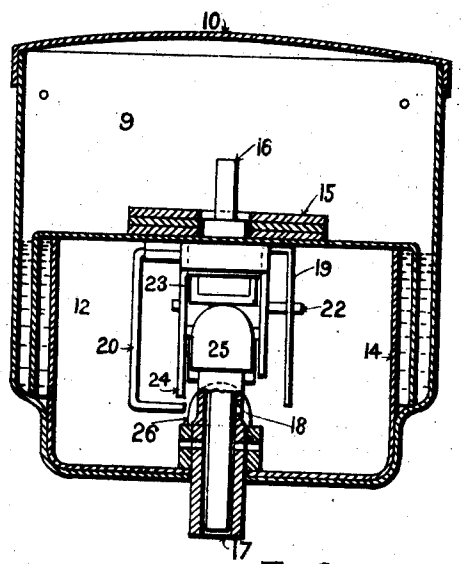


FIG. 6.

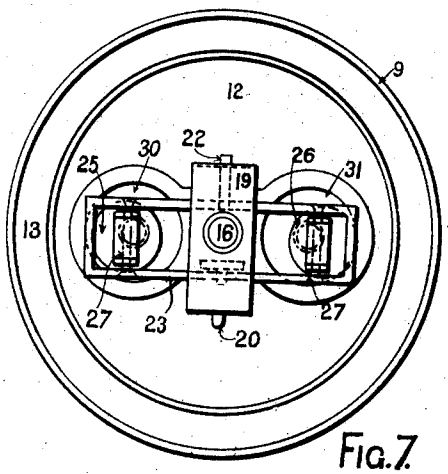


FIG. 7.

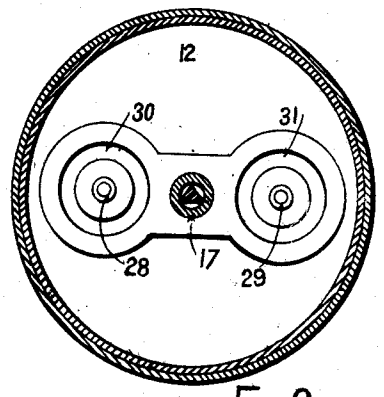


FIG. 8.

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GAS LIGHTING AND EXTINGUISHING MECHANISM.

No. 882,967. Specification of Letters Patent. Patented March 24, 1908.

Application filed August 24, 1906. Serial No. 331,900.

To all whom it may concern:

Be it known that I, GEORGE ROBSON, a subject of the King of Great Britain, residing at 114A Pitt street, Sydney, in the State of New South Wales, in the Commonwealth of Australia, mining agent, have invented certain new and useful Improvements in Gas Lighting and Extinguishing Apparatus; 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.

This invention relates to a gas lighting and extinguishing apparatus operated and controlled by the variation of the gas pressure in the mains, the object of the invention being to so arrange the operable parts of the apparatus that they will automatically and positively perform their function under all ordinary conditions of use.

In carrying out this object, I employ a gas holder having a valve controlled gas inlet, connected with the gas main, and two valve controlled gas outlets, one of which is connected with the pilot light, and the other with the main gas burner, and couple together the controlling valves for the gas outlets by a pivoted arm, actuated by the movable cover for the gas holder as hereinafter fully set forth and particularly pointed out in the claims.

For a full understanding of the invention reference is to be had to the following description, and to the accompanying drawings, in which,

Figure 1 is an exterior elevation of the apparatus. Figs. 2, 3, 4 and 5, are vertical sections of the apparatus showing the operable parts in four different positions. Fig. 6, is a vertical section of the apparatus taken at right angles to the section shown in Figs. 2, 3, 4 and 5. Fig. 7, is a horizontal section through the apparatus, taken immediately below the plane of the top of the gas holder, and Fig. 8, is a horizontal section taken immediately above the bottom of the gas holder.

Like characters of reference refer to like parts throughout the specifications and drawings.

The apparatus consists of a gas holder consisting of, a body part 12, and a movable bell shaped cover 14. Centrally located in the body part 12 is a hollow standard 17, extending from near the top of the body part through the bottom thereof, to be connected with the gas main, and having an annular bore 18 through which the gas may pass from the gas main to the gas holder. At the sides of the hollow standard 17, are gas outlet tubes 28 and 29, extending through the bottom of the body part, the top of the gas tubes 28 and 29 being preferably at a lower elevation than the top of the hollow standard 17. Surrounding the gas outlet tubes 28 and 29, are troughs 30 and 31 for a sealing fluid. On the inner ends of the gas outlet tubes 28 and 29 are movable hoods 25 and 26 which act as valves to control the passage of the gas through the gas outlet tubes. The movable hoods, 25 and 26 are pivotally connected to a rocking arm 23 pivoted to the standard 17, by a pivot stud 22, located intermediate the pivotal connections 27, of the rocking arm with the hoods 25 and 26. Extending downwardly from the rocking arm 23, is a triangular projection 24, the apex of which is alined with the pivot stud 22. Contained within the bore 18 of the standard 17, is a vertically movable rod 16, substantially triangular in cross section to provide a passage for the gas between itself and the annular bore of the standard 17. The movable rod 16 is connected to and projects above the bell shaped cover 14 to engage with the top 10 of the exterior casing 9 and arrest the upward movement of the bell shaped cover. The rim of the bell shaped cover 14 surrounds the body part 12, and extends nearly to the bottom thereof. Inclosing the gas holder is an exterior casing 9, which extends above the top of the body part 12 a distance equal, or nearly so, to the depth of the rim of the bell shaped cover 14. The lower part 11, of the exterior casing 9, is in contact with the lower part of the external surface of the body part 12 to form a trough 13, for the sealing fluid for the bell shaped cover 14. Secured around the rod 16, are weights 15, bearing on the top surface of the bell shaped cover 14. The weights 15, can be increased or diminished to correspond to the approximate pressure of the gas in the mains. Secured to the under side of the bell shaped cover 14, is a downwardly extending arm 19 formed with a slot 21 for the pivot stud 22, and by means of which the pivot stud holds the cover 14 against rotation. Pivotally connected to the arm 19, is a link 20 which embraces the projection 24, of the rocking arm 23, and moves alternately from one side to the other

thereof during the successive descents of the bell shaped cover 14, to rock the arm 23, and control the position of the hoods for the gas outlet tubes 28 and 29. The gas enters the gas holder from the bore 18 of the standard 17, and after filling the body part 12, raises the bell shaped cover 14, until the top of the rod 16, comes into contact with the top 10 of the exterior casing.

In Fig. 2, the top of the bell shaped cover 14 is shown to be in contact with the body part 12 and the hood 25 is lowered to close the passage of the gas from the gas holder through the gas outlet tube 28, to the main gas burner, and the hood 26 is raised to open the passage of the gas from the gas burner through the gas outlet tube 29, to the pilot burner, this being the position of the parts when a diminutive flow of gas is being admitted to the gas chamber. Fig. 3, shows the position of the rocking arm and operable parts when the cover 14 is partly raised. In this view the hoods 25 and 26, are lifted by the rocking arm 23, from the gas outlet tubes 28 and 29 to permit the gas to simultaneously pass to the main gas burner and pilot burner.

Fig. 4, shows the bell shaped cover 14 raised into a higher position than in Fig. 3, with the rocking arm 23, in the opposite inclined position to that shown in Fig. 2, the hood 26, in this view being positioned to close the passage of the gas from the gas holder through the gas outlet tube 29 to the pilot burner and the hood 25 being raised to open the passage from the gas holder through the gas outlet tube 28 to the main gas burner.

Fig. 5, shows the bell shaped cover 14 lowered into the position shown in Fig. 2, with the rocking arm 23 and the hooks 25 and 26 in the same position as shown in Fig. 4, with the link 20 on the opposite side of the triangular projection 24, to that shown in Fig. 4, so that the next upward movement of the bell shaped cover will actuate the arm 23, and move it and the hoods 25 and 26, into the position shown in Fig. 2, to cut off the supply of gas from the gas holder to the main gas burner, and open the supply from the gas holder to the pilot burner. In this way by increasing and diminishing the volume of gas in the gas holder the supply of gas to the main gas burner and pilot burner, can be controlled from any station at any distance from the place of ignition.

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

A gas lighting and extinguishing apparatus, comprising a gas chamber, a movable cover therefor, a tubular standard secured to the bottom of the gas chamber, two liquid seals in the gas chamber, one on either side of the tubular standard, and two gas outlet pipes for the gas chamber extending through the bottom of the seals to a point above the level of the liquid in the same, one of the outlet pipes leading to the main burner and the other leading to the pilot burner, in combination with, a trunnion secured to the tubular standard, a rockable beam mounted at its center on the trunnion, so that its arms can extend above the outlet pipes and having a centrally located angular projection extending downwardly therefrom, two hoods pivotally hung from the arms of the beam above the outlet pipes, a guide rod slidably mounted in the tubular standard a downwardly extending bracket attached to the guide rod, and guided by the trunnion, and a hanging link pivoted to the bracket and engaging under the angular projection of the beam, alternately passing to the right and left of the angular projection to rock the latter in one direction or the other and cause a hood to alternately close one or the other of the outlet pipes during the movements of the movable cover.

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

GEORGE ROBSON.

Witnesses:
CHARLES HATTON,
MAMIE MARKS.