

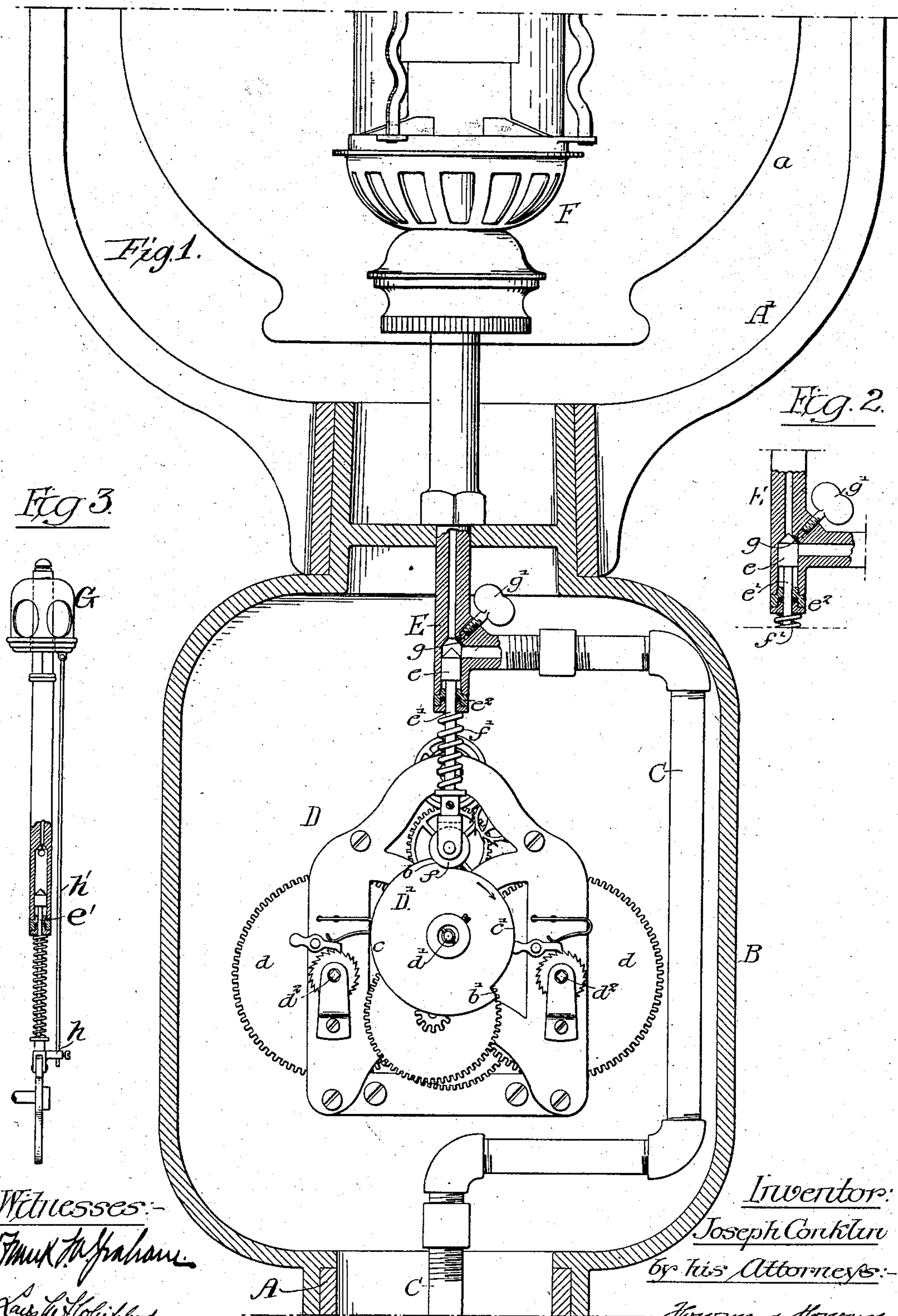
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J. CONKLIN.
TIME GAS LIGHTING APPARATUS.

APPLICATION FILED APR. 10, 1901.

NO MODEL.



Witnesses:-
Frank H. Graham
Charles H. Holbrook

Inventor:
Joseph Conklin
by his Attorneys:-
Howard & Howard

UNITED STATES PATENT OFFICE.

JOSEPH CONKLIN, OF PHILADELPHIA, PENNSYLVANIA.

TIME GAS-LIGHTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 751,381, dated February 2, 1904.

Application filed April 10, 1901. Serial No. 55,204. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CONKLIN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Automatic Gas-Lighting Apparatus, of which the following is a specification.

My invention relates to certain improvements in automatic gas-lighting apparatus, and is particularly adapted for lighting street-lamps.

The object of my invention is to provide simple automatic means which will require very little attention and which will automatically light the lamps at a certain predetermined hour and automatically extinguish said lights at a certain predetermined hour.

My invention is used in connection with a pilot-light.

Referring to the accompanying drawings, Figure 1 is an enlarged sectional view of the box carrying the light-controlling mechanism, showing the main gas-valve open. Fig. 2 is a sectional view of a portion of the structure, showing the main valve closed; and Fig. 3 is view illustrating a modification embodying my invention.

A is the lamp-post, carrying the box B, within which my improved automatic mechanism for lighting and extinguishing the lamp is arranged.

A' is the frame for holding the globe *a* and the top of the lamp, and this frame, globe, and top may be of any desired shape, and the box B may be applied to any portion of a lamp-post or in any convenient position with respect to the burner without departing from my invention.

Passing up from the post A to the box B is a gas-supply pipe C, which is curved in the present instance, as shown in Fig. 1, to pass around the automatic mechanism and is coupled to the valve-casing E, which in turn is coupled to the burner F. This burner may be of the ordinary form or may be in the form of a Welsbach burner, as illustrated in Fig. 1, provided with the usual mantle.

D is the clockwork mechanism by which the valve *e*, within the casing E, is operated, and this clockwork mechanism may be of any form

desired. In the present instance *d d* are the two spring-drums, which are coupled to a shaft *d'* through a train of gears, as clearly shown, and a controlling-cam D' is mounted on and secured to the shaft *d'* in any suitable manner.

Winding-spindles *d² d²* are provided whereby the springs in the boxes *d d* can be wound, one winding being sufficient in the present arrangement to cause the mechanism to operate automatically for a period of ten days without rewinding.

The valve *e* has a spindle *e'*, which passes through a stuffing-box *e²* in the casing E, and on the lower end of this spindle is a roller *f*, which bears against the periphery of the cam D', a spring *f'* tending to hold the roller *f* against said cam. This cam D' is stepped at *b b'*, making two concentric faces—one farther from the center of rotation than the other, so that when the roller *f* is on the surface *c* the valve *e* is in the closed position, and when the roller *f* is resting on the surface *c'* the valve is opened, as illustrated in Fig. 1.

A by-pass *g* leads from the passage on one side of the valve-seat to the passage on the opposite side of the valve-seat, and the amount of gas passing through this by-pass is regulated by a needle-valve *g'*, having a threaded stem, so that by turning this valve the amount of gas that passes through the by-pass can be regulated, or it can be entirely cut off, as desired.

It will be understood that the cam D' can be detached and other cams secured to the shaft *d'* when it is desired to lengthen or shorten the time the light is to burn. During the winter months a cam should be used that will give a longer illumination, owing to the fact that the nights are longer than in the summer-time, and the cam to be used in the summer should be regulated accordingly. In some districts it is not necessary to illuminate the streets after a certain hour, and the cams can be shaped to agree with the regulations in this respect.

During the time the cam-surface *c* is traveling in contact with the roller *f* only a small pilot-light is burning, sufficient to ignite the gas when the full head is on, and this pilot-light

can be protected in any suitable manner, so that it will not be extinguished by strong winds or sudden drafts. In the Welsbach light the ordinary hood will protect the light, whereas when the ordinary fish-tail burner is used a hood G is preferably provided for this purpose.

I have shown in Fig. 3 a modification embodying my invention, in which the device shown in Fig. 1 is attached to a movable hood G for use with an ordinary fish-tail burner. The position of this hood is controlled by the valve-spindle e' , the latter having an apertured lug h , in which is adjustably mounted a stem or rod h' , supporting said hood G. In other respects the mechanism shown in Fig. 3 is the same as that illustrated in Fig. 1.

By my invention it will be seen that a very simple device can be used for automatically lighting and extinguishing street-lamps, so that an attendant is only required to wind the mechanism once during a period of a week or ten days, and this attendant at the same time can clean the lamps and the globes. It will thereby be seen that the services of a lamp-lighter is dispensed with and a considerable amount of gas is saved, owing to the fact that all the lights in the city can be turned on simultaneously and extinguished simultaneously, whereas by the former method of lighting by means of a lamplighter some of the lights were started long before the time necessary to illuminate the streets, and the same is the case where when the lights have to be extinguished by an attendant they burn considerably longer than necessary.

I claim as my invention—

1. The combination in an automatic gas-lighting apparatus, of the burner, a gas-supply pipe having passages at an angle to each other, a main valve controlling the admission of gas from said pipe to the burner, said valve having a seat within the gas-supply pipe at the junction of the passages within the same, clockwork mechanism having a cam controlling the position of the main valve, the seat of said valve having a groove forming an aux-

iliary gas-passage to support a reduced main flame when the main valve is closed, and a threaded member carried by the wall of the main gas-supply pipe, said pipe having an aperture in line with the groove in the valve-seat, and said threaded member having a reduced end entering said aperture and forming a valve to control said auxiliary gas-passage when the main valve is closed.

2. The combination in an automatic gas-lighting apparatus, of the burner, a gas-supply pipe having passages at an angle to each other, a main valve controlling the admission of gas from said pipe to the burner, said valve having a seat within the gas-supply pipe at the junction of the passages within the same, the seat of said valve having a groove forming an auxiliary gas-passage to support a reduced main flame when the main valve is closed, a threaded member carried by the wall of the main gas-supply pipe and arranged at a right angle to the wall of the valve-seat, said wall having an aperture in line with the groove and said threaded member having a reduced portion entering said aperture and serving as a valve to control the auxiliary gas-passage when the main valve is closed, clockwork mechanism having a cam controlling the position of the main valve, a stem carried by said valve, the lower end of which is in operative engagement with the cam, a spring for keeping the main valve normally open and the end of its stem in operative engagement with the cam, a lug carried by the end of the valve-stem, a hood for the burner, and a rod adjustably secured to said lug and supporting the hood for the burner, such construction providing for the raising of the hood to guard the reduced main flame simultaneously with the closing of the main valve.

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

JOSEPH CONKLIN.

Witnesses:

WILL. A. BARR,
JOS. H. KLEIN.