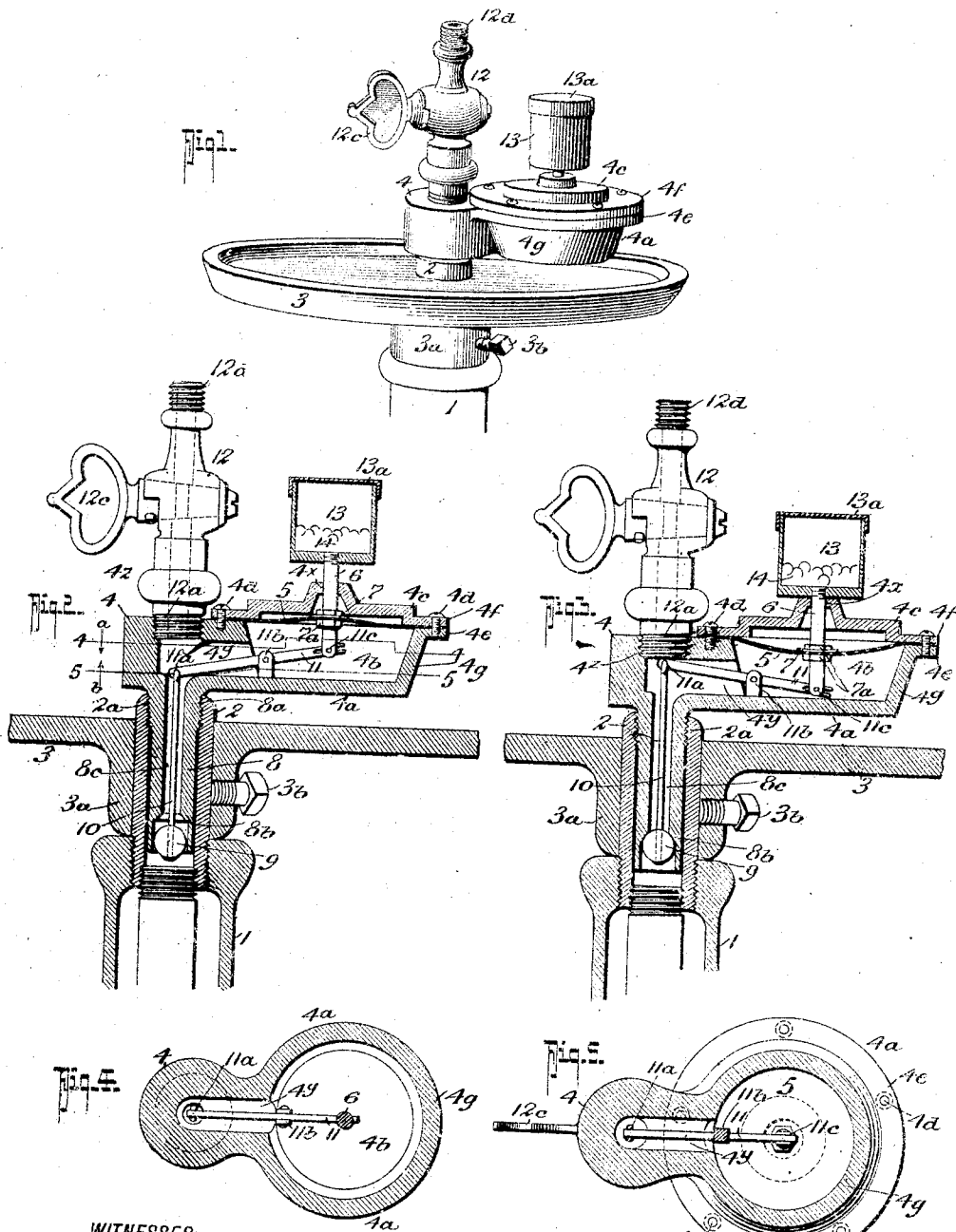


No. 883,262.

PATENTED MAR. 31, 1908.

S. WELLS.  
GAS STREET LIGHT EXTINGUISHER.  
APPLICATION FILED JULY 5, 1907.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

STERLING WELLS, OF SCHALLER, IOWA.

## GAS STREET-LIGHT EXTINGUISHER.

No. 883,262.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed July 5, 1907. Serial No. 382,337.

*To all whom it may concern:*

Be it known that I, STERLING WELLS, residing at Schaller, in the county of Sac and State of Iowa, have invented a new and Improved Gas-Street-Light Extinguisher, of which the following is a specification.

My invention relates to certain new and useful improvements in automatic extinguishers for gas burners, and it particularly relates to an improved apparatus for extinguishing simultaneously the gas at a plurality of street lamps without extinguishing or cutting out the supply of gas to private consumers.

In its generic nature the invention embodies a valve mechanism connected with the burner stop-cock and the gas supply pipe, which valve mechanism includes a pressure controlled valve and a weighted member for normally holding such valve closed.

In its more detail nature the invention embodies certain novel features of construction, combination and arrangement of parts, all of which will be first described in detail, and then be specially pointed out in the appended claims, reference being had to the accompanying drawings, in which:

Figure 1, is a perspective view of my invention applied for use, the lamp globe and burner being removed. Fig. 2, is a central, vertical longitudinal section thereof showing the position of the parts when the gas is flowing through the burner cock while the lamp is lighted. Fig. 3, is a similar view showing the position of the parts after the automatic valve has been closed. Fig. 4, is a horizontal section on the line 4—4 of Fig. 2, looking in the direction of the arrow *a*. Fig. 5, is a section on the line 5—5 of Fig. 2, looking in the direction of the arrow *b*.

Referring now to the accompanying drawings in which like letters and numerals of reference indicate like parts in all of the figures 1 designates the lamp-post, which may be of any approved construction, and from the upper portion of which the gas tube 2 projects. The tube 2 is internally screw threaded at 2<sup>a</sup> for a purpose presently to be explained.

3 designates the globe supporting base which has a hub 3<sup>a</sup> secured to the pipe by a set screw 3<sup>b</sup>, as shown.

4 designates my improved automatic cut-off and valve controlling mechanism which comprises a casing 4<sup>a</sup> inclosing a gas cham-

ber 4<sup>b</sup>, which is normally closed by a lid 4<sup>c</sup> that is secured to the base 4<sup>e</sup> by screws 4<sup>d</sup> passing through the flanges 4<sup>e</sup> and 4<sup>f</sup> of the base and cover respectively.

Secured between the flanges 4<sup>e</sup> and 4<sup>f</sup> of the base and cover is a flexible diaphragm 5 of viscalized leather or other suitable material and centrally the diaphragm 5 is apertured to permit passage of the shaft 6 which is secured to the diaphragm by a plate 7 and nuts 7<sup>a</sup>, as shown, to effect a gas-tight joint. The shaft 6 passes through an aperture 4<sup>x</sup> in the lid 4<sup>c</sup>, which aperture is made sufficiently large to permit access of air in the space between the diaphragm 5 and the lid 4<sup>c</sup>.

8 designates a pipe section or nipple which has a threaded portion 8<sup>a</sup> to screw into the threaded portion 2<sup>a</sup> of the pipe section 2, and which at its lower end has a valve seat 8<sup>b</sup> that communicates with the central bore or passage 8<sup>c</sup> of the pipe section 8. A valve 9 of the "ball" type which is mounted on a valve stem 10, is adapted to close the bore 8<sup>c</sup> of the pipe section 8<sup>a</sup> when seated upon the seat 8<sup>b</sup> in a manner presently explained.

The valve stem or rod 10 is pivotally joined at 11<sup>a</sup> to a lever 11 that is held in the horizontal passage 4<sup>y</sup> that communicates between the bore 8<sup>c</sup> and the chamber 4<sup>b</sup>. The lever 11 is fulcrumed at 11<sup>b</sup> and near its end is pivoted at 11<sup>c</sup> to the shaft 6, so that as the shaft 6 is moved longitudinally the lever 11 will be rocked to open or close the valve 9, as the case may be.

12 designates the gas cock which may be of any approved type and this cock 12 has a threaded portion 12<sup>a</sup> to screw into a socket 4<sup>c</sup> in the casing 4<sup>a</sup> with the bore or passage 12<sup>b</sup> of the cock registering with the passage 4<sup>y</sup>, as indicated.

The cock 12 includes the usual finger operated valve member 12<sup>c</sup> and the threaded portion 12<sup>d</sup> to receive the burner, (not shown). Secured to the shaft 6 is a receptacle 13 having a removable lid 13<sup>a</sup> and which is adapted to receive suitable weights 14 such as shot, for instance, so that the total weight of the receptacle 13 and its contents may be varied as conditions may require.

In the practical application of my invention, the device is placed on each gas-post, by removing the gas-cock and placing the attachment between the gas-cock and the gas-post as indicated in the drawings, thus

allowing the gas to pass through my apparatus to the burner to be lighted.

The contents of the box or receptacle 13 is varied and adjusted according to the pressure of gas used in the system and the weight is so adjusted as to be sufficiently light to be held up when the pressure of the gas is normal (see Fig. 2), which normal pressure may be four, five, six or more ounces, as may be found desirable. The weighted receptacle 13 is mounted on the shaft 6, which in turn connects with the lever 11 and through the lever 11 is operatively connected with the valve stem 10, thus permitting the valve 9 to be closed when the gas pressure drops below normal.

In operating my invention, the operator at the gas producing plant, at the proper time, required to extinguish the lights shuts down the pressure in the gas-mains to about one-half the normal pressure, i. e., if the normal pressure be six ounces, it is reduced to three ounces, for a period of about one minute, or a sufficient length of time for the pressure to become equalized in the mains or gas pipes all over the system. As soon as this occurs, the weight carried by the shaft 6 will result in rocking the lever 11 into the position shown in Fig. 3, to close the valve 9. The gas pressure is then again brought up to its normal amount, and inasmuch as the valve 9 is closed, the gas pressure itself aids in maintaining the valve closed and prevents the escape of gas through the burner, it being understood that the cock 12 normally has its valve 12<sup>c</sup> always open. When it is desired to re-light the lamps, the lighter simply raises the casing 13 to open the valve 9 and then ignites the gas at the burner in the usual manual manner. The gas supply to the burner may be regulated by the cock 12 in the usual way.

From the foregoing description taken in connection with the accompanying drawings, it is thought the complete construction, operation and many advantages of my invention will be readily understood by those skilled in the art to which the invention appertains.

What I claim is:

1. An apparatus of the class described, comprising in combination with the lamp gas supply pipe, a casing having a nipple threaded into said supply pipe and provided with a gas passage and a valve seat, a valve for coöperating with said valve seat, a valve stem projecting into said gas passage of the nipple, a lever fulcrumed in said casing and connected with said valve stem, means controlled by gas pressure and connected with said lever for maintaining the valve open while gas is passing through under normal pressure, means for rocking said lever to close said valve when the gas pressure falls below a predetermined amount, said casing

having an outlet aperture and a threaded cock receiving portion merging therewith, and a stop-cock connected in said cock receiving portion.

2. The combination with the gas supply pipe having a threaded mouth, a casing having an internal chamber and an inlet passage and an outlet passage communicating therewith, a nipple having a threaded portion adapted to screw into said gas supply pipe, said nipple having a gas passage communicating with the gas chamber of the casing, valve devices for said gas passage of the nipple, means for normally holding said valve open by gas pressure, and means for closing said valve when the gas pressure drops below a predetermined amount, a stop-cock mounted in said casing at the outlet passage thereof, all being arranged as shown and described.

3. In an apparatus of the class described, a casing having a gas chamber and a gas passage in communication therewith, a nipple projecting from said casing at the gas passage and having a bore in communication with said gas passage, said casing having an internally threaded cock receiving portion in communication with said gas passage, an inlet valve to said casing, means for holding said inlet valve normally open, and means for closing said inlet valve when the gas pressure drops below a predetermined amount.

4. In an apparatus of the class described, a casing having a gas chamber and a gas passage in communication therewith, a nipple projecting from said casing at the gas passage and having a bore in communication with said gas passage, said casing having an internally threaded cock receiving portion in communication with said gas passage, an inlet valve to said casing, means for holding said inlet valve normally open, means for closing said inlet valve when the gas pressure drops below a predetermined amount, said last named means comprising a weighted member, a lever fulcrumed within the casing and connected with said weighted member and said valve, substantially as shown and described.

5. In an apparatus of the class described, a casing having a gas chamber and a gas passage in communication therewith, a nipple projecting from said casing adjacent the gas passage thereof, and having a bore in communication with said gas passage, said casing having a cock receiving portion in communication with said gas passage, said nipple having a valve seat at its entrant end, an inlet valve coöperating with said valve seat and having a stem projecting through said nipple, a lever fulcrumed in said casing and projecting through the gas passage thereof and connected with said valve stem, means coöperating with the lever for holding the inlet valve normally open, and means coöperating with said last named means for closing said inlet

valve when the gas pressure drops below a predetermined amount, substantially as shown and described.

6. In an apparatus of the class described,  
5 a casing having a gas chamber, a gas inlet to said casing, said casing having a gas passage between the inlet and the gas chamber, and having a gas outlet, said gas inlet having a valve seat, a valve coöperating therewith,  
10 and said valve having a stem passing through said gas inlet, a lever fulcrumed in said casing, and pivotally connected with said valve stem, a diaphragm carried by said casing in

said gas chamber, a shaft connected with said diaphragm and connected with said lever, a receptacle mounted on said shaft, said receptacle adapted to receive counterweights, all being arranged to hold the valve normally open and to close the same when the gas pressure drops below a predetermined amount, substantially as shown and described. 15 20

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Witnesses:

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