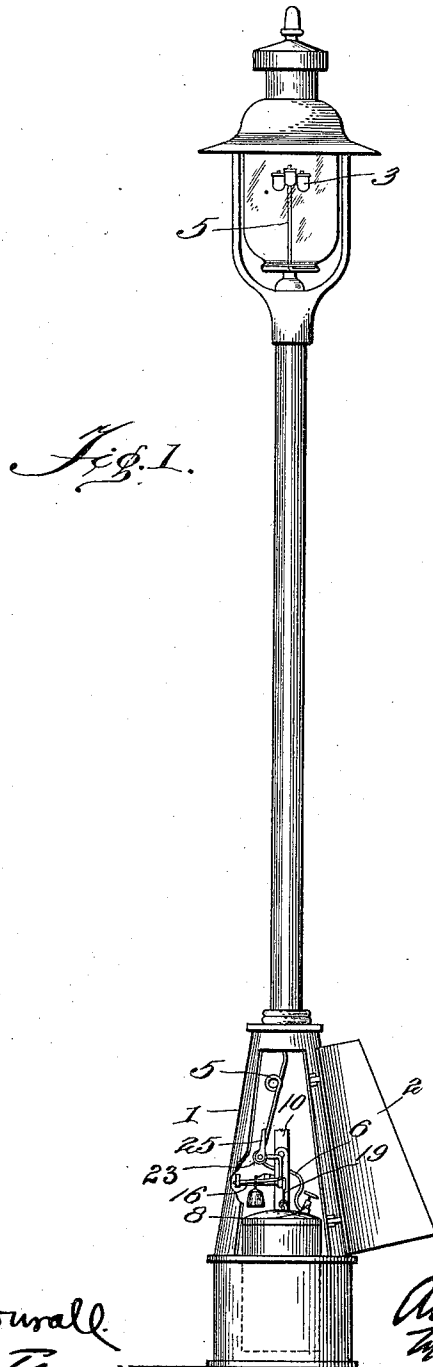


A. L. DENNSTEDT.
 AUTOMATIC CUT-OFF FOR GASOLENE GENERATED LIGHTS.
 APPLICATION FILED MAR. 27, 1911.

1,006,919.

Patented Oct. 24, 1911.
 2 SHEETS-SHEET 1.



Witnesses
 Mr. May Duralle
 J. S. Minster

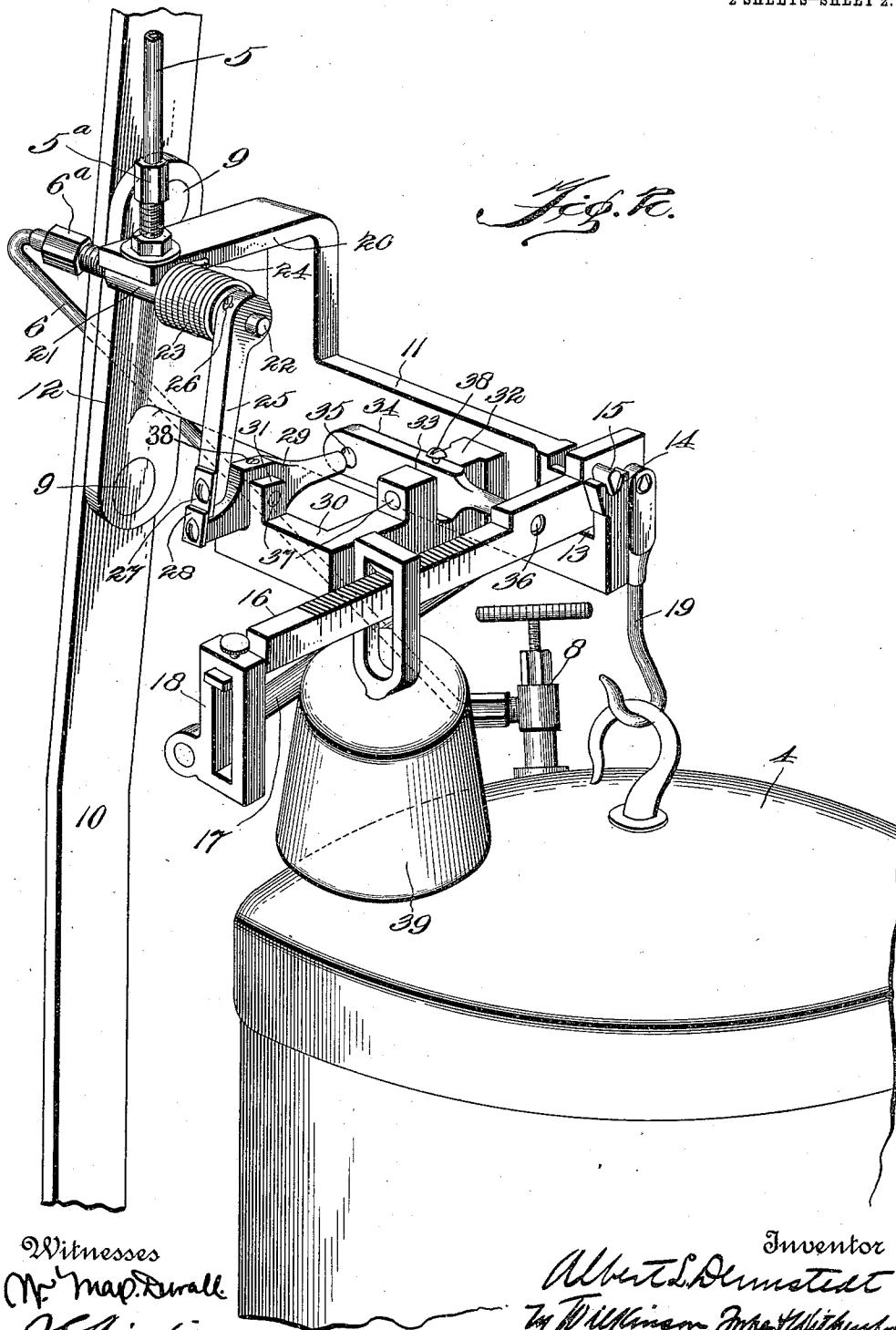
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Witnesses
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 Albert L. Dennstedt
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UNITED STATES PATENT OFFICE.

ALBERT L. DENNSTEDT, OF ALBERT LEA, MINNESOTA, ASSIGNOR TO ALBERT LEA GAS LIGHT COMPANY, OF ALBERT LEA, MINNESOTA, A CORPORATION OF MINNESOTA.

AUTOMATIC CUT-OFF FOR GASOLENE-GENERATED LIGHTS.

1,006,919.

Specification of Letters Patent.

Patented Oct. 24, 1911.

Application filed March 27, 1911. Serial No. 617,326.

To all whom it may concern:

Be it known that I, ALBERT L. DENNSTEDT, a citizen of the United States, residing at Albert Lea, in the county of Freeborn and State of Minnesota, have invented certain new and useful Improvements in Automatic Cut-Offs for Gasolene-Generated Lights; 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 improvements in automatic cut-offs, and is primarily designed for use in connection with lamps in which the gas is generated from liquid hydrocarbons and delivered to a burner.

While the invention is not restricted to the particular use, it is particularly applicable for use with street lamps or other lamps which are left to burn all night and which have to be turned off after a predetermined time, dependent upon the length of the nights. In systems of this character there have been in use certain time cut-offs regulated by a clock mechanism, but these frequently get out of order and have not proven entirely satisfactory.

The object of the present invention is to control the automatic cut-off of a light positively upon a predetermined quantity of the generating fluid having been utilized, and as the quantity of fluid necessary to generate sufficient gas for one or a number of lamps for a certain length of time, can readily be ascertained, it has been found in practice by applicant that an accurate cut-off can be determined upon by actually measuring or weighing the amount of liquid or hydrocarbon used.

The invention is not restricted to the exact details shown and described, but for the purpose of disclosure reference is had to the accompanying drawings illustrating a practical and preferred embodiment of my invention for carrying out the desired end, in

which drawings like characters designate the same parts in the several views, and in which—

Figure 1 shows the application of the invention to the liquid hydrocarbon tank of a street lamp, the door of the tank casing or base support of the lamp being shown open and the automatic mechanism being shown in front elevation in its tripped position, and Fig. 2 is an enlarged perspective view showing the automatic cut-off mechanism in its set position, the suspended tank being partly broken away.

1 is a hollow base support for a street lamp comprising a casing for the liquid hydrocarbon tank and automatic cut-off mechanism, 2 being a door leading to the interior thereof, and 3 representing the burners or lights connected with the liquid hydrocarbon tank 4 through the delivery pipe or line 5 and the feed pipe 6, a cut-off or valve being disposed in the conduit and the connection between the pipe 6 and the tank 4 being provided with a separate cock or valve 8. These features form no particular part of my improvements.

In carrying out my invention suitable weighing and tripping mechanisms are interposed between the valve 7 and the tank for automatically measuring the quantity of liquid to be utilized, and hence the required production of gas for a particular length of time.

The mechanism may be suspended in any suitable way, but in the drawings I have shown a bracket secured as at 9 to an upright 10, this bracket being provided with an arm 11 projecting at right-angles to its base 12 and slotted at its outer end, as at 13, and provided with trunnion bearings 14 to receive the trunnion pins 15 of a scale beam 16, a rod 17 extending from the bracket and provided with a slotted guide block 18 for the free end of the scale beam. On the weight arm of the scale beam is hung a pivoted hook 19 on which is suspended the

liquid hydrocarbon tank 4. The bracket 11 is also provided with a vertical projection having a lateral arm 20 on which is mounted a valve casing 21 to receive a cut-off valve, not shown, but which for the purpose of disclosure may be described as a rotary valve mounted on the spindle 22, around which is arranged a coiled spring 23 secured at one end 24 to the arm 20 and at its other end secured to the spindle, normally tending to rotate the valve to its closed position, shown in Fig. 1. This spindle 22 carries a tripping finger 25 which may be secured to the spindle by a set screw 26 and which may be provided at its lower end with a projecting tip or plate 27 coöperating with a corresponding tip or plate 28 carried by one end of a tripping lever 29 pivotally supported, in the line of said tripping finger, on an arm 30 having the bearings 31, the arm 30 forming a right-angled continuation of a lateral arm 32 carried by the bracket, and arranged parallel to the scale beam, the arm 32 being slotted, as at 33, to form a bearing for a pivoted arm 34 disposed at right-angles to the lever 29, the inner end of the lever 29 being connected with the arm 34 by a ball and socket joint 35, and the opposite end of the pivoted arm 34 being similarly connected with the scale beam by a ball and socket joint 36. 37 are simply pivot pins for the levers 29 and 34 which readily turn in their bearings, and which may be secured to the levers by set screws 38.

It will be observed that the delivery and feed lines are coupled up with the rotary valve by suitable couplings 5^a and 6^a, and in operation, with the liquid hydrocarbon tank 4 filled and suspended in the position shown in Fig. 2, the weight of the contents of the tank will tilt the power arm of the scale beam upwardly against the measuring weight 39, which weight is set at a position along the scale beam to measure a predetermined quantity of the fluid to be used. With the parts in this position the finger 25 is swung downwardly against the action of the spring 23, opening the rotary valve 21 and engaging the tripping lever 29, the latching end of which will be in its uppermost position when the power arm of the scale beam is tilted upwardly, as will be evident from the compound leverage arrangement. The finger 25 may be set to turn on the cut-off valve when the attendant lights up, and the generation of gas will continue until a predetermined quantity of the liquid has been used, whereupon the weight 39 will overcome the decreased weight of the tank and its contents, tilting the power arm of the scale beam downwardly and similarly swinging the locking end of the tripping lever downwardly, releasing the latching

finger 25, which latter is then swung upwardly by the action of the coiled spring 23, closing the valve and automatically cutting off the supply of fuel from the tank.

Having thus described the invention, the particular features of novelty will now be pointed out more succinctly in the following claims:

1. In an automatic cut-off for lights, the combination of a scale beam, a liquid hydrocarbon tank suspended from the weight arm thereof, a weight for the power arm, a spring actuated valve communicating with said tank, a latching finger connected to said valve, a tripping lever coöperating with said finger, and a pivoted arm pivotally connected with said tripping lever and pivotally connected with said scale beam, substantially as described.

2. In an automatic cut-off for lights, the combination of a scale beam, a liquid hydrocarbon tank suspended from the weight arm thereof, a weight for the power arm, a spring actuated cut-off valve in communication with said tank, a latching finger connected to said valve, a tripping lever coöperating at one end with said latching finger, a pivoted arm, a ball and socket connection between said tripping lever and said pivoted arm, and a ball and socket connection between said pivoted arm and said scale beam, substantially as described.

3. In an automatic cut-off for lights, the combination of a scale beam, a liquid hydrocarbon tank suspended from the weight arm thereof, a measuring weight for the power arm, a valve in communication with said tank, means normally tending to close said valve, a latching finger carried by said valve, and a compound lever connection between said latching finger and said scale beam comprising a tripping lever adapted to engage said finger and a pivoted arm pivotally connected to said lever and to said scale beam, substantially as described.

4. In an automatic cut-off for lights, the combination of a scale beam, a liquid hydrocarbon tank suspended from the weight arm thereof, a measuring weight for the power arm, a valve, means normally tending to close said valve, a feed line from said tank to said valve, a latching finger carried by said valve, and a compound lever connection between said latching finger and said scale beam comprising a tripping lever disposed in the plane of said latching finger and parallel to said scale beam, a pivoted arm at right angles to said scale beam and tripping lever and a ball and socket connection between said tripping lever and said pivoted arm and between said pivoted arm and said scale beam, substantially as described.

5. In an automatic cut-off for lights, the

combination of a scale beam, a liquid hydro-
carbon tank suspended from the weight arm
thereof, a measuring weight for the power
arm, a slotted guide for limiting the move-
5 ment of the power arm, a rotary valve,
means normally tending to close said valve,
a feed line from said tank to said valve, a
latching finger carried by said rotary valve,
and a compound lever connection between

said latching finger and said scale beam, 10
substantially as described.

In testimony whereof, I affix my signa-
ture, in presence of two witnesses.

ALBERT L. DENNSTEDT.

Witnesses:

S. K. SWENSON,
THYRA HOULIHAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
