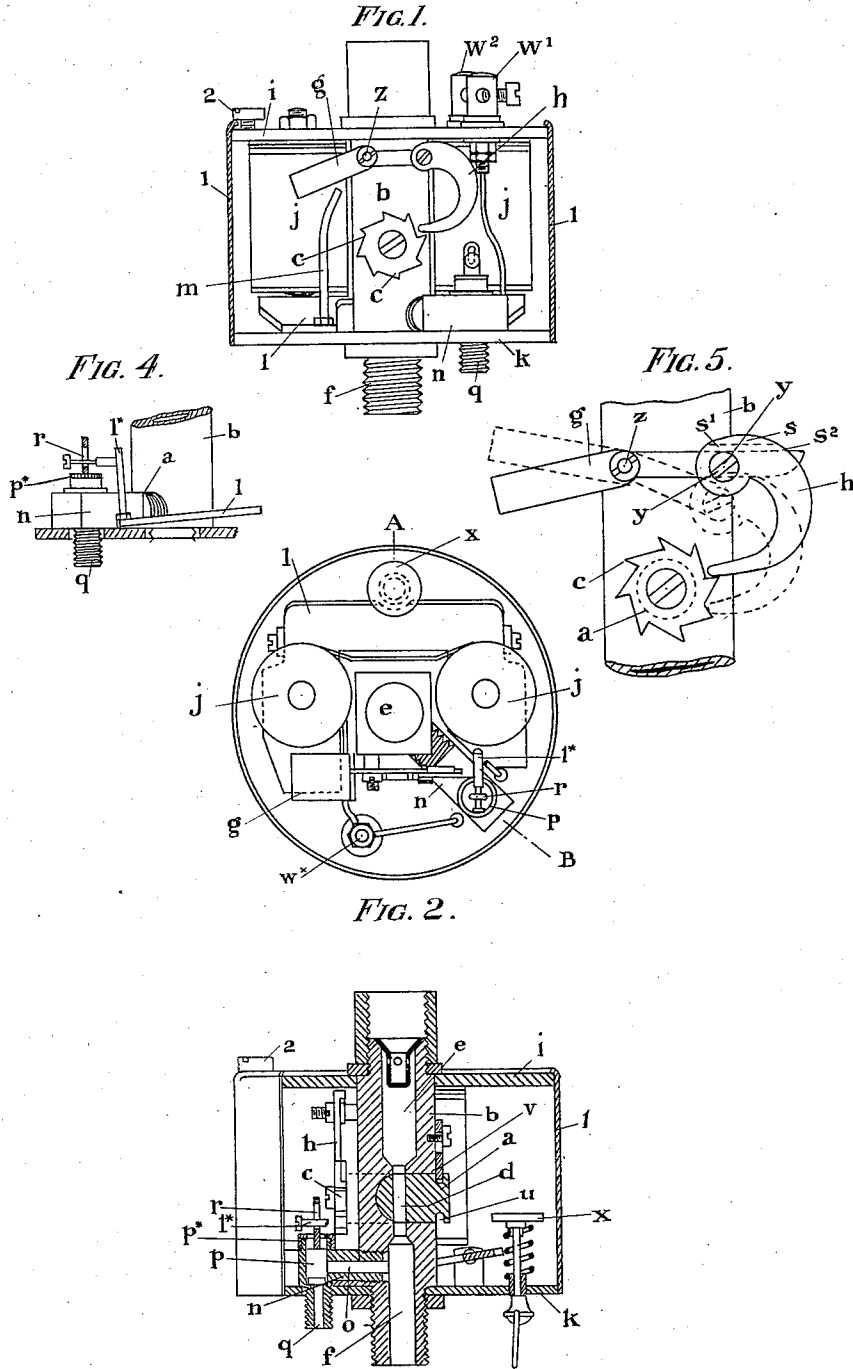


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 DISTANCE GAS LIGHTING.
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1,054,646.

Patented Feb. 25, 1913.



Witnesses.
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FIG. 3.

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DISTANCE GAS-LIGHTING.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, STANISLAUS JULIAN, COUNT OSTROG, a subject of the King of Great Britain, residing at London, England, have invented new and useful Improvements in Distance Gas-Lighting, of which the following is a specification.

This invention relates to the valve mechanism for controlling the supply of gas to a burner, such valves being situated in a suitable position near the burner and being operated by the closing of an electric circuit.

The apparatus is provided with a suitable igniter preferably electrically operated.

It is desirable in electrically ignited apparatus of this class, to provide two valves one of which I will call the main valve and the other the secondary valve. The main valve passes gas to the burner and is alternately open and shut, the secondary valve passes gas to the igniter and is only open while the electric circuit is closed. This latter valve may, however, be dispensed with.

In order that my invention may be fully understood, I will proceed to describe the same with the aid of the accompanying sheet of drawings which illustrate a preferred form of my invention.

Figure 1 is a side elevation with the cover in section. Fig. 2 a plan view of Fig. 1 with the top plate and terminals removed. Fig. 3 is a section taken on line A—B of Fig. 2. Fig. 4 shows a method of operating the secondary valve. Fig. 5 illustrates on a larger scale the action of the pawl.

Similar letters of reference relate to like parts in all the figures of the drawings.

The plug *a* of the cock mounted in the body *b* is provided at one end with ratchet teeth *c* and at or near its middle with holes *d* adapted to open and close the gas-way from the supply side *e* to *f* and thence to the burner in the usual manner. At its other end the plug *a* is preferably provided with a channel *u* into which a lug *v* slidably fitted on the body *b* is arranged to enter and thereby retain the plug in the working position. When required the plug may be withdrawn by sliding the lug *v* free of the channel *u*, thus facilitating the cleaning thereof.

A lever *g* pivoted at *z* and a pawl *h* (hereinafter to be more fully described) are arranged to operate this plug *a* by means of

the teeth *c*, the plug being turned one tooth at each operation.

A plate *i* is fixed at the top of the body *b* and upon this plate may be suspended the coils *j*.

A plate *k* is fixed at the base of the body *b* and upon this plate *k* may be hinged in any suitable manner the armature *l* which is arranged to be lifted by the attraction of the coils *j* when these latter are energized.

Upon the armature *l* is suitably fixed a rod *m* which, when the armature *l* is lifted, acts upon one end of the lever *g* turning it upon its pivot *z* and moving the plug *a* around one tooth by means of the pawl *h*.

From a suitable point preferably on the outlet side of the plug cock *a* is fixed the secondary valve which may consist of a tube *n* with a gas way *o* leading from the main gas passage *f*. At a suitable point, at or near the end, this tube *n* is drilled vertically and a parallel or other suitable valve *p* is interposed which normally closes the passage from the gas way *o* to the outlet *q* to the igniter.

When the valve *p* is raised by the lifting of the armature, gas is allowed to pass from *o* to the igniter supply at *q* but is prevented from escaping into the box by reason of the parallel sides of the valve *p* which slide more or less gas-tight in the sides of the valve casing. With this type of valve it has been found desirable to provide a screwed or other cap *p*^{*} which limits the movement of the valve vertically, and at the same time renders it easy of access. This valve may be arranged to operate upon the lifting of the armature by any suitable means. A method of doing this is shown in the drawings consisting of an upwardly projecting member *l*^{*} fixed on the armature *l* and adapted to work in a slot *r* formed in the flattened upper part of the secondary valve *p*. Or the valve *p* may be formed with a coned seating, and if desired this secondary valve may be dispensed with and the main valve only employed. In this case suitable arrangements are made for leading current to the igniter which will be of a different type, or the ignition may be effected by means of a by-pass in the usual way.

It is desirable that apparatus of this class should be readily open to inspection while in position and in order to facilitate this I provide a cover 1 which slides fairly tightly

over the top and bottom plates *i* and *k* respectively, its upper ends being slightly turned over to rest upon the upper edge of the plate *i*. This cover may be fixed in position by means of a screw 2 in the plate *i*.

If desired the plate *k* may be of slightly larger diameter than the cover 1 and a recess be turned in the plate *k* into which the bottom of the cover enters.

It is required to turn the valve a definite and exact part of its circumference at each operation and at the same time prevent over-riding, and to accomplish this I pivot the beforementioned lever *g* in a suitable position and furnish it with a pawl of special construction. This is shown to an enlarged scale in Fig. 3.

The lever *g* is pivoted in a suitable position in relation to the plug *a* such as at *z* and at one end is furnished with a pawl *h* pivoted at *y*, the other end of the lever *g* being weighted so as to normally retain the pawl *h* in the raised position. This pawl is adapted to engage the teeth *c* of the plug *a*, and upon operation of the lever to turn the same the space of one tooth at a time. The pawl *h* is furnished with a stop *s* at the back, for example, which at either limit of its movement comes into contact with the top edge of the lever *g*. This stop *s* allows a definite but limited movement either way of the pawl *h*. In a position of rest the part *s*² of the stop may be in action, resting against the lever *g* and preventing the pawl *h* from bearing against the ratchet wheel *c* or tending to ride over the top of the same, or neither stop may be in operation, as desired. Upon the lever *g* being operated the pawl *h* turns upon its pivot *y* moving the ratchet wheel *c* of the plug *a* until the end *s*¹ of the stop *s* comes into contact with the edge of the lever *g*. Further movement of the pawl *h* upon its pivot *y* is thereby prevented and by reason of the position of the pivot *z* the path of the pawl *h* tends to cross the path of the ratchet *c*. The ratchet wheel *c* and pawl *h* are thereby automatically and simply brought to rest and further movement of the said pawl or wheel is prevented.

The part *s*² of the stop *s* which prevents the pawl *h* getting out of position above the ratchet wheel *c* as before mentioned may be dispensed with if desired.

The electrical connections may conveniently be arranged as follows:—Two insulated terminals *w*¹ and *w*² are provided in the top plate *i* (or bottom plate *k* if desired). The wire from one of these is led to one of the bobbins, thence to the second bobbin and from this latter to an insulated terminal *w*^x. At this latter point it is connect-

ed to another wire which is suitably insulated and led out through the base for conveying current to the igniter. The wire from the other terminal *w*² is brought direct to the igniter.

An emergency device is provided in the base, the knob *x* of which is normally held out of contact with the armature *l*. When desired to operate the gas cock *a* by hand, the emergency device is pulled causing the knob *x* to actuate the armature and turn the gas on or off in the usual way.

Claims—

1. Apparatus for controlling the supply of gas to a gas burner comprising a rotatable valve with ratchet teeth thereon, a pawl engaging said teeth and pivotally mounted on a pivotally mounted weighted lever, stop devices on said pawl engaging said lever, an armature engaging said lever by means of a rod, and electrical means for imparting an impulse to the armature, substantially as described.

2. Apparatus for controlling the supply of gas to a gas burner comprising a rotatable valve with ratchet teeth thereon, a pawl engaging said teeth and pivotally mounted on a pivotally mounted weighted lever, stop devices on said pawl engaging said lever, an armature engaging said lever by means of a rod, a secondary valve in communication with an igniter, means for actuating said valve from the armature, and electrical means for imparting an impulse to the armature, substantially as described.

3. Apparatus for controlling the supply of gas to a burner comprising a rotatable valve with ratchet teeth thereon and with a groove therein engaging a pivotally mounted retaining lug, a pawl engaging the said ratchet teeth, a pivotally mounted weighted lever carrying said pawl and engaging stops thereon, an armature, a rod communicating the movements of said armature to the weighted lever, pawl, and ratchet, a secondary rising and falling valve with ports and passages for supplying gas from the main gas passage to an igniter and with a flattened and slotted upper end, a pin in connection with said armature engaging the slot in the upper end of secondary valve, and electrical means for imparting an impulse to the armature, substantially as described.

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

STANISLAUS JULIAN.

Witnesses:

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