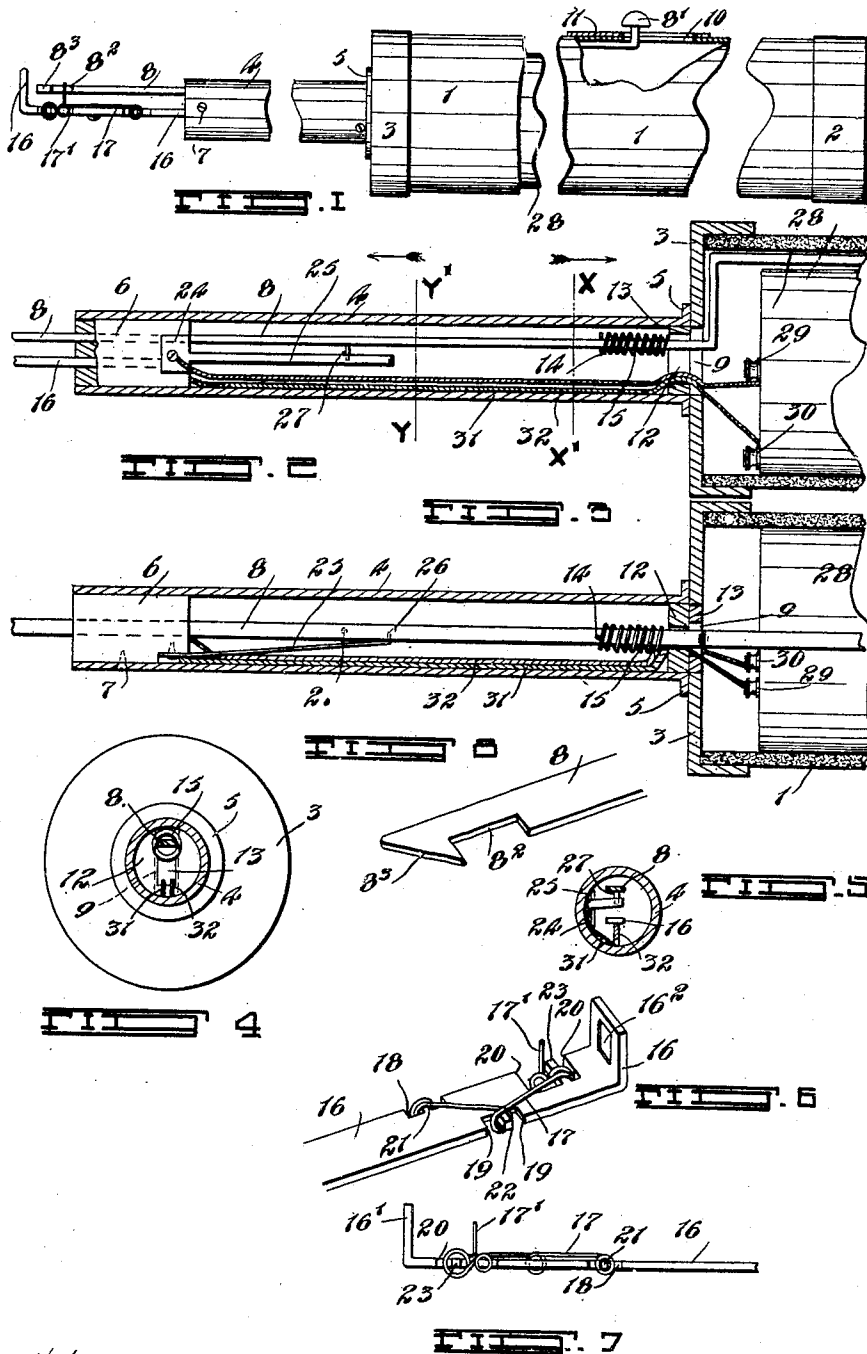


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GAS LIGHTING APPLIANCE.
APPLICATION FILED DEC. 6, 1909.

973,971.

Patented Oct. 25, 1910.



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MEDERIC PRIMEAU AND GEORGE McCULLAGH, OF WINNIPEG, MANITOBA, CANADA.

GAS-LIGHTING APPLIANCE.

973,971.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, MEREDIC PRIMEAU and GEORGE McCULLAGH, both of the city of Winnipeg, in the Province of Manitoba, Canada, have invented certain new and useful Improvements in Gas-Lighting Appliances, of which the following is the specification.

Our invention relates to gas lighting appliances and the object of the invention is to provide a simple, economical, and harmless electrically operated device by which gas can be ignited, the invention being particularly designed for use in connection with overhead gas consumers such as lamps, jets, and such like articles although it can be also used for igniting gas ranges or any other devices in which gas or gasolene is used as a fuel.

The invention consists in certain peculiarities of construction and novel arrangement of the parts thereof as will be hereinafter more particularly set forth and specifically claimed.

Figure 1 is a side elevation of one of the instruments or appliances parts being broken away and removed. Fig. 2 is an enlarged detailed longitudinal sectional view through the smaller tube and a portion of the larger tube showing the working parts contained within the tubes. Fig. 3 is an enlarged detailed longitudinal sectional view taken through the tubes in a position at right angles to that shown in Fig. 2. Fig. 4 is a vertical sectional view taken in the plane X X', Fig. 2, and looking in the direction of the arrow. Fig. 5 is a vertical sectional view in the plane denoted by the line Y Y' and looking in the direction of the arrow. Fig. 6 is an enlarged detailed perspective view of the permanently located spring carrying contact piece. Fig. 7 is a side elevation of the contact piece shown in Fig. 6. Fig. 8 is an enlarged detailed perspective view of the sliding contact piece.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 represents a fiber, card board, or other such like light and inexpensive tube having its ends closed by caps 2 and 3.

4 represents a metallic tube considerably smaller than the tube 1 having one end flanged outwardly at 5 and brazed or otherwise fastened to the cap 3 so that both tubes are axially alined.

6 is a fibrous plug located in the free end of the tube 4 and removably held therein by the screw 7.

8 is a contact piece slidably carried by the plug 6 such contact piece having the body portion thereof extending throughout the length of the tube 4 and passing through an elongated rectangular opening 9 formed in the cap 3 where it is offset to the side of the large tube 1 and ends in a head 8' which appears at the outer side of the tube. The tube is slotted at 10 and is faced with a plate 11 over which the head 8' operates.

12 is an insulator located within the tube 4 and bearing on the cap 3. The insulator is provided with an elongated slot 13 which communicates with the slot 9 but is of slightly smaller cross sectional area so that it prevents the contact piece 8 which it carries from engaging with the edges of the cap. The contact piece carries a pin 14 and a spiral spring 15 which is located between the pin and the insulator and tends to hold the contact piece in a set forward position. The free end of the contact piece is notched at 8² and has its extremity cut at an angle at 8³ the purpose of which will be more clearly apparent hereinafter.

16 is a stationary contact piece having one end thereof secured within the plug 6 and the opposite end turned upwardly at 16' so as to afford protection for the adjoining end of the slidable contact piece 8. The upturned end is slotted at 16² to allow the gas in which the appliance is inserted to circulate freely.

To the permanent contact piece we have attached a spring contact tip 17 which is adapted to engage with the sliding contact piece 8 when the latter contact piece is moved.

The method of fastening the spring contact tip to the contact piece is now described,—The contact piece has its sides cut away at 18, 19, and 20 to form projecting pieces or lugs 21, 22, and 23, two of the lugs being situated at one side of the contact piece and one at the other, the latter being about midway between the former. The wire forming the spring contact 17 is looped a couple of times around the lug 21 then passes across to and around the lug 22 where it is directed to the lug 23 around which it is coiled. The wire finally terminates in a coil and an upturned end 17'.

Although we have described the manner

in which the wire is placed on the contact piece it will be understood that these wires can be turned or bent in the required shape prior to being placed on the contact piece.

5 Once the loops are properly spaced it is only a matter of springing the wire to allow the loops to pass onto the lugs where they will remain without any fastening. We consider it very desirable and almost vital to the
10 longevity of the instrument to have that portion of the wire coiled around the lug 23 free of the lug in the inoperative position of the portions. If this be done there will not be the slightest tendency for the por-
15 tions to "catch," nor will there be any tendency for the coil to take permanent set.

24 is a contact plate secured to the plug and insulated from both of the contact pieces 8 and 16. The plate has a spring mem-
20 ber 25 extending therefrom which has its extremity 26 turned more or less at right angles to the body portion and positioned so that it will engage with a pin 27 carried by the slidable contact piece 8.

28 is a battery or source of electro-motive force located within the tube 1 and provided with the usual binding posts 29 and 30. The binding post 29 is connected through the wire 31 electrically with the contact
30 plate 24 while the binding post 30 is connected through a second wire 32 with the inner end of the stationary contact piece 16.

In order to better understand the apparatus we will now describe its operation, assuming it is desired to light a gas lamp from which the gas is escaping freely. The free ends of the contact pieces 8 and 16 are held by the operator within the zone of the escaping gas and the contact piece 8' is pulled
40 backwardly or in the direction of the arrow, Fig. 1, which brings the contact piece into engagement with the upwardly directed end 17' of the spring contact wire. The end 17' is carried backwardly with the contact
45 piece from which it finally escapes after having been sprung considerably. Shortly after to the instant at which it escapes the member 25 passes into engagement with the contact pin 27 which connection closes the cir-
50 cuit through the batteries, the said circuit being broken when the end 17' of the spring "flips" away from the contact piece 8, a spark resulting. The spark is sufficient to ignite the surrounding gas.

55 As soon as the spark has taken place the operator releases his thumb or finger from the head 8' which allows the contact piece to return to the original position such motion being caused by the action of the spring
60 15. Upon the return motion the member 25 passes from the contact pin 27 before the extremity of the contact piece 8 engages with the upwardly extending end 17' of the spring so that the circuit is broken and
65 no spark occurs when the spring end 17'

engages with the extremity aforesaid. It will be understood that the end 17' of the spring is returned to its original and central position within the notch 8² by the action of the angular end of the contact
70 piece which slides past it.

We wish it to be understood that the instrument as above described has been particularly designed for lighting lamps and such like which require a long instrument
75 to enable the average person to reach them.

What we claim as our invention is:

1. In a gas lighting appliance a station-ary and a longitudinally slidable contact piece one of said contact pieces being pro-
80 vided with lugs and the other with a notch, a contact tip constructed from a single piece of wire having coils at intervals the coils being designed to be received by the lugs aforesaid and a further free coil terminat-
85 ing in an upturned end adapted normally to protrude within the notch, as and for the purpose specified.

2. In a gas lighting appliance a station-ary and a longitudinally slidable contact
90 piece insulated the one from the other, one of said contact pieces being provided with a notch and an angular end and the other of said pieces having portions thereof at oppo-
95 site sides cut away to form lugs, and a wire contact tip having coils formed thereon at intervals adapted to be received by the lugs thereby releasably securing the contact tip to the contact piece and being provided
100 further with a free loop terminating in an upwardly directed end which protrudes normally within the notch of the adjoining contact piece, as and for the purpose specified.

3. A gas lighting appliance comprising
105 a tube a stationary and a spring pressed longitudinally slidable contact piece insulated the one from the other and passing within the tube, a contact tip carried by one of the contact pieces and engageable with
110 the other, a stationary means within the tube adapted to pass into and out of contact with the sliding piece, and a source of electromotive force connected electrically through suitable wires with the latter means
115 and the stationary contact piece, as and for the purpose specified.

4. A gas lighting appliance comprising a tube, an insulating plug located within one end of the tube, a contact piece permanently
120 secured to the plug, a spring pressed slidable contact piece carried by the plug and entering the tube, a coiled spring contact tip carried by the extending end of the stationary contact piece and engageable with the slid-
125 ing contact piece, a contact plate secured to the plug and having a spring member extending therefrom, a pin extending from the sliding contact piece and engageable with the spring member, a battery and wires elec-
130 trically connecting the poles of the battery

with the contact piece and the stationary member, respectively, as and for the purpose specified.

5 A gas lighting appliance comprising a tubular member, an insulating plug located in one end of the member, a slidable spring pressed contact piece carried by the plug and having its ends extending beyond the tube, a stationary contact piece carried by the
10 plug, a spring contact tip secured to the stationary member and engageable with the slidable member, a contact plate carried by the plug having a spring member extending therefrom, a pin passing from the slidable
15 member and adapted to engage primarily with the spring member subsequent to the engagement of the contact tip with the sliding member and to pass out of engagement with the pin prior to the contact tip escap-
20 ing from the sliding contact piece in the reverse motion of the contact piece, as and for the purpose specified.

6. A gas lighting appliance comprising a tubular handle, a tube of lesser dimension
25 than the handle secured thereto, an insulating plug located in the free end of the tube, a stationary contact piece secured to the plug, a spring pressed slidable contact piece carried by the plug and having its one end
30 notched and its opposite end passing within the handle and provided with a head which protrudes through the handle, a contact tip carried by the stationary member and extending normally within the notch aforesaid,
35 a battery permanently fixed within the handle, a contact plate carried by the plug and having a spring member extending therefrom, a pin passing from the sliding contact

piece and adapted to engage with the spring member, and wires electrically connecting 40 the poles of the battery with the contact plate and the stationary contact piece, as and for the purpose specified.

7. A gas lighting appliance comprising a tubular handle of insulating material having 45 caps inclosing the end thereof, a tube having one end secured to one of the caps and the opposite end provided with an insulating plug, a stationary contact piece secured to the plug, a spring pressed slidable contact 50 piece carried by the plug and having one end notched and cut at an angle and the opposite end passing through an opening formed in the cap into the circular handle where it is provided with a head which extends without 55 the handle, a battery fixed within the handle, a coiled wire contact tip located on the permanent contact piece and with an end extending upwardly into the notch, a contact plate secured to the plug having a spring 60 member extending therefrom, a pin passing from the sliding contact piece and adapted to engage with the spring member and wires electrically connecting the poles of the bat- 65 tery with the plate and the stationary contact piece, respectively, as and for the purpose specified.

Signed at Winnipeg, in the Province of Manitoba, Canada, this 28th day of October 1909.

MEDERIC PRIMEAU.
GEORGE McCULLAGH.

In the presence of—
G. S. ROXBURGH,
M. A. SOMERVILLE.