

Jan. 10, 1928.

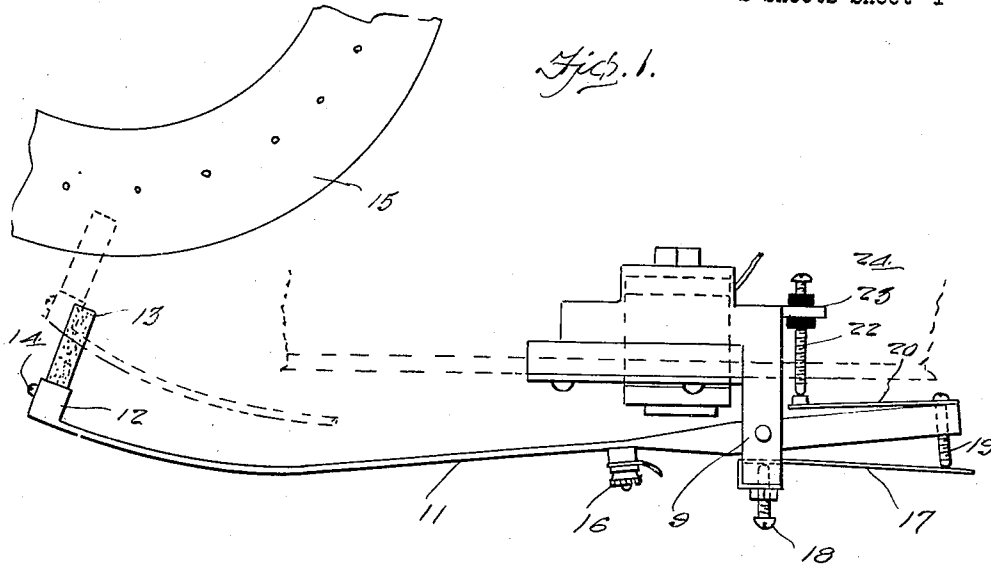
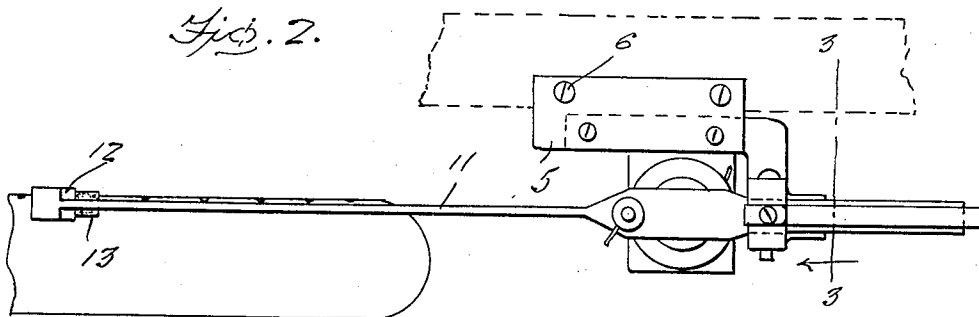
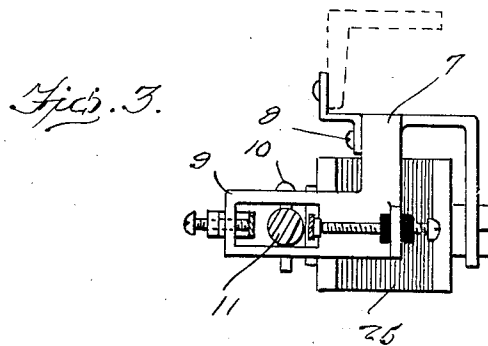
1,655,458

A. DOLFI

GAS BURNER IGNITER

Filed May 4, 1927

2 Sheets-Sheet 1



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Fig. 4.

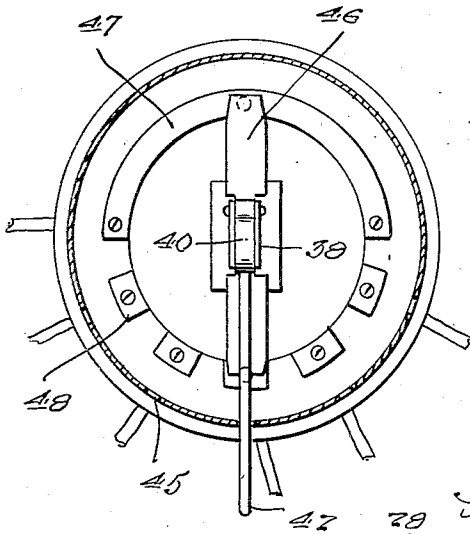


Fig. 5.

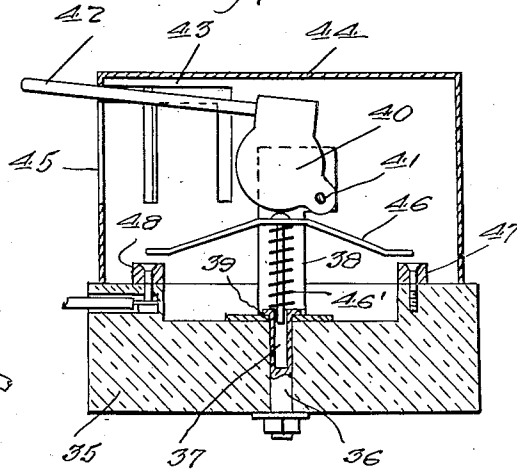


Fig. 8.

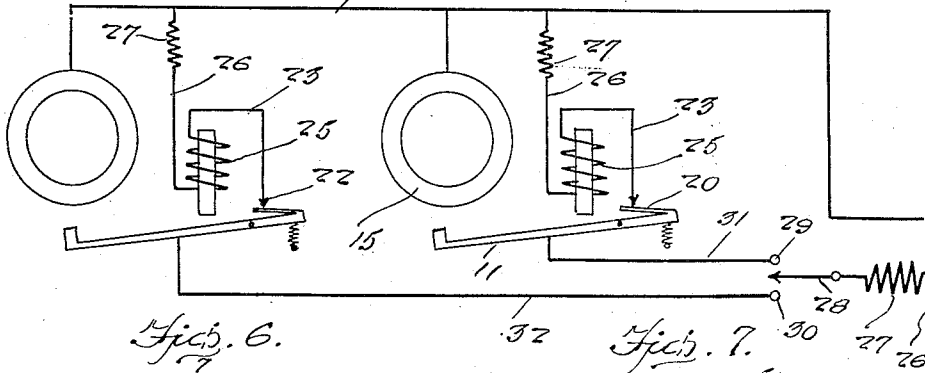


Fig. 6.

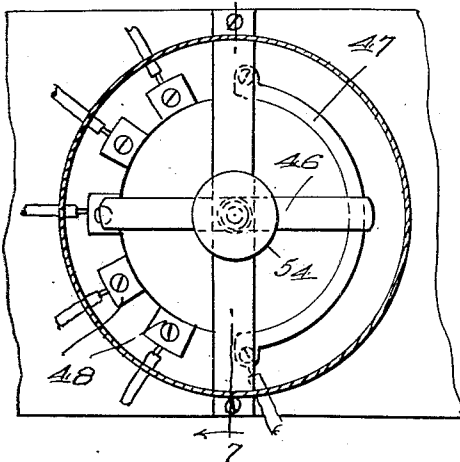
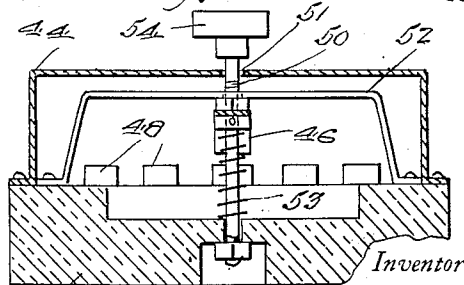


Fig. 7.



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UNITED STATES PATENT OFFICE.

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GAS-BURNER IGNITER.

Application filed May 4, 1927. Serial No. 188,780.

The present invention relates to means for igniting a gas burner or the like and has for its principal object to provide a structure which by the operation of an electric switch will be automatic in its operation.

Another important object of the invention lies in the provision of igniting means of this nature wherein a carbon brush is used to break a circuit and cause an arc while so doing for igniting the gas burner or the like.

A still further very important object of the invention lies in the provision of a mechanism of this nature which is comparatively simple in its construction, inexpensive to manufacture, thoroughly efficient and reliable in its operation, and otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a top plan view of the mechanism embodying the features of this invention,

Figure 2 is a side elevation thereof,

Figure 3 is a sectional view therethrough taken substantially on the line 3—3 of Figure 2,

Figure 4 is a sectional view through a switch to be used with the appliance,

Figure 5 is another sectional view thereof,

Figure 6 is a horizontal section through another embodiment of the switch structure,

Figure 7 is a vertical section therethrough,

Figure 8 is a diagram showing the wiring incident to several of the igniting mechanisms in combination with a switch structure.

Referring to the drawing in detail it will be seen that the numeral 5 denotes a bracket plate engaged on the frame of the stove in any suitable manner such as by screws 6. A frame 7 is attached to the bracket plate by means of screws 8 or in any other suitable manner. A loop extension 9 is formed on the frame 7 and pivotally receives as at 10, an arm 11 terminating in a socket 12 to receive a carbon piece 13 held in place by means of a screw 14 or in any other suitable manner. This carbon piece 13 is adapted to scrape the burner 15 or otherwise electrically contact therewith. A terminal 16 is provided on the arm 11 intermediate its ends. A leaf spring

17 is attached to the loop extension 9 by means of a screw 18 which also gives the proper tension to said leaf spring. The free end of the leaf spring engages a screw 19 threaded through the other extremity of the arm 11. The screw 19 holds in place a second leaf spring 20 in the form of a contact for engaging a contact 22 carried on a lug or extension 23 and insulated therefrom as at 24. The frame 7 carries an electro-magnet 25 adapted to attract the arm 11 for swinging the same against the tension of the spring 17 for breaking the circuit between contacts 20 and 22.

Particular attention is now directed to the diagram shown in Figure 8 and it will be seen that wire 26 leads from a source of electrical energy through a fixed resistance 27 to a switch structure 28 engageable with contacts 29 or 30 on wires 31 and 32 respectively. The wires 31 and 32 lead to the arms 11 of the two appliances illustrated diagrammatically in this view. The contact 22 has a wire 23 leading to the electro-magnet 25 and another wire 26 leads from the electro-magnet through a fixed resistance 27 to ground wire 28. Thus it will be seen that if the switch is engaged with either the contacts 29 or 30, an electric circuit is completed. For the sake of clearness, let it be supposed that the switch arm 28 engages contact 29 so that the current flows through wire 31, arm 11, contact 20, wire 23, electro-magnet 25, wire 26, and resistance 27 to the ground 28. This energizes the electro-magnet and attracts the arm 11 so that the carbon piece 13 engages the burner 15. Thus the current will then flow from the wire 31 through the burner 15 to the ground and cease flowing through the electro-magnet because of the break between contacts 20 and 22 and therefore, the spring 17 will return the arm 11 and cause an arc spark between the carbon piece 13 and the burner 15 causing the lighting of the burner. This operation will keep up as long as the switch is closed.

Attention is now directed to Figures 4 and 5, wherein a switch structure is disclosed which may be used for operating several of these appliances. The numeral 35 denotes a base of insulating material having a bolt 36 extending therethrough, the upper end of which is hollow as at 37. A member 38 is rotatably connected as at 39 with the bolt 36 and has pivoted therebetween a cam member 40 as at 41 which is actuated by

an arm 42 extending through a slot 43 of a casing 44 on the base. This slot 43 has a plurality of downwardly disposed extensions 45 so that the arm 42 may be swung downwardly and the cam will press downwardly on an upwardly spring-pressed pin 46 in the hollow portion 37 of the bolt 36. A bridge member 46 is carried by the pin and is normally held upwardly out of engagement with an arcuate contact strip 47 and individual contact elements 48. It will be seen that when the member 35 is rotated it will also swing the bridge member 46 to place it over the desired contact 48, corresponding with the extension slot 45.

In Figures 6 and 7 a somewhat similar switch structure is shown having base 35 and casing 44. Individual contacts 48 are mounted on the base 35 as is also the arcuate contact strip 47. The bridge piece 46, in this embodiment however, is carried by a pin 50 slidable through an opening 51 and through an opening in a bracket structure 52 and through an opening in the base being spring pressed upwardly as at 53. Obviously by turning the pin 50 by knob 54 the bridge contact 46 may be properly located in relation to the contacts 48 and then pressed downwardly to complete the circuit.

It will be quite apparent how these two embodiments of the switch may be located in the circuits previously described. Otherwise it is thought that the construction, operation, and advantages of this invention will be quite apparent to those skilled in this art without a more detailed description thereof. The present embodiments of the invention have been disclosed in detail merely by way of example since in actual practice they attain the features of advantage enumerated as desirable in the statement of the invention and the above description. It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

1. A device of the class described comprising

a frame, a loop extension on the frame, an arm, means for pivotally mounting the arm intermediate its ends to the loop extension, spring means urging the arm in one direction, a socket on one extremity of the arm, a carbon piece in the socket, a spring contact member on the other end of the arm, an adjustable contact member on the frame, an electromagnet in the frame adapted to attract the arm for breaking the circuit between the two contacts mentioned above, one of said contacts adapted to be in electrical engagement with the electro-magnet.

2. A device of the class described comprising a frame, a loop extension on the frame, an arm, means for pivotally mounting the arm intermediate its ends to the loop extension, spring means urging the arm in one direction, a socket on one extremity of the arm, a carbon piece in the socket, a spring contact member on the other end of the arm, an adjustable contact member on the frame, an electro-magnet in the frame adapted to attract the arm for breaking the circuit between the two contacts mentioned above, one of said contacts adapted to be in electrical engagement with the electro-magnet, means for tensioning the spring means.

3. A device of the class described comprising a frame, a loop extension on the frame, an arm, means for pivotally mounting the arm intermediate its ends to the loop extension, spring means urging the arm in one direction, a socket on one extremity of the arm, a carbon piece in the socket, a spring contact member on the other end of the arm, an adjustable contact member on the frame, an electro-magnet in the frame adapted to attract the arm for breaking the circuit between the two contacts mentioned above, one of said contacts adapted to be in electrical engagement with the electro-magnet, means for tensioning the spring means, means for attaching the frame to a gas stove.

In testimony whereof I affix my signature.

ANELITO DOLFI.