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(54) **Automatic unit for igniting appliances containing gas rings.**

(57) An automatic ignition unit for appliances comprising a series of gas rings (21) with which there are associated respective electrical ignition heads (22) and a corresponding number of aligned taps (5), these latter containing an operating stem (50) provided with a knob (51) for sliding and rotating it, comprises a common ignition control member (12) which is hinged to the appliance (1) on an axis parallel to the line on which the taps lie, is disposed transversely to said stems (50), and is coupled to each of these latter by a fork (11) against which the stem acts only when translationally moving in one specific direction so that said member (12) is able to rotate in response to the translational movement of any one of the stems (50), to press a common pushbutton (16) which operates an ignition device (17) common to all the ignition heads (22).

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This invention relates to an automatic device for igniting appliances provided with gas rings, such as cooking stoves and cooking hobs.

More specifically, the invention relates to those appliances provided with at least one gas ring with which a known feed tap is associated.

For safety reasons, the tap can only be opened after axially pushing the corresponding operating knob against elastic means which oppose said knob.

In this respect, the stem which operates the valve part for opening and closing the tap is associated with the body of the tap by a bayonet connection which prevents undesirable rotation of the stem when the tap is closed.

For igniting the gas rings of such appliances there has for some time been a general use of devices comprising for each gas ring an electrical ignition head connected to a convenient source of electricity via a control member.

However, such ignition devices have proved unsatisfactory from both the safety and constructional viewpoints.

Firstly, the use of one control member per gas ring results in constructional complexity and additional cost.

Secondly, to ignite each gas ring two operations have to be carried out, namely the opening of the corresponding tap and the operation of the respective ignition control member, and it can happen that a tap is opened without the ignition member being automatically operated.

In addition, if a previously ignited gas ring becomes extinguished, to reignite it the user has firstly to identify the corresponding tap and then operate the respective control member.

It follows that under such circumstances identifying the open tap associated with the extinguished gas ring is not always simple and quick, and a gas leakage can occur which can be dangerous and is certainly annoying to the user.

The main object of the present invention is to provide an automatic ignition unit which obviates the aforesaid within the context of a simple and rational construction.

The invention consists of associating with gas opening and closure taps a common member which is sensitive to the axial sliding of each individual tap, and which in its turn operates a common electrical operating member for the ignition means associated with each gas ring.

In accordance with the aforesaid idea, the device according to the invention comprises a common gas ring ignition control member which is hinged to the body of the cooking stove or cooking hob on an axis parallel to the line on which the taps lie, is disposed transversely to the sliding direction of the respective stems, and is coupled to each, of

these latter in such a manner that engagement occurs in only one direction.

Said common ignition control member is made to rotate in one direction by the opening action of any one of said stems, and in the opposite direction by elastic repositioning means acting against the axial sliding of the stems.

A common control device is also provided by which all the gas ring ignition heads are energized and de-energized when the common control member is made to rotate by the axial movement of at least one of the tap stems.

All the objects of the invention are attained by the aforesaid means.

In this respect, firstly, to ignite a gas ring it is necessary only to open the respective tap.

Again, because of the presence of said common control member, to reignite a gas ring which has accidentally been extinguished it is no longer necessary to identify the corresponding tap, it being sufficient merely to press the knob of any tap.

Finally, the use of said common control member makes the invention constructionally simple and of low cost.

The characteristics and constructional merits of the invention will be apparent from the detailed description given hereinafter with reference to the accompanying figures, which show a particular preferred embodiment thereof by way of non-limiting example.

Figure 1 is a partial perspective view of the invention associated with a cooking hob of the built-in type.

Figures 2 and 3 are sections on the lines II-II and III-III of Figures 1 and 2 respectively, to an enlarged scale.

Said figures show a cooking hob indicated overall by 1, comprising two superposed half-casings 2 and 3 respectively, these latter consisting of two punched and drawn metal sheets.

Although not shown it should be noted that the two half-casings 2 and 3 are conveniently fixed together and are spaced apart such as to receive the elements stated hereinafter.

Whether or not the cooking hob 1 is intended to be built into a working top or another equivalent such, as a kitchen unit is unimportant.

In the usual manner the upper half-casing 2 is provided with a sunken portion 20 for collecting liquids which spill for example during cooking, a series of gas rings 21 being associated with said sunken portion.

Each individual gas ring 21 is connected to a feed pipe 4 which branches from a front manifold 40 via a respective tap 5. The manifold 40 and taps 5 are fixed to a common support 6 by a series of clamping devices 60 (see Figure 2), the operating stems 50 of said taps 5 extending above the upper

half-casing and above an overlying masking plate 7 to receive the corresponding operating knobs 51.

According to the invention, to the rear of each knob 51 there is provided a thrust ring 8, which is mounted on the respective stem 50 to lie between a shoulder on this latter and a circlip 9.

In addition, in contact with the lower face of said thrust ring 8 there are provided two diametrically opposing salient teeth 10 which branch from the arms of a fork-shaped element 11 embracing the stem 50.

As can be seen in Figure 1, the fork-shaped elements 11 are formed integrally with an elongate member 12 which is positioned to the side of the taps 5 and is bent to form a double step when viewed in cross-section (see Figure 2).

On the opposite side to said elements 11 the member 12 comprises at least two slots 13 (Figures 1 and 3) which receive respective tongues 14, these latter having an end portion which can be bent to prevent withdrawal of the member 12 (Figures 1 and 2).

The engagement between said tongues 14 and slots 13 is such as to enable the member 12 to rotate freely about the upper end of the support 6.

In addition, at one end of the member 12 there is provided an appendix 15 (Figures 1 and 3) which rests on the pushbutton 16.

This latter is associated with an ignition device 17, for example of piezoelectric type, which is connected to the ignition heads 22 provided immediately to the side of the gas rings 21.

The operation of the invention is apparent.

Each time any knob 51 is pressed, rotated and released to open a tap 5, the device 17 is simultaneously operated via the appendix 15 and pushbutton 16, to energize all the heads 22.

The device 17 can be of the type which is operated either on pressing the pushbutton 16 or on releasing the pushbutton 16 after it has been pressed.

The merits and advantages of the invention are apparent from the foregoing and from an examination of the accompanying figures.

The invention is not limited to the single embodiment described and illustrated, but covers all technical equivalents of the aforesaid means and their combinations, if implemented within the context of the following claims.

Claims

1. An automatic ignition unit for appliances comprising a series of gas rings (21) with which there are associated respective electrical ignition heads (22) and a corresponding number of aligned taps (5), these latter containing an operating stem (50) provided with knob (51) for

sliding and rotating it, characterised by comprising a common ignition control member (12) which is hinged to the appliance (1) on an axis parallel to the line on which the taps lie, is disposed transversely to said stems (50), and is coupled to each of these latter by a fork (11) against which the stem acts only when translationally moving in one specific direction so that said member (12) is able to rotate in response to the translational movement of any one of the stems (50) to press a common pushbutton (16) which operates an ignition device (17) common to all the ignition heads (22).

2. A unit as claimed in claim 1, characterised in that said member (12) comprises a flat elongate element which on one side is provided with seats (13) for its hinging to the appliance (1) and on the other side is provided with a number of forks (11) equal to the number of appliance taps (5), each individual fork (11) being mounted on a tap stem (50) to act on a thrust ring (8) provided on the stem.
3. A unit as claimed in the preceding claims, characterised by comprising elastic means for repositioning the member (12).





