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(54) A gas hob

(57) A gas hob comprises a gas rail 2 and a plurality of gas taps 3 to 6 in communication with the gas rail. The gas rail is supported by being held between a wall 7 of the hob and the gas taps which are secured to that

wall. The arrangement of the invention simplifies the mounting of the gas rail and gas taps within the hob. Furthermore, the gas rail is trapped in position between the taps and the wall.

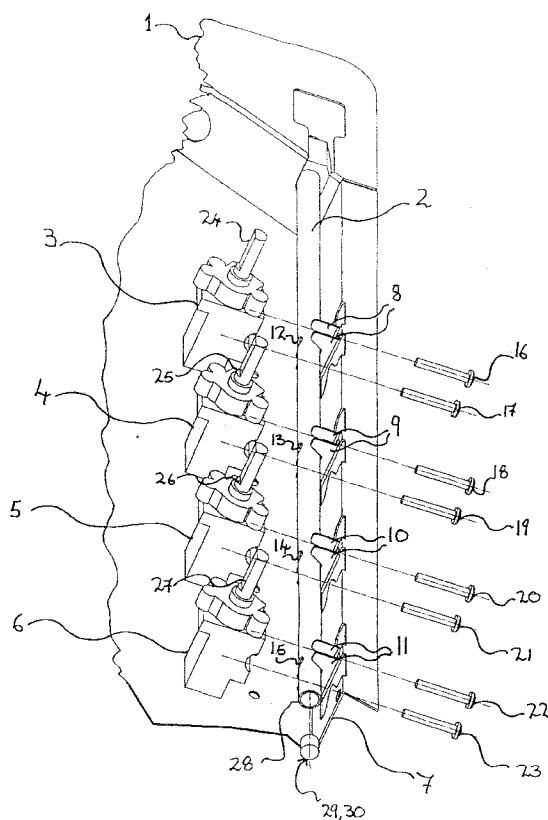


FIG. 1

EP 0 877 206 A2

Description

This invention relates to a gas hob, and particularly to such a hob incorporating a gas rail and a plurality of gas taps in communication with the rail.

Conventionally, the gas taps are held against the gas rail by means of respective saddle-clamps. It is then necessary to support this assembly onto a wall of the hob by means of brackets.

The invention provides a gas hob comprising a gas rail and a plurality of gas taps in communication with the gas rail, characterised in that the gas rail is supported by being held between a wall of the hob and the gas taps which are secured to that wall.

The gas rail is trapped between the taps and wall. The arrangement of the invention simplifies the mounting of the gas rail and gas taps within the hob.

The gas rail advantageously is located by means of supports, which are formed out of the wall of the hob.

It is preferable that the supports have faces which are arranged to abut faces on the respective taps. This feature enables the taps to occupy a desired position, for instance, alignment with other components of the hob.

The gas taps may be secured to the wall by fastening means, such as screws, which are introduced through the wall from the side remote from that holding the gas rail, and which extend through the wall and into the respective taps.

The wall may be an upstanding side-wall of a base panel of the hob.

The invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

Figure 1 is a schematic, partly-exploded perspective view, from above, of a base panel of a gas hob constructed according to the invention;

Figure 2 is a schematic, partly-exploded perspective view, from the front, of the base panel of Figure 1;

Figure 3 is an axial section through the sealed portion of the gas rail of the hob of Figures 1 and 2; and

Figures 4a to 4c are sectional views illustrating a procedure of sealing the rail of Figures 1, 2 and 3.

Like reference numerals have been given to like parts throughout each of the Figures.

Referring to Figures 1 and 2, a base panel of a gas hob is shown and is indicated generally by the reference numeral 1. Gas is supplied by means of a gas rail 2 to gas taps 3 to 6, which are connectable to the gas burners of the hob (not shown).

The gas rail 2 is held against side-wall 7 of the base panel 1 by means of supports 8 to 11, which are formed

from the side-wall. Each of the supports 8 to 11 comprises a pair of U-shaped flaps, which are cut out of side-wall 7, and which are pushed inwards, towards the gas rail 2. It is preferable that the flaps are substantially at right angles to the side-wall 7. The supports 8 to 11 locate the gas rail 2 and prevent it from being displaced in a direction parallel to side-wall 7.

The gas rail 2 has outlet holes 12 to 15 for supplying gas to taps 4 to 7 respectively. The rail 2 is arranged in the supports 8 to 11 such that the outlet holes face away from the side-wall 7. Each of the gas taps 3 to 6 has a short inlet tube, which is arranged to fit in an outlet hole. Gas taps 3 to 6 are fastened in their respective positions against outlet holes 12 to 15 respectively by means of screw fasteners 16 to 23, which are introduced through side-wall 7 of the base panel 1, and which extend through the side-wall into the taps. A pair of screws fixes each tap to the side-wall 7, one screw of each pair being introduced above the gas rail 2, the other screw below. The screws 16 to 23 are arranged to fit into threads cut into the gas taps 3 to 6, each pair of threads being arranged above and below the inlet of each tap.

By fixing the gas taps 3 to 6 to the side-wall 8 of the base panel 1 in this manner, the gas rail 2 is trapped between the taps and the side-wall. Rubber washers (not shown) are inserted between each gas tap and rail 2, in order to provide a seal to prevent gas leakage from the outlet holes 12 to 15.

When the taps 3 to 6 are fitted to the side-wall 7, the faces of the taps abut the faces of the U-shaped flaps which make up the supports 8 to 11. The effect of this is that the taps are automatically aligned, which facilitates the fitting of tap spindles 24 to 27 to other parts of the hob, for instance heat setting selectors.

It is necessary that the end 28 of the gas rail is sealed, to prevent gas leakage, and Figure 3 shows the rail 2 when sealed.

Referring to Figure 3, the end 28 of the gas rail 2 is sealed by combination of a shell 29 and a plug 30. The shell 29 and plug 30 may be realised by any one of the blind rivets disclosed in Patent No. GB 1538872, the contents of which are incorporated herein by reference.

The shell 29 has been radially deformed by the plug 30 to engage the inner surface of the gas rail 2, and thus form a gas tight seal. The plug 30 has an outwardly-splaying sleeve 31 which engages in a shoulder 32 in the shell 29, and thereby prevents the plug becoming separated from the shell.

The procedure of positioning shell 29 and plug 30 in the end 28 of the rail 2 is shown in Figures 4a, b and c.

Referring to Figure 4a, a mandrel 33 is shown, which mandrel comprises plug 30 and a stem 34. At the junction of plug 30 and stem 34 is a breaker groove 35, which is arranged such that the plug breaks off from the stem when the groove experiences a predetermined tensile force. The plug 30 also has a cylindrical cut, concentric with the stem, which defines the sleeve 31.

The shell 29 is threaded onto the stem 34, and the

whole assembly is inserted in the nose of a tool 36. A suitable tool is described in the specification of the aforementioned patent. The tool 36 is then used to insert plug 30, stem 34 and shell 29 in the end 28 of the rail 2 until the whole length of the shell is within the rail, as shown in Figure 4b.

In this drawing, the tool 36 has been actuated, and is pulling the mandrel 33 further into the body of the tool. When the tapered section of plug 30 encounters the inner surface of the shell 29, it deforms it and urges the shell to expand radially into engagement with the inner surface of the gas rail 2.

As the mandrel 33 is pulled further into the tool 36, the enlarged section of plug 30 encounters the inner surface of the shell 29. The outer surface of shell 29 is in engagement with the rail 2, and therefore resists further expansion. Consequently, the plug 30 begins to wire-draw.

Continued pulling of the mandrel 33 causes the plug 30 to abut the nosetip of the tool 36, which splays sleeve 31 into engagement with the shell 29. Pulling beyond this point subjects the breaker groove 35 to a greater force than experienced hitherto. As a result, the stem 34 and plug 30 disengage from each other at the breaker groove 35.

Figure 4c shows the separated stem 34 and plug 30. The gas rail 2 is now sealed by the shell 29 and plug 30, these components being locked together by the sleeve 31 of the plug being in engagement with the shoulder 32 of the shell.

A suitable material for the plug 30 is carbon steel and the sleeve 29 may be an alloy of aluminium, although other materials may be used.

Further variations may be made without departing from the scope of the invention, and these will be apparent to those skilled in the art.

that holding the gas rail.

- 5 5. A gas hob as claimed in claim 4, characterised in that the fastening means comprises a plurality of screws (16, 17, 18, 19, 20, 21, 22, 23).
- 10 6. A gas hob as claimed in any one of claims 1 to 5, characterised in that the wall is an upstanding side wall of a base panel (1) of the hob.
- 15 7. A gas appliance including a gas hob as claimed in any one of claims 1 to 6.

Claims

- 40 1. A gas hob comprising a gas rail (2) and a plurality of gas taps (3, 4, 5, 6) in communication with the gas rail, characterised in that the gas rail is supported by being held between a wall (7) of the hob and the gas taps which are secured to that wall.
- 45 2. A gas hob as claimed in claim 1, characterised in that the gas rail is supported on supports (8, 9, 10, 11) formed out of the wall.
- 50 3. A gas hob as claimed in claim 2, characterised in that the supports have faces which abut with faces of the taps, to position the taps in a desired position.
- 55 4. A gas hob as claimed in claim 1, 2 or 3, characterised in that the gas taps are secured to the wall by fastening means (16, 17, 18, 19, 20, 21, 22, 23) extending through the wall from the side remote from

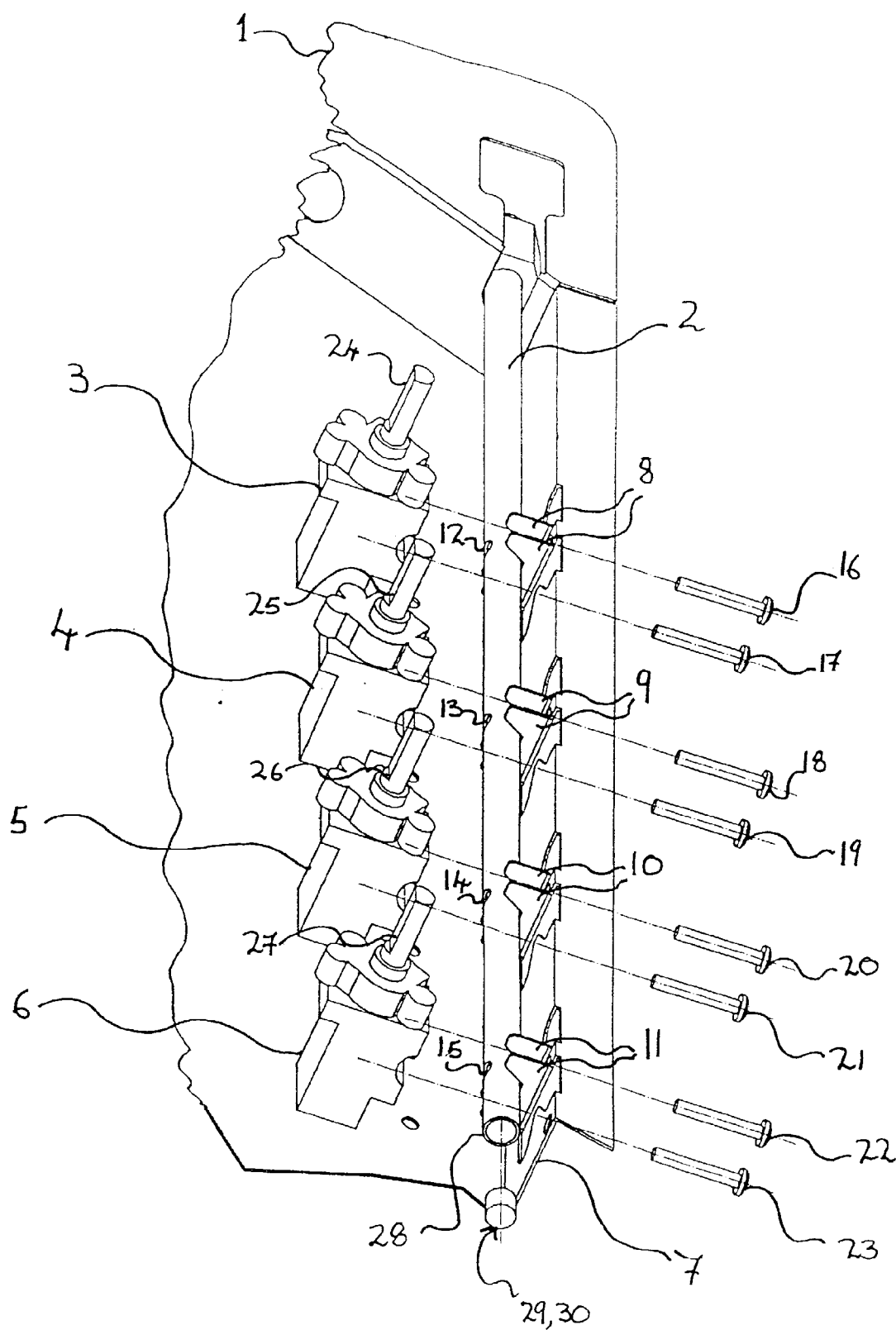
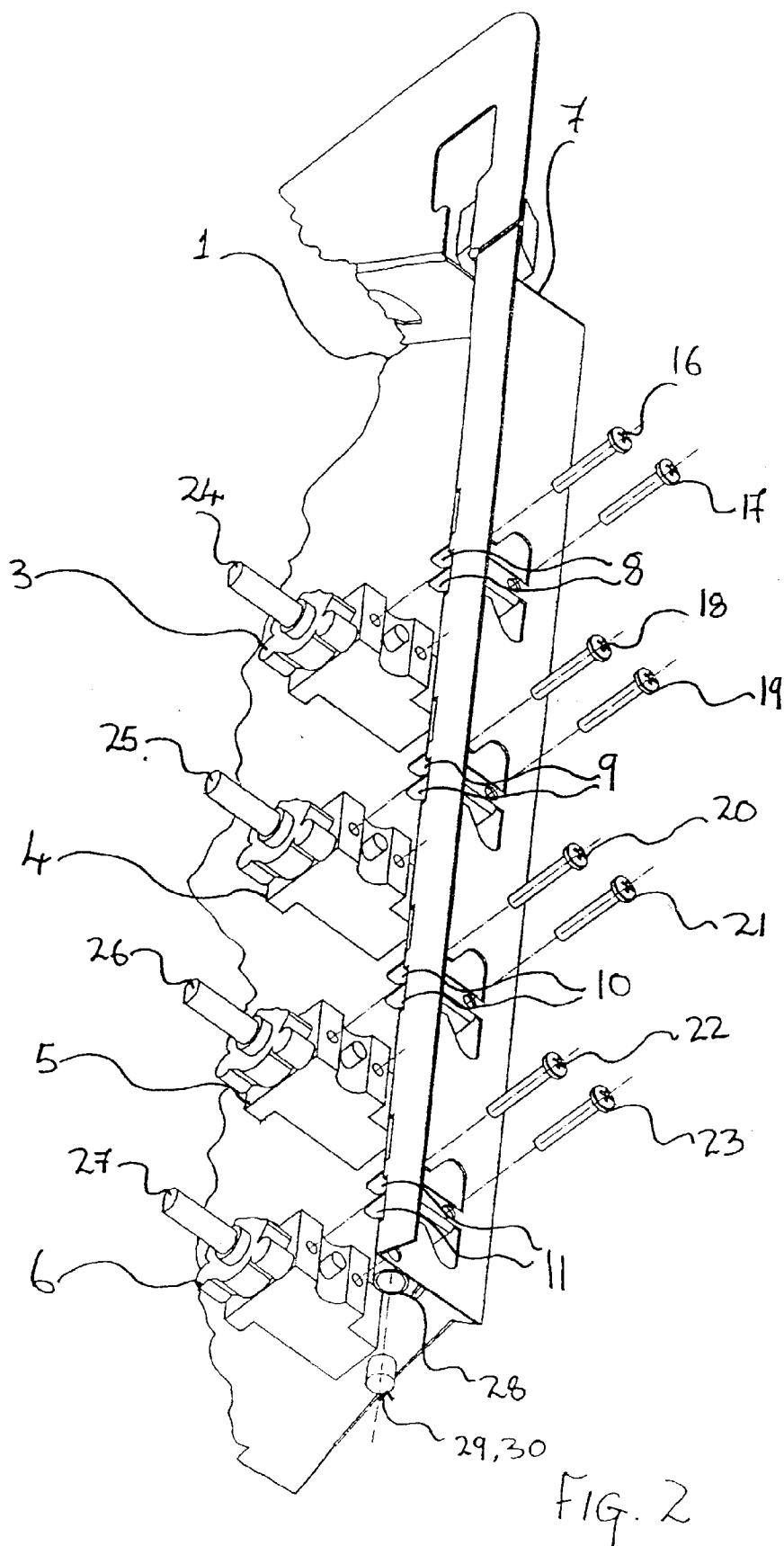


FIG. 1



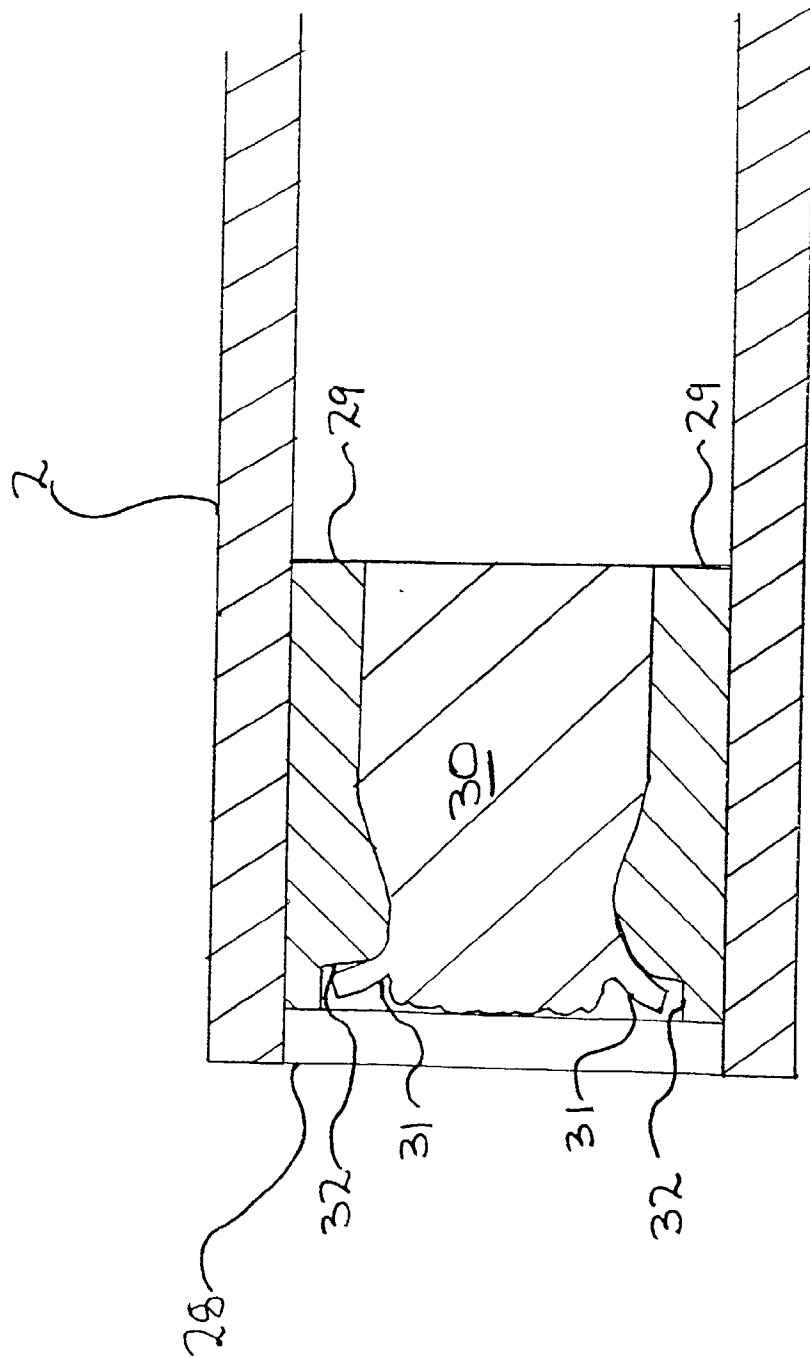


FIG. 3

