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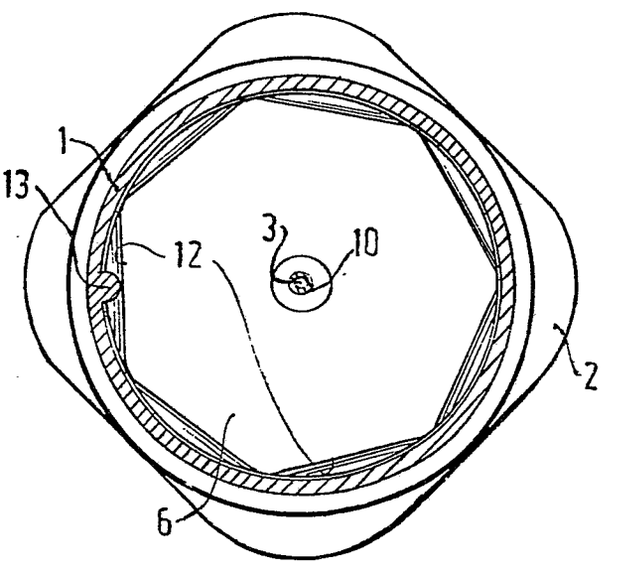
(54) Gas burner device.

(57) A gas burner device comprises a hood (1) which partly envelopes a gasfilled, cylindrical cartridge (6). A pin (10) being part of the burner pierces the cartridge. Gas burner devices of this type are mainly used for camping purposes. The hood (1) is screwed on the cartridge receiving holder (2). Upon screwing the pin (10) pierces the cartridge whereby a seal is provided on the jacket of the cartridge. Due to the rotatory movement of the burner with respect to the carter the sealing (11) may be damaged so that a risk of liquids arises. In order to prevent this one of the -o-operating services of the to prevent this one of the co-operating services of the hood are at least partly polygonal (12) and the other one of the services has at least one stop lug (13) so that the cartridge is automatically guarded against rotation before reaching the pin.



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The invention relates to a gas burner device comprising a hood partly enveloping a gas-filled, substantially cylindrical cartridge and having a pin piercing the cartridge and adjoining the burner element, a seal being provided on the jacket of the cartridge.

Such a gas burner device is known from Dutch patent specification 150,216.

Such a gas burner device is used inter alia for camping purposes. A cartridge can be mounted as follows. The cartridge can be introduced into the hood and the burner element can subsequently be screwed into the hood, the pin thus piercing the jacket of the cartridge. Due to the rotary movement of the burner element with respect to the cartridge the rubber sealing ring may be damaged so that the risk of leakage is involved. As an alternative the cartridge may be pressed into a holder comprising the burner element and the pin, the jacket of the cartridge being pierced during the insertion. Although in this case there is no rotation between the burner element and the cartridge, there is the risk of the cartridge not moving in accurately perpendicular position with respect to the pin so that the ring does not establish a seal with the cartridge jacket.

The invention has for its object to avoid this risk. According to the invention this is achieved in that the hood is screwed onto a holder receiving the cartridge, one of the co-operating surfaces of the upper part of the cartridge on the inner side of the hood is at least partly polygonal and the other one of said surfaces has at least one stop lug.

Since the holder with the cartridge is screwed onto the hood and the cartridge is automatically guarded against rotation before reaching the pin, an accurately perpendicular movement is ensured so that the top wall of the cartridge is pierced by the pin in substantially perpendicular position. Damage of the sealing ring and a slanting position of the pin relative to the jacket of the cartridge are excluded. It is noted that inter alia in Dutch Patent Application 7807915 means are proposed for guarding the cartridge against rotation

with respect to the hood. These means are formed by grooves and inserting means on the cartridge or the hood.

However the use of such a cartridge and hood is very cumbersome and in practice it may give rise to hazards, since the user will have to turn the cartridge around until the grooves and the insertion elements are in register with one another. Because this manipulation has to be carried out whilst the grooves and insertion elements are out of vision, this may take much time and cause annoyance Particularly when putting the cartridge for the first time into use, the user may press it against the insertion elements into the hood and thus damage the jacket of the cartridge resulting in leakage and the consequent hazards. Moreover, in said publication it is still proposed to screw the burner element with the pin into the hood after the cartridge is inserted. A rotation of the cartridge with respect to the hood is, indeed, avoided, but the burner element with the pin is still turned with respect to the cartridge so that damage of the sealing ring is as yet possible.

By choosing a large number of corners and only a single lug practically always an angular part will get straight into register with the stop lug directly or after a very slight angular turn, when the cartridge is inserted, whilst nevertheless a satisfactory guard against rotation is obtained. The cartridge centers with respect to the burner element because it can engage the sidewalls of the hood and the top side of the hood.

Preferably the top part of the cartridge is polygonal and the diameter of the circumscribing circle thereof is smaller than the diameter of the adjoining cylindrical part.

A very advantageous embodiment is obtained by shaping the polygonal parts each in a triangular form. With a matching design of the stop lug in the hood the cavity between two adjacent triangular parts then serves as a stop-lug receiving space. When the cartridge is inserted, the triangular shape has a homing effect.

On the hood or on the holder there may be provided a slightly flexible lug and on the holder or the hood respectively a recess. It is thus ensured that, when the final position

of the holder in the hood is reached, the lug snaps into the recess so that the holder and the hood are relatively guarded against rotation. Thus disengagement of the holder and the hood due to vibrations or the like is avoided. Moreover, children are prevented from readily unscrewing the holder from the hood, since overcoming the bending resistance of the lug requires an effort that cannot be produced by children.

The invention will be described more fully with reference to embodiments shown in the drawings.

The drawings show in

Fig.1 a sectional view of a gas burner device embodying the invention,

Fig.2 a plan view of a cartridge embodying the invention,

Fig.3 a side elevation in the direction of the arrow in Fig.1,

Figs. 4a, 4b, 5a, 5b, 6a and 7a, 7b side elevations and plan views respectively of variants of a cartridge embodying the invention.

The gas burner device according to the invention comprises a hood 1, onto which a cartridge-receiving holder 2 is screwed. The burner element 8 can be arranged in the bore 7. The burner element has a cock 9, which can be rotated. On the underside a gas tap head of the burner element has a pin 10 capable of piercing the top side of the cartridge 6. There is furthermore provided a sealing ring 11, which adjoins a top surface of the cartridge and provides a seal with a burner element. The pin has an inner flow channel 3. The pin 10 will invariably pierce the cartridge 6 to form a circular hole, the size of the flow channel 3 being thus determined. Variations of the passage due to paint scales and metal particles resulting from piercing by means of a solid pin will not occur. Paint scales and metal particles might get in between the sealing ring and the cartridge and give rise to leakage in the case of a non-hollow pin.

According to the invention the outer surface of the upper part of the otherwise cylindrical cartridge 6 has flattened parts, for example, 12 so that a polygonal design is obtained. On the inner side of the hood is arranged a stop lug 13, which

guards the cartridge against rotation relative to the hood 1 by its contact with one of the flattened parts 12.

The entire upper part of the cartridge (Fig.4) may have flattened parts adjacent one another or alternating flattened and cylindrical parts (Fig.5).

In a further embodiment (Fig.6) the flattened parts have a triangular shape (14) so that between consecutive triangular parts 14 and 15 cavities, for example, 16 are formed, which have a location-finding effect by co-operating with the stop lug 13, since when introducing such a cartridge the upright side of the triangle will function like a sliding surface, when the cartridge is pushed in a vertical sense on the stop lug which finally arrives at the base 17 of the cavity 16.

Fig.7 shows that along the otherwise cylindrical top part of the cartridge are provided a plurality of embossed parts 18,19 and 20, which co-operate with the stop lug 13.

The hood 1 is provided with a slightly flexible lug 4, which can snap into a recess 5 of the holder 2 and thus guards the hood and the holder against rotation. In this way the hood is prevented from disengaging the holder in the case of vibrations. Moreover, children are prevented from readily sliding off the holder, since a given effort is required for overcoming the resistance of the flexible lug 4.

CLAIMS

1. A gas burner device comprising a hood partly enveloping a gasfilled, substantially cylindrical cartridge and having a pin adjoining the burner element and piercing the cartridge, a seal being provided on the jacket of the cartridge, characterized in that the hood is screwed onto a cartridge-receiving holder, one of the co-operating surfaces of the upper part of the cartridge and the inner side of the hood are at least partly polygonal and the other one of said surfaces has at least one stop lug.

2. A gas burner device as claimed in claim 1 characterized in that the upper part of the cartridge has a polygonal shape.

3. A gas burner device as claimed in claim 2 characterized in that the polygonal part forms a regular polygon and the diameter of the circumscribing circle is smaller than the diameter of the cylindrical part.

4. A gas burner device as claimed in claim 1 characterized in that part of the surface of the upper part of the cartridge is polygonal and the further part is cylindrical.

5. A gas burner device as claimed in claim 2 characterized in that the polygonal parts each have a triangular shape.

6. A gas burner device as claimed in claim 1 characterized in that the pin has an inner channel adjoining the burner element.

7. A gas burner device as claimed in claim 1 characterized in that the pin has a flow channel in the form of a slot provided on the outer side.

8. A gas burner device as claimed in claims 1 to 7 characterized in that the hood or the holder is provided with a slightly flexible lug and the holder or the hood respectively has a recess.

FIG.1 "½"

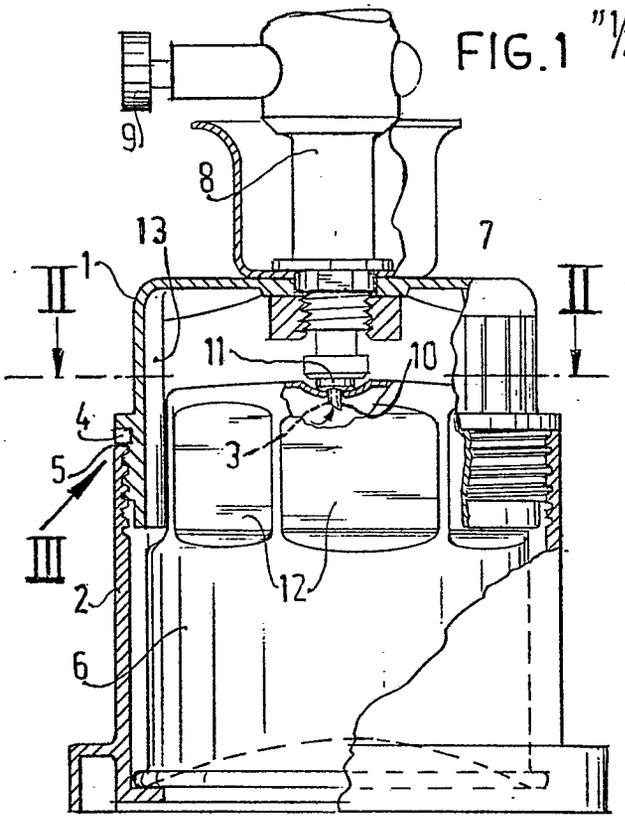
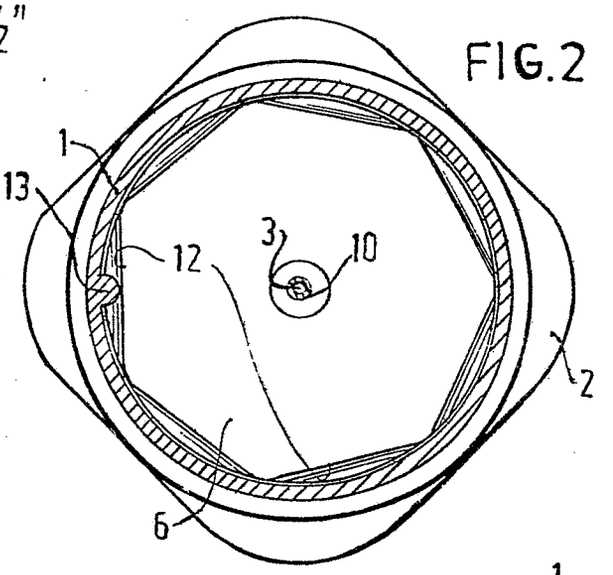


FIG.2



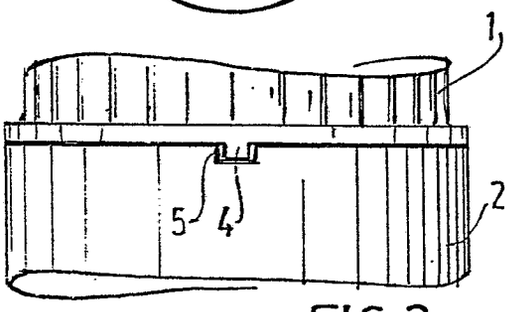


FIG.3

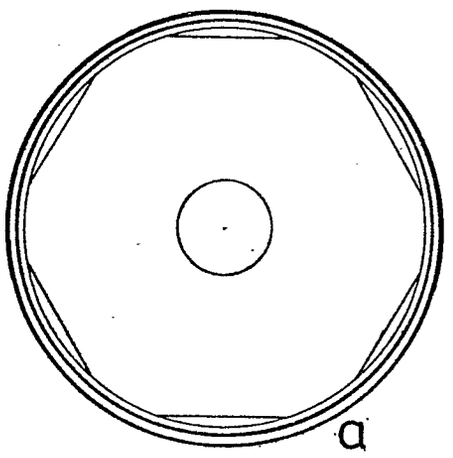
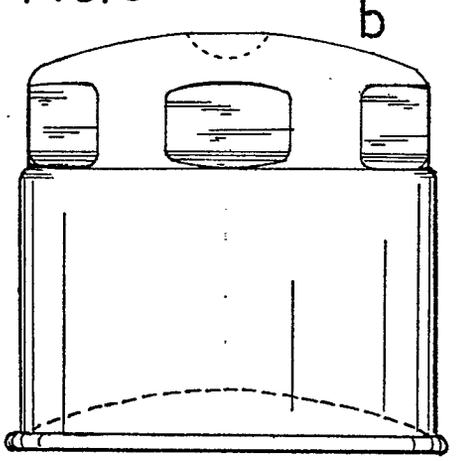


FIG.5



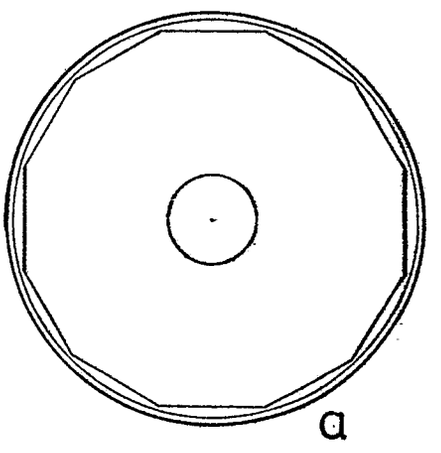
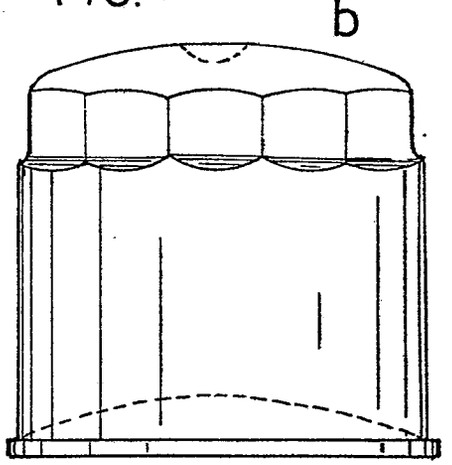


FIG.4



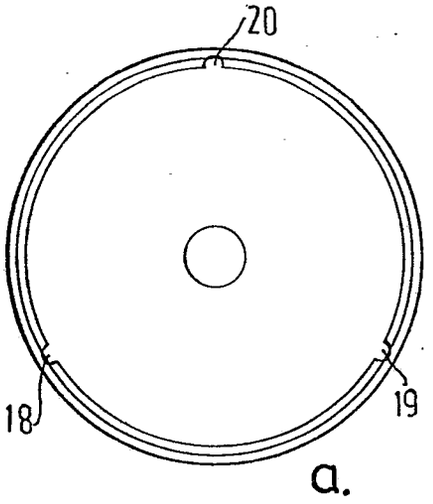


FIG.7

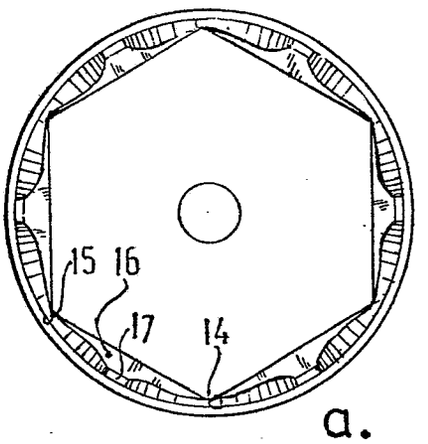
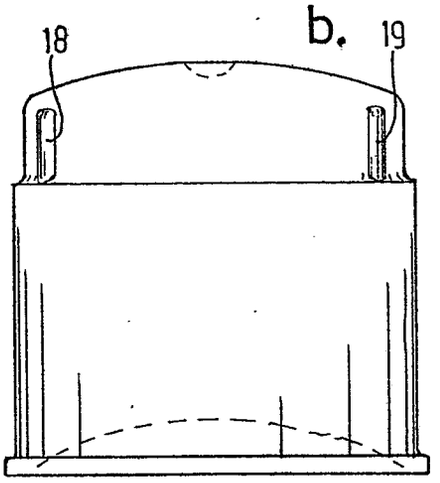
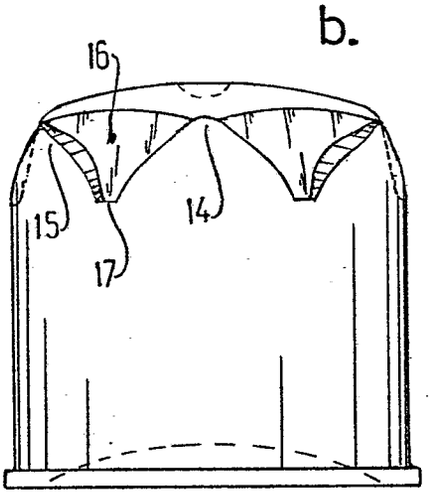


FIG.6





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EUROPEAN SEARCH REPORT

0051882
Application number
EP 81 20 1098

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	FR - A - 1 503 773 (A.D.G.) * page 2, left-hand column, paragraph 11; figures 1,2 and 7 *	1
A	GB - A - 1 283 688 (A.D.G.)	
A	FR - A - 2 208 087 (A.D.G.)	

CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)

F 24 C 3/14
F 17 C 13/08

TECHNICAL FIELDS SEARCHED (Int.Cl. 3)

F 24 C
F 17 C
F 23 D

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
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E: earlier patent document, but published on, or after the filing date
D: document cited in the application
L: document cited for other reasons

&: member of the same patent family, corresponding document

X The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	09.02.1982	VANHEUSDEN

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