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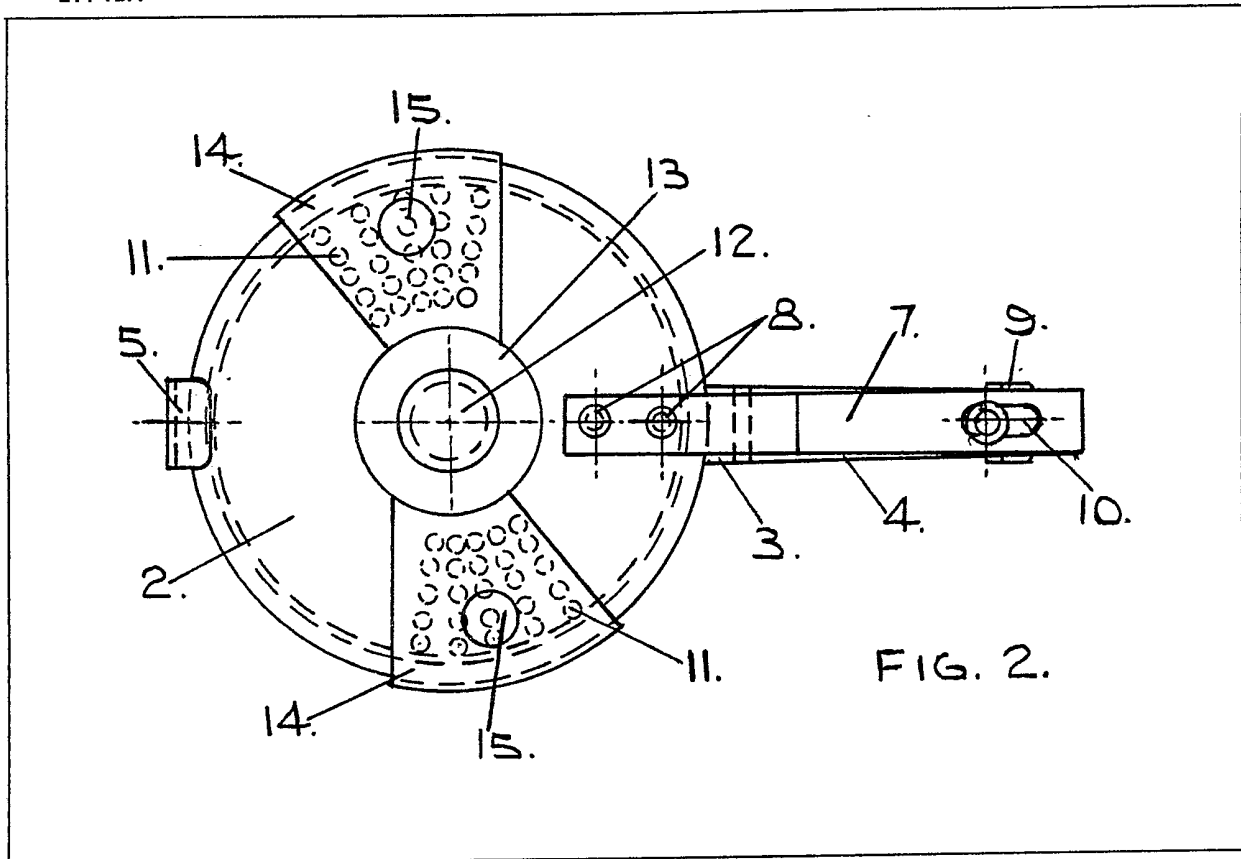
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(54) **Cooking vessel with anti-scald lid**

(57) A cooking vessel, such as a saucepan, having a conventional body with a thermally insulating handle 3/4, is provided with a lid 2 which closely, but non-sealingly, fits the open top of the body, said lid 2 being locked or latched to the body, in use, by providing the lid 2 with a handle 7 releasably lockable to the body handle 3/4 by a key 9 entered through a slot 10 in the body handle 3/4. A clamp 5, carried by the body of the vessel, engages a rim/edge region of the lid 2 diametrically opposite to the aligned handles 3/4 and 7. The lid 2 is formed with at least one, and preferably two, arrays of relatively small holes 11 and carries a shutter 14 that is movable by at least one knob 15 about an axis coinciding with that of a central knob 12 of the lid 2. The shutter 14 can occupy a position in which the or each array of holes 11 is non-sealingly masked thereby or a position in which said holes 11 are unmasked. The locked/latched lid 2 and the non-sealingly masked, in use, holes 11 prevent major spillage of boiling water or other hot liquid if the vessel is dropped or pulled off a hob by a child and the holes 11 can be used for straining purposes when the shutter 14 is in its non-masking position.



GB 2 093 333 A

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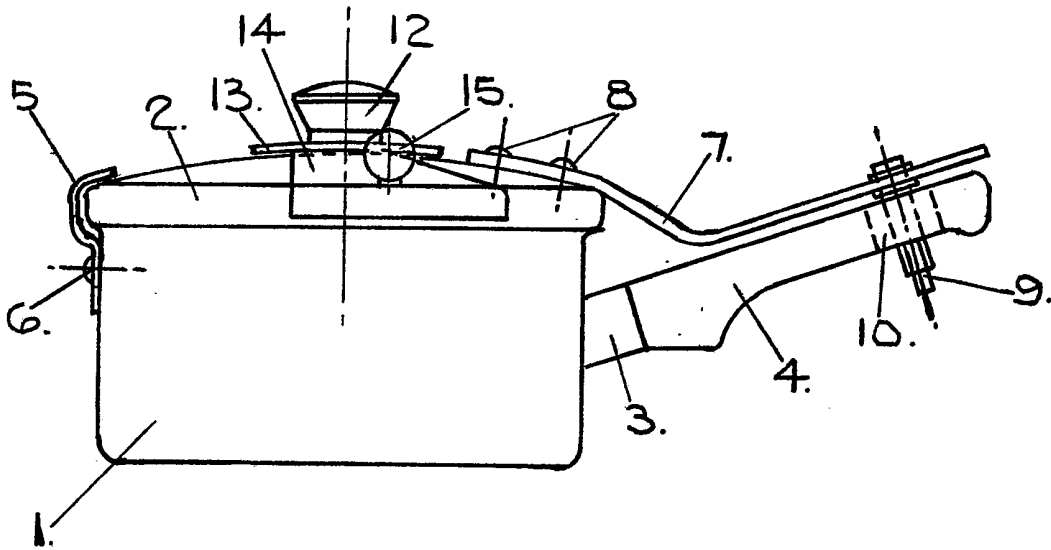


FIG. 1.

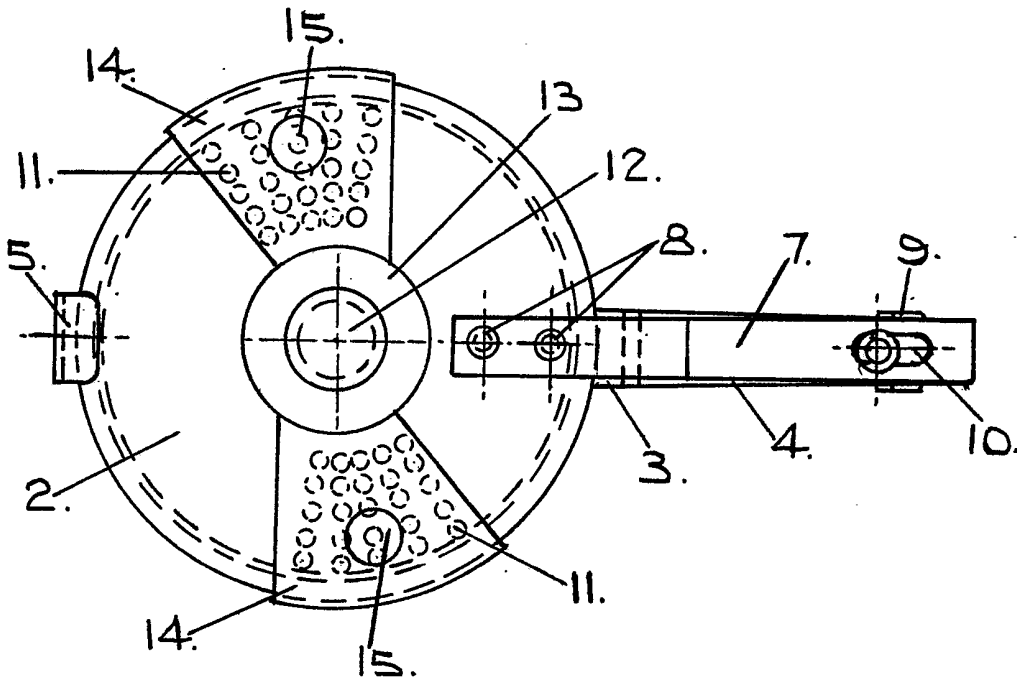


FIG. 2.

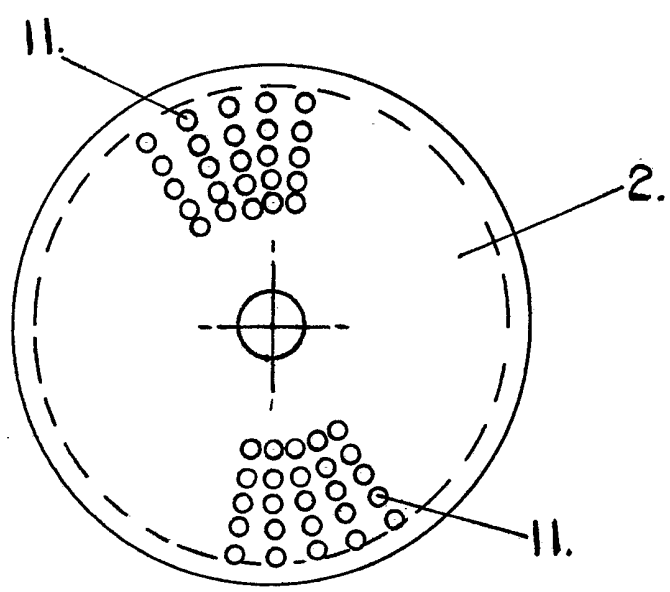


FIG. 3.

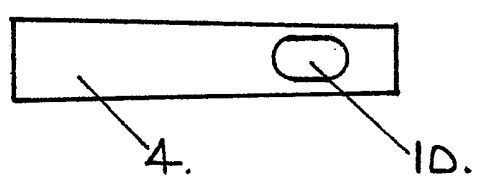


FIG 5.

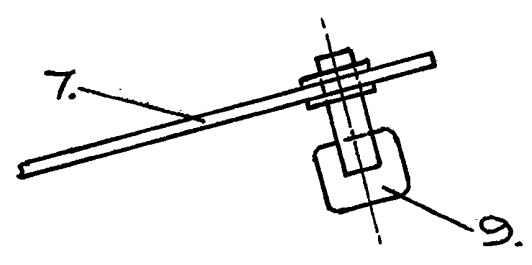


FIG. 4.

SPECIFICATION

Cooking vessel with anti-scald lid

This invention relates to cooking vessels, such as saucepans, frying pans, skillets, preserving pans and other vessels which, although they might have different names, are intended for use in cooking or heating foodstuffs in aqueous liquid or oil or in heating potable aqueous liquids, such as soups, to temperatures as high as the boiling point of water.

Many accidents have occurred, and particularly to small children at the pre-school stage, as a result of a conventional saucepan or frying pan having a loose lid, or no lid at all, being pulled off the hob of a domestic gas or electric stove by an inquisitive young child who, whilst momentarily unsupervised, exercises his/her natural curiosity and grasps the handle of the pan that is left unwisely but invitingly projecting over the edge of the hob. The child has no idea of the danger involved and the tipping of a litre or more of boiling water or a considerable quantity of very hot oil or liquid fat over his/her head and/or body and/or limbs can be, and often has been, fatal to the child. Even if not fatal, a serious accident of this kind can cause hospitalisation for a long period of time and, sometimes, permanent incapacity and/or disfiguration.

With the above disadvantage of conventional cooking vessels in mind, it is an object of the present invention to provide cooking vessels and co-operating lids or covers (hereinafter referred to solely as "lids") which, whilst allowing cooking or heating to take place in a normal manner, will very greatly reduce, if not entirely eliminate, the danger of serious scalding that is inherent in the use of known saucepans, frying pans and the like.

According to the invention, there is provided a cooking vessel comprising a body constructed to contain a liquid and having a handle projecting therefrom, and also comprising a lid arranged to fit an otherwise open top of said body, wherein means is provided for releasably retaining the lid in position on the body, the lid being formed with an array of holes and being provided with a shutter manually displaceable between a position in which it non-sealingly masks said holes to retard any flow of fluid therethrough and a position in which said holes are unmasked.

For a better understanding of the invention, and to show how the same may be carried into effect, reference will now be made, by way of example, to the accompanying drawings, in which:—

Figure 1 is a side elevation of a cooking vessel and its lid constructed in accordance with the invention, the cooking vessel being in the form of a saucepan,

Figure 2 is a plan view corresponding to Figure 1.

Figure 3 is a plan view of the lid of the saucepan of Figures 1 and 2, the lid being shown without the handle thereof that appears in the preceding Figures, and without any central knob or shutter.

Figure 4 is a scrap view showing part of the lid

65 retaining means of the saucepan of Figures 1 and 2 in an alternative position, and

Figure 5 is a view illustrating the shape and position of a co-operating part of said retaining means.

Referring to the accompanying drawings, the cooking vessel which is illustrated therein as an example of one to which the invention may advantageously be applied is in the form of a saucepan having a substantially conventional body 1 that may be formed, in a manner which is well known *per se*, from "spun" aluminium, aluminium alloy, cast iron or any of several other materials or combinations of materials that have been used for this purpose. The body 1 has a co-operating lid 2 which fits closely, but non-sealingly, in an otherwise open top of the body 1 in a manner which is entirely conventional, the body 1 having a slightly flared rim upon which rests a part of the lid 2 that is of substantially the same, or very slightly larger, diameter, the lid 2 having its own rim which fits inside that of the body 1 in accordance with conventional practice. This known arrangement can readily be seen in Figure 1 of the drawings.

A short projection 3 extends outwardly and upwardly from the body 1 of the saucepan at a location below the level of that of the lid 2 and has a handle 4 firmly, but usually releasably, secured to it. The projection 3 is usually metallic and is formed integrally with, or more often rigidly secured to, the body 1 whilst the handle 4 is formed from a synthetic material which is both thermally resistant and thermally insulating so that it will not be destroyed by the heat applied to the saucepan for cooking purposes whilst allowing a user to pick up the saucepan without his/her hand being burnt. Usually, the handle 4 is secured to the short projection 3 by a machine screw (not visible) which is entered into a bore formed in a downwardly directed enlargement (visible in Figure 1) on the lower surface of the handle 4.

In accordance with a feature of the invention, means is provided for releasably retaining the lid 2 in position on the body 1. This means includes a clamp 5 secured to the body 1 at a location just beneath its rim by strong rivets 6 or in any other known manner that is strong and permanent having regard to the particular material from which the body 1 itself is formed. As can be seen in Figures 1 and 2 of the drawings, the clamp 5 extends upwardly and outwardly over the rim of the saucepan body 1 and over an upper edge region of the lid 2 to prevent the lid 2 being moved vertically upwards off the body 1. The clamp 5 is preferably, as shown, located diametrically opposite to the handle 4. The lid retaining means also includes a handle 7 carried by the lid 2 itself. The handle 7 is secured to the top of the lid 2 by a pair of spaced rivets 8 and is preferably, but not essentially, formed from flat but strong metal strip. An outer end region of the lid handle 7 is formed with a hole in which is turnably retained a key 9. The key 9 comprises an obliquely downwardly projecting shaft, defining its own axis of rotation,

said shaft centrally carrying a flat oblong plate at its lower end. The lid handle 7 is so shaped (see particularly Figure 1) that a large portion thereof, including the region carrying the key 9, will register with the upper surface of the body handle 4 and an outer region of that body handle 4, which, under the circumstances just mentioned, registers with the region of the lid handle 7 carrying the key 9, is formed with a slot 10 having its length extending parallel to that of the lid handle 4 itself. When the key 9 occupies the angular position shown in Figure 4 of the drawings, the plate forming part thereof will pass easily through the slot 10 but, when it is turned in either direction through 90° as compared with the position shown in Figure 4, it reaches the position shown in Figures 1 and 2 where the upper edge of said plate bears against the margins of the slot 10 thus preventing, in co-operation with the clamp 5, the lid 2 from being removed from the body 1. Preferably, although not visible in the drawings, the lower margins of the slot 10 are formed with upward recesses which will receive the upper edge of the plate forming part of the key 9 and a coil spring is associated with the shaft of that key to tend to move it upwardly in Figures 1 and 4. This will produce a light "bayonet" action tending resiliently to retain the key 9 in its latching or locking position (Figures 1 and 2). The key 9 can, of course, be turned about its axis of revolution by using the plate at the lower end thereof as a handle. It will be appreciated from a study of Figure 1, in particular, of the drawings that, once the key 9 is moved into the position shown in Figure 4, the handle 2 can readily be removed by lifting it pivotally upwards about a substantially horizontal axis disposed in the region of the clamp 5 until the part thereof that is restrained by the clamp 5 becomes free, after which the lid 2 is completely separated from the body 1.

In accordance with a further feature of the invention, the lid 2 is formed with two diametrically opposed arrays of holes 11. As shown in the accompanying drawings (Figures 2 and 3), each array of holes 11 comprises twenty-five of those holes arranged in substantially regularly spaced apart relationship in five substantially radially extending rows. The number and arrangement of the holes 11 is, however, by no means essential and a smaller or larger number of the holes 11 in each array may, if desired, be provided, it being preferable that each hole 11 is small in size relative to that of the lid 2 itself. The lid 2 has a central knob 12 which is preferably, but not essentially, made from the same heat resistant and thermally insulating material as is the body handle 4, the central knob 12 being retained in its appointed position by a co-operating machine screw (not shown) entered upwardly from beneath the lid 2 as shown in Figure 1. The knob 12 has a flange 13 and, around the shank of the machine screw which maintains said knob 12 in its appointed position, a dual shutter 14 is turnable beneath the flange 13. The dual shutter 14 is substantially symmetrical about the central axis of

the knob 12 and each side thereof carries its own manual operating knob 15. As can be seen in Figure 2 of the drawings, the dual shutter 14 can occupy a position in which it non-sealingly masks both arrays of holes 11 or can be moved by either knob 15 to a position in which both arrays of holes 11 are unmasked. The outer extremities of both parts of the dual shutter 14 embrace the inwardly turned rim of the lid 2 to prevent either part from being bent upwardly. When the lid 2 is in position on the body 1, the clamp 5 and the lid handle 7 acts as stops to prevent the dual shutter 14 from being turned continuously around the axis of the central knob 12.

In the use of the saucepan that has been described, its body 1 is partially filled with water and with the food that is to be boiled therein and the lid 2 is then placed in position to close the top of the body 1 by entering the edge of the lid 2 under the clamp 5 and turning the lid handle 7 downwardly into register with the body handle 4, the key 9 being in the position shown in Figure 4 at this time. The plate of the key 9 thus passes downwardly through the slot 10 in the body handle 4 after which the whole key is turned through substantially 90°, in either direction, to bring it to the position shown in Figures 1 and 2 in which the plate prevents the lid handle 7 from being lifted away from the body handle 4 and thus, in co-operation with the clamp 5, latches or locks the lid 2 firmly, but non-sealingly, into position on the body 1. If not already in that position, the dual clamp 14 is turned around the axis of the central knob 12 until both arrays of holes 11 are non-sealingly masked thereby. During boiling, steam can still issue from the body 1 around the rim of the lid 2 and through the holes 11 beneath the dual shutter 14 although said shutter 14 significantly retards the issue of steam from the holes 11 as compared with a position of the dual shutter 14 in which said holes 11 are totally unmasked. At the end of boiling, the user may, if desired, temporarily retain the lid 2 in its locked on or latched on position to employ that lid as a strainer. All that is necessary is to turn the dual shutter 14 about the axis of the central knob 12, using one of the shutter knobs 15, until the holes 11 are unmasked. The water can then be poured out through one of the arrays of holes 11 (depending upon whether the user is right-handed or left-handed), retaining the cooked food in the body 1 of the saucepan for separate removal, in a conventional way, after the key 9 has been turned and the lid 2 has been removed from the body 1. This employment of the lid 2 can be very useful, in practice, substantially eliminating the necessity for the provision of a separate colander or strainer.

Should the circumstances that have been briefly described at the beginning of this description occur with a saucepan as described above, the young child who pulls that saucepan off a hob by the combined handles 4 and 7 will not have all, or most, of the boiling contents of the saucepan poured over him/her since the lid 2 will remain locked/latched onto the body 1 and, before

the saucepan reaches the floor, very little, if any, of its contents will be able to escape around the edge of the lid 2 and through the masked holes 11. It is possible that the child will get an unpleasant
 5 shock by being splashed by a few drops of boiling water but it will be appreciated that no serious injury will be caused and that the child will learn by experience not to interfere with boiling water or other very hot liquids without having sustained
 10 any serious or lasting injury.

It will be appreciated that the invention can be applied to many cooking vessels other than saucepans and that it can be employed in many circumstances other than the purely domestic. For
 15 example, a cooking vessel in accordance with the invention can be most useful in school cookery classes, in the kitchens of hospitals and other institutions and for use by temporarily or permanently physically and/or mentally
 20 incapacitated persons who may be more prone than others to drop vessels containing boiling water, hot oil or the like. It will immediately be seen that the positive prevention of significant spillage, under these circumstances, can very
 25 greatly reduce scalding and like accidents. It is emphasised that a cooking vessel in accordance with the invention does not, and is not intended to, function as a pressure cooker, there being no hermetic seal to prevent the issue of steam, boiled
 30 over water or oil vapour from the vessel during its use even though the dual mask 14 retards the issue of such fluids without actually preventing it. It is not essential that there should be two arrays of holes 11. If preferred, a cooking vessel in
 35 accordance with the invention can be made in two versions for right-handed and left-handed people, respectively. All that is necessary for such a modification is to omit the appropriate array of holes 11 and the corresponding part of the shutter
 40 14 and its knob 15 so that the remaining "single" shutter will be turnable about the axis of the central knob 12 between the masking and fully unmasked positions that have already been described. The key 9 and co-operating slot 10 that
 45 have been described are preferred but are not essential. A screw-operated clamp or the like could be provided as an equally effective substitute or a strong clip could secure the lid handle 7 releasably to the body handle 4. A
 50 "positive" form of this part of the retaining means is preferred since, if resilient retaining means is employed, there is always the danger of the lid 2 being knocked off the body 1 in an accident having unusual circumstances. If desired, the
 55 central knob 12 of the lid 2 can be made so as to be capable of being unscrewed easily from that lid 2 to release the dual shutter 14, or equivalent single shutter, from the lid 2 for thorough cleaning purposes. It will be appreciated that it is only
 60 necessary to secure one of the clamps 5 to an existing saucepan and to replace the existing body handle with a body handle 4 formed with one of the slots 10 to enable an existing saucepan or other cooking vessel to be used in providing a
 65 cooking vessel in accordance with the invention

merely by the provision of a lid 2, as described above, having appropriate dimensions. As shown in Figure 2 of the drawings, the dual shutter 14 is moved in a clockwise direction about the axis of
 70 the central knob 12 to bring it from the position in which it masks the two arrays of holes 11 to a completely non-masking position. When a cooking vessel in accordance with the invention is to be used in, for example, a canteen, it will usually be
 75 large in size and relatively heavy in weight. Under these circumstances, the clamp 5 may incorporate a handle so that the complete saucepan can be lifted at two diametrically opposed locations rather than by the combined handles 4 and 7
 80 alone. Generally speaking, it has been found that, despite its metallic formation, the basically strip-shaped lid handle 7 does not conduct sufficient heat to its outer end region to constitute a danger, or even a discomfort, when in use. However, if
 85 preferred, at least the outer end region of the lid handle 7 may be surrounded by a thin layer of a thermally insulating material.

CLAIMS

1. A cooking vessel comprising a body
 90 constructed to contain a liquid and having a handle projecting therefrom, and also comprising a lid arranged to fit an otherwise open top of said body, wherein means is provided for releasably retaining the lid in position on the body, the lid
 95 being formed with an array of holes and being provided with a shutter manually displaceable between a position in which it non-sealingly masks said holes to retard any flow of fluid therethrough and a position in which said holes
 100 are unmasked.

2. A cooking vessel as claimed in claim 1, wherein the means which is provided for releasably retaining the lid in position on the body comprises a handle carried by the lid which lid
 105 handle can register with the body handle, means to lock or latch the lid handle to the body handle and a clamp, disposed at a location substantially diametrically opposite to the registering lid and body handles, said clamp retaining an edge region
 110 of the lid in engagement with a registering rim region of the body when the lid is in its appointed position on the body.

3. A cooking vessel as claimed in claim 2, wherein the means to lock or latch the lid handle
 115 to the body handle comprises a key turnably carried by one of those handles in such a way as to be capable of entry through an elongate slot in the other handle in one angular position of the key but so as not to be capable of passing the margins
 120 of the slot in an alternative angular position thereof.

4. A cooking vessel as claimed in any preceding claim, wherein the holes of said array are all relatively small in diameter as compared with the
 125 overall size of the lid.

5. A cooking vessel as claimed in claim 4, wherein the array of holes comprises twenty-five holes arranged in substantially regularly spaced
 apart relationship in five rows which extend

- substantially radially with respect to the centre of the lid.
6. A cooking vessel as claimed in any preceding claim, wherein the shutter is manually
- 5 displaceable about an axis which, when the vessel is standing upright on a horizontal surface, is a vertical axis containing, or passing very close to, the centre of the lid.
7. A cooking vessel as claimed in any preceding
- 10 claim, wherein an edge region of the shutter embraces an edge/rim region of the lid in such a way as to tend to prevent said shutter being bent upwardly away from the upper surface of the lid.
8. A cooking vessel as claimed in claim 6 or in
- 15 claim 7 when read as appendant to claim 6, wherein the angular turnability of the shutter about said axis is limited by stops.
9. A cooking vessel as claimed in any preceding claim, wherein said shutter carries a knob to
- 20 facilitate manual displacement thereof.
10. A cooking vessel as claimed in claim 6 or in any one of claims 7 to 9 when read as appendant to claim 6, wherein the axis of turnability of the shutter is embodied in the shank of a screw by
- 25 which a central knob of the lid is mounted in its appointed position.
11. A cooking vessel as claimed in any preceding claim, wherein the lid is formed with two separate arrays of holes and the shutter is a
- 30 dual shutter having two parts each of which can occupy a position in which that part non-sealingly masks the holes of a corresponding one of the two arrays or a position in which the holes of that array are unmasked by the shutter part concerned.
- 35 12. A cooking vessel as claimed in claim 2 or claim 3 or in any one of claims 4 to 11 when read as appendant to claim 2 or claim 3, wherein the clamp which forms part of the means for releasably retaining the lid in position on the body
- 40 is combined with a second lifting handle of the vessel.
13. A cooking vessel substantially as hereinbefore described with reference to the accompanying drawings.
- 45 14. A lid constructed and arranged for use as part of a cooking vessel as claimed in any preceding claim.