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ABSTRACT

A support for the cooking of shell fish; said support comprising a grid of a plurality of shell supporting elements; each of said shell supporting elements defining a void having a first horizontal axis of greater length than a second horizontal axis normal to said first horizontal axis.
COMPLETE SPECIFICATION

Invention Title:
SHELLFISH COOKING SUPPORT

The invention is described in the following statement, including the best method of performing it known to us:

Our Ref: 072005
SHELLFISH COOKING SUPPORT

The present invention relates to supporting racks used in cooking and, more particularly, to supporting racks for items of particular types of food.

BACKGROUND

Food items to be cooked in ovens or otherwise subjected to a cooking heat source are commonly supported on a rack or tray. In the case of discreet items of food, the items may be arranged directly on such racks or trays.

Typically racks for ovens and other heat sources, such as barbeques for example, are comprised of simple rectilinear frames provided with linear arrays of spaced apart bars for the support of the items to be cooked. Trays simply provide a flat surface, sometimes surrounded by edging.

These ubiquitous forms of racks and trays, while satisfactory for support of most food items, does not lend itself to the satisfactory support of shellfish, such as scallops, mussels, and particularly not to the cooking of oysters in their shells. The shells, because of their uneven curved underside, are unstable on a conventional rack or tray, not infrequently tipping sideways and spilling the contents of the shells.

It is an object of the present invention to address or at least ameliorate some of the above disadvantages.
The term "comprising" (and grammatical variations thereof) is used in this specification in the inclusive sense of "having" or "including", and not in the exclusive sense of "consisting only of".

**BRIEF DESCRIPTION OF INVENTION**

Accordingly, in a first broad form of the invention, there is provided a support for the cooking of shell fish; said support comprising a grid of a plurality of shell supporting elements; each of said shell supporting elements defining a void having a first horizontal axis of greater length than a second horizontal axis normal to said first horizontal axis.

Preferably, said first horizontal axis and said second horizontal axis intersect at their respective midpoints.

Preferably, said grid of said plurality of shell supporting elements comprises a substantially planar rectangular array of said voids; said voids sufficiently separated one from another to support shells of said shellfish without interference of one shell with adjoining shells.

Preferably, each said void is bounded by structural elements.
Preferably, said structural elements are in the form of lengths of elongate metal elements.

Preferably, said lengths of elongate metal elements form an elongate diamond shape; said elongate diamond shape forming a perimeter of a said void.

Preferably, said lengths of elongate metal elements form an elongate substantially lozenge shape; said elongate substantially lozenge shape forming a perimeter of a said void.

Preferably, adjoining ones of said rectangular array of voids are separated one from another by lengths of said elongate metal elements.

Preferably, said elongate metal elements are of drawn stainless steel.

Preferably, said elongate metal elements are of drawn aluminium.

Preferably, said rectangular array of voids are bounded by a rectangular frame of metal elements.

Preferably, said rectangular frame is formed of drawn stainless steel elements.

Preferably, at least one pair of opposing side members of said rectangular frame is provided with lifting handles.
Preferably, said handles comprise "U" shaped elements; leg portions of said "U" shaped elements extending from said rectangular perimeter frame.

Preferably, at least one pair of adjoining corners of said frame is provided with flat grasping portions.

Preferably, said drawn stainless steel elements are welded together to form said rectangular array.

Preferably, said rectangular frame is formed of drawn aluminium elements.

The support of claim 16 wherein said drawn aluminium elements are welded together to form said rectangular array.

Preferably, said voids comprise a rectangular array of openings punched in a rectangular sheet of metal material.

Preferably, said sheet of metal is bounded by a frame of metal elements.

Preferably, said openings are in the form of elongate diamond shapes.

Preferably, said openings are in the form of elongate oval or lozenge shapes.

Preferably, said grid of a plurality of shell supporting elements is provided with supporting legs; said
supporting legs adapted to raise said grid clear of a supporting surface.

Preferably, said supporting legs are "U" shaped elements; said "U" shaped elements formed of drawn metal; upper ends of said "U" shaped elements depending from said frame of metal elements.

Preferably, said support is provided with at least one pair of said supporting legs disposed along one pair of opposing sides of said frame.

Preferably, said support is provided with pairs of said supporting legs along each side of said frame.

Preferably, said supporting legs are dimensioned so as to at least straddle two adjoining bars of a conventional oven rack.

Preferably, said legs are disposed at each of the four corners of said rectangular perimeter frame; the base of each said "U" shaped leg element arranged diagonally across each respective corner.

Preferably, said frame is provided in sizes adapted for sliding engagement with supporting side rails of domestic and commercial ovens.

In a further broad form of the invention, there is provided a method of supporting for cooking shellfish in
their shells; said method including the placing individual ones of said shells in elongate voids provided in a cooking support structure.

BRIEF DESCRIPTION OF DRAWINGS

Embodiments of the present invention will now be described with reference to the accompanying drawings wherein:

Figure 1, is a perspective view of a preferred embodiment of a cooking support according to the invention,

Figure 2, is a side elevation view of the embodiment of Figure 1,

Figure 2A is a perspective view of a corner of the cooking support of Figures 1 and 2,

Figure 3 is a perspective view of a further preferred embodiment of the invention,

Figure 4 is a plan view of still a further view of a preferred embodiment of the invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

First Preferred Embodiment

With reference to Figure 1, in a first preferred embodiment of the invention, a cooking support 10 for shellfish comprises a rectangular, substantially planar grid of nests or voids 12. In this embodiment the voids 12
are bounded by structural elements 14 forming elongated diamond shapes in which a first horizontal axis “A” is longer than a second transverse axis “B”. The nests or voids 12 are interconnected and spaced apart by further structural elements 16, and further connected to a perimeter frame 18 by elements 20.

The nests or voids 12 are sized to provide support for individual shells of shellfish (not shown), which tend to be of an elongate shape with a convex underside. The spacing between adjoining voids 12 provided by the elements 16 ensures that there is no overlap of the edges of adjoining shells placed on the cooking support 10.

In this preferred embodiment, the structural elements 14, 16 and 20, as well as the frame 18, may be fabricated from drawn metal for example stainless steel or aluminium rod. Preferably the structural elements are of 3mm diameter rod with the frame of 6mm diameter, both elements and frame in 304 grade stainless steel.

Depending from frame 18 are supporting legs 22, formed as “U” shaped pieces of either stainless steel or aluminium rod, thus preferably of the same material as used for the structural elements 14, 16 and 20.

Frame 18 is preferably provided with lifting handles 19 along at least one pair of opposing sided as shown in Figures 1 and 2. Alternatively, or additionally, the corners of frame 18 may be provided with grasping tabs 23.
such as shown in the inset Figure 2A. Tabs 23 could be provided by a flattening of the round stainless steel of aluminium rod, or by welded-in flat sections.

Cooking support 10 may be provided in various sizes to suit the dimensions of domestic and commercial ovens, with perimeter frame 18 dimensioned to allow opposing sides of the frame to engage and be supported by the side rails of an oven. Alternatively, cooking support 10 may be supported in an oven on an oven rack, and for this purpose the "U" shaped supporting legs 22 are so formed as to straddle at least one pair of adjoining bars of an oven rack. For this purpose also, pairs of supporting legs 22 are provided along both pairs of opposing sides of cooking support frame 18, so that the cooking support can be placed on an oven rack regardless of the direction of the rack's bars or the direction of insertion of the cooking support.

Although nest or voids 12 in this embodiment are shown as comprising straight pieces of drawn rod, it will be appreciated that other shapes of voids can be fabricated from such material. Thus for example, an elongated lozenge or oval shape may be formed from two opposing arcuate pieces of rod.

**Second Preferred Embodiment**

In a second preferred embodiment shown in Figure 3, in which like features are numbered as above, cooking support
100 is again formed as a rectangular frame 18 of preferable stainless steel or aluminium rod. As for the first embodiment, frame 18 bounds an array of nests or voids 12 for support of individual shells of shellfish (not shown). Nests or voids 12 and the intermediate connecting structural elements 16, and perimeter linking elements 20, are also of stainless steel or aluminium rod, preferably of a somewhat lighter gauge than the rod used for the perimeter frame 18.

In this embodiment, cooking support 100 is provided with four supporting legs 22, one disposed at each corner of perimeter frame 18. As can be seen in Figure 3, each leg 22 is in the form of a "U" with each leg 23 of the U depending from adjacent sides of frame 18, preferably equidistant from the frame corner, so that the base of the U lies diagonally across each corner at approximately 45 degrees to the sides of the frame.

Again with reference to Figure 3, cooking support 100 is provided with a pair of handles 19 disposed at opposing ends of frame 18. Handles 19 in this embodiment are coplanar with frame 18 and nests or voids 12. Preferably, handles 19 are formed of the same gauge stainless steel of aluminium rod used for the fabrication of perimeter frame 18. Handles 19 are in the form of shallow "U" shaped structures with the base 25 of each U parallel to the sides.
of frame 18 and extend for the greater part of the length of the sides to which they are attached.

Third Preferred Embodiment

Turning now to Figure 4, in a second preferred embodiment of a cooking support 100 for shellfish according to the invention, nests or voids 112 are provided as punched apertures in a sheet 114 of metal material, for example stainless steel or aluminium. Apertures so punched into sheet 114 may be of any suitable elongate shape, including the diamond shape shown in Figure 1, or the elongated lozenge shape of Figure 4, so that again one axis “A” is longer than the transverse axis “B”.

Not all of voids 112 need be of the same size in this embodiment and a combination of larger and smaller voids could be provided within the one support to cater for larger and smaller shellfish.

Both to strengthen the internal expanse of sheet 114 and avoid sharp edges, the inner edges 116 can be turned downwards by the press tool used to punch the voids. The perimeter 118 of sheet 114 may be strengthened by a frame of metal rod, either welded to the sheet, or “rolled” into edge portions of the sheet. Supporting legs (not shown in Figure 4), may be attached to this frame as described for the first embodiment above. Alternatively, the pressing of
sheet 114 could include the formation of integral supporting structures of similar dimensions to those of the "U" shaped fabrications previously described.

In Use

The correct selection of the lengths of the axes "A" and "B", ensures that the convex underside of shellfish shells placed on the cooking support of the present invention are securely supported by the edges of the voids contacting the shell surface. Thus the problem frequently encountered of the tipping over of shells when a loaded tray or conventional rack is transferred to an oven is avoided. A correct selection of the spacing between voids also provides that each shell is isolated from adjoining shells, allowing all shells placed on the cooking support to maintain their securely supported position.

The above describes only some embodiments of the present invention and modifications, obvious to those skilled in the art, can be made thereto without departing from the scope and spirit of the present invention.
CLAIMS

1. A support for the cooking of shell fish; said support comprising a grid of a plurality of shell supporting elements; each of said shell supporting elements defining a void having a first horizontal axis of greater length than a second horizontal axis normal to said first horizontal axis.

2. The support of claim 1, wherein said grid of said plurality of shell supporting elements comprises a substantially planar rectangular array of said voids; said voids sufficiently separated one from another to support shells of said shellfish without interference of one shell with adjoining shells.

3. The support of claims 1 or 2 wherein each said void is bounded by structural elements in the form of lengths of elongate metal elements.

4. The support of claim 3 wherein said lengths of elongate metal elements form an elongate diamond, oval or lozenge shape; said elongate metal elements forming a perimeter of a said void.

5. The support of claim 3 or 4 wherein adjoining ones of said rectangular array of voids are separated one from another by lengths of said elongate metal elements.
6. The support of any one of claims 3 to 5 wherein said elongate metal elements are of drawn stainless steel or aluminium.

7. The support of any one of claims 2 to 6 wherein said rectangular array of voids is bounded by a rectangular perimeter frame of metal elements; said elements comprising drawn stainless steel or aluminium rod.

8. The support of claim 7 wherein at least one pair of opposing side members of said rectangular perimeter frame is provided with lifting handles.

9. The support of claim 8 wherein said handles comprise "U" shaped elements; leg portions of said "U" shaped elements extending from said rectangular perimeter frame.

10. The support of any one of claims 7 to 9 wherein at least one pair of adjoining corners of said rectangular perimeter frame is provided with flat grasping portions.

11. The support of any one of claims 1 to 10 wherein said grid of a plurality of shell supporting elements is provided with supporting legs; said supporting legs adapted to raise said grid clear of a supporting surface.
12. The support of claim 11 wherein said supporting legs comprise "U" shaped elements; leg portions of said "U" shaped elements depending from said rectangular perimeter frame.

13. The support of claim 11 or 12 wherein said legs are disposed at each of the four corners of said rectangular perimeter frame; the base of each said "U" shaped leg element arranged diagonally across each respective corner.

14. The support of claim 11 to 12 wherein one pair of said supporting legs is disposed along at least one pair of opposing sides of said rectangular perimeter frame.

15. The support of claim 1 or 2 wherein said voids comprise a rectangular array of openings punched in a rectangular sheet of metal material.

16. The support of claim 15 wherein said rectangular sheet of metal material is bounded by a frame of metal elements.

17. The support of claim 15 or 16 wherein said openings are in the form of elongate diamond or of elongate oval or lozenge shapes.

18. The support of any one of claims 7 to 17 wherein said rectangular perimeter frame is provided in sizes
adapted for sliding engagement with supporting side rails of domestic and commercial ovens.

19. A method of supporting for cooking shellfish in their shells; said method including the placing individual ones of said shells in elongate voids provided in a cooking support structure.

20. A support for the cooking of shellfish as herein described and with reference to the accompanying drawings.
Fig. 3