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Ushaw Moor Durham(GB)(74) Representative: **Knowles, Audrey Elizabeth**
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Selly Park Birmingham B29 7HG(GB)(54) **Storage device for kitchen furniture.**

(57) In a kitchen unit 1 mounting a sink 3 having a bowl 6 depending into the unit 1, a storage tray 12 is received in a void clearance space 7 between the bowl 6 and the front of the unit 1 for storing user items and utensils associated with the sink 3. The tray 12 is secured to the inner face of a support flap 11 so as to be concealed within the unit 1 when the flap 11 is in a closed position aligned with the front of the unit 1, and the flap 11 is mounted by a pair of hinges 13 for hinging movement outwards of the unit 1 from the closed position to an open position allowing access to the tray 12. The tray 12 comprises a one piece open-top box container releasably secured to the flap 11 between the hinges 13 and the flap 11 is provided by or replaces an existing dummy drawer front or trim panel of the unit 1 so as to match the design of the unit 1.

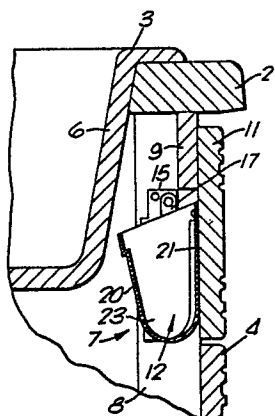
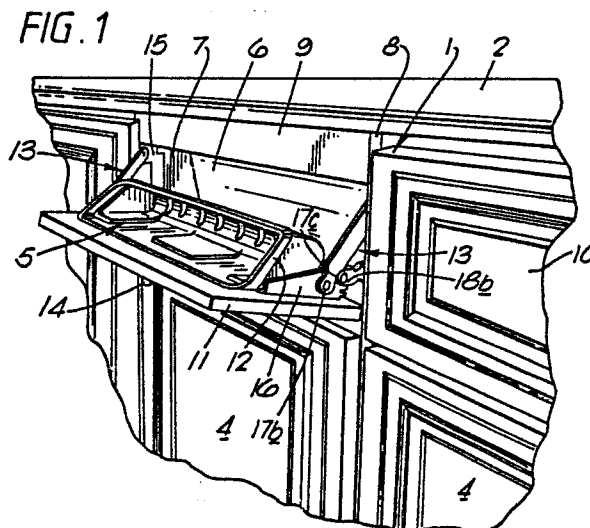


FIG. 2

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STORAGE DEVICE FOR KITCHEN FURNITURE

This invention concerns a storage device for kitchen furniture, in particular, but not exclusively for kitchen unit furniture mounting a sink either on the top of the kitchen unit or in a worktop mounted on the kitchen unit.

In typical arrangements of such kitchen furniture, there is a base providing in its lower part a cupboard or drawer system whilst the upper part of the base provides the support for the sink whether this be inset in a worktop or a free mounting top sink assembled to the base. The base unit has to provide in its upper part a void clearance area into which the bowl of the sink depends. Commonly, to provide a suitable aesthetic and matching finish to such kitchen units for sinks, the upper part of the front of the base is fitted with a dummy drawer front or a blank trim panel which is fixed to the carcass of the base unit to close the front of the void clearance area into which the bowl of the sink extends.

A common problem arising with the use of sinks in kitchens is providing a suitable place for storage of user items and utensils associated with the sink, for instance, scourer pads, brushes, soap, handmops, dishcloths or the like. These user items often present a clutter on or around the sink, and separate utensil holders are often used to hold these items on the draining board or worktop associated with the sink.

It is an object of this invention to provide a storage device for such user items which is conveniently placed adjacent to the sink but which enables the user items to be concealed and stored when not being used.

It is a further object of this invention to provide a storage device that can be provided in simple kit form for fixing and for assembly to an existing kitchen furniture unit.

Other objects of this invention will be apparent from the description of the exemplary embodiments of this invention as given later herein.

According to this invention we provide in a kitchen unit mounting a sink having a bowl depending into the unit, a storage device comprising a storage tray mounted on a support flap, hinge means mounted on the unit and secured to the flap to permit hinging movement of the flap between a closed position in which the flap is aligned with the front plane of the unit and the storage tray is received within a clearance space inside the unit between the front plane of the unit and the sink bowl, and an open position in which the flap is extended outwardly from the front plane of the unit for access to the storage tray.

By this invented storage device, the typical

user items can be stored in the storage tray when not required and the storage tray folded into the clearance space so as to be concealed within the kitchen unit when the flap is in the closed position closing the front of the unit with the user items safely and neatly stored away.

Preferably, the flap to which the storage tray is secured is in the form of a dummy drawer front or trim panel which matches the other front panels or design of the kitchen unit. The flap may have a pull handle or pull rail attached thereto both to facilitate opening and closing of the storage device as well as providing a unifying design feature to match other kitchen units.

It is preferred that the storage tray is made of a plastics material to be resistant to the effects of water and cleaning materials as well as being easy to clean.

Advantageously the storage tray is in the form of an open-top rectangular box having end and side walls extending from a bottom wall with one side wall being secured to the flap by suitable fasteners, such as screws. Said one side wall is conveniently of greater depth from the bottom wall than the side wall opposed thereto.

The storage tray may be arranged and adapted for securing to the flap by an arrangement of fasteners that permit removal of the storage tray for cleaning when required.

Preferably, the hinge means comprises a pair of hinges secured to the flap at each side and the storage tray is secured to the flap between the hinges.

Conveniently each hinge is similar and includes a base plate for securing to a carcass member of the unit, a bracket for securing to the flap, and pivotal links connecting the base plate and bracket together for pivotal movement of the flap relative to the unit between the closed and open positions.

The pivotal links conveniently comprise an upper link arm and a lower link arm of which the upper arm is of greater length.

Each link arm extends between and is pivotally connected at opposed ends to the base plate and bracket with the pivotal connections to the base plate being vertically spaced apart a greater distance than the pivotal connections to the bracket for providing an over top dead centre position of the hinge to hold the flap shut in the closed position.

One or more of the pivot connections may provide frictionally restrained pivotal movement of the flap to assist in retaining the flap shut. For example, one of the pivot connections may comprise a friction pivot joint.

Alternatively or in addition, at least one of the hinges may include spring means acting between the base plate and the bracket to maintain the flap shut.

Furthermore, at least one of the hinges may include a stop to limit opening movement of the flap.

Conveniently, by providing each hinge with its own base plate and bracket, then the same hinges can be applied to a range of units of differing widths or sizes with a sized flap to suit the unit.

The storage tray can be of a common single size to suit a range of units of differing widths or sizes but more preferably a range of sizes of storage trays is provided so that the storage tray may be selected to suit the unit.

By this invention, a simple kit of component parts can be sold for the storage device for fitting and securing to an existing kitchen unit.

Exemplary embodiments of this invention are depicted in the accompanying drawings wherein:-

FIGURE 1 is a perspective view of part of a kitchen unit to which the storage device is fitted;

FIGURE 2 is a sectional view of the storage device as fitted and shown in the closed position;

FIGURE 3 is a sectional view of the storage device as fitted but shown in the open position;

FIGURE 4 is a detail front scrap view of the storage tray shown in Figures 1 to 3; and

FIGURE 5 is a sectional view of a modified storage device as fitted and shown in the open position.

In the accompanying drawings, there is shown a typical kitchen furniture unit 1 having a worktop 2 secured to over-run the top of the unit 1 with a sink 3 being inset into the worktop 2.

As best shown in Figure 1, the kitchen unit 1 has cupboard doors 4 to the front lower part and the invented storage device 5 positioned to the upper front part so as to be aligned with a bowl 6 of the sink 3 which depends into the unit 1 and defines with the front plane of the unit 1 a void clearance space 7 within the unit 1.

The furniture unit 1 is of typical construction having a carcass frame of timber including upright members 8 and a top rail 9. The cupboard doors 4 are hingedly supported from opposed upright side gable members 8 with the free edge of each door closing on the upright central muntin member 8. Depending upon the arrangement of the unit 1 for left or right hand drainer or position of the inset sink, to one side of the unit 1 at the upper part there is a drawer 10 slidably mounted on upright members 8 for opening and closing movement in which cutlery or the like may be stored. As will be appreciated, instead of cupboards, the unit may comprise a series of drawers or house a domestic appliance.

To the other side of the unit 1 at the upper part alongside the drawer 10 is a flap 11 having a storage tray 12 of the device 5 secured to the inner face. The flap 11 is mounted at each side on upright members 8 by similar hinges 13 for hinged movement about a horizontal axis adjacent the bottom edge between a closed position engaging the top rail 9 as shown in Figure 2 in which the storage tray 12 is received in the void clearance space 7 and an open position extending outwardly from the unit 1 as shown in Figures 1 and 3 allowing access to the storage tray 12. The upright members 8 to which the storage tray 12 is fitted will depend on the type of unit 1 and the design and arrangement of the lower part. The term "upright members" is deemed to include gable and muntin members or other frame or sub-frame components.

Conveniently, the flap 11 is made and styled as a dummy drawer front to match the front of the drawer 10 in the exemplary arrangement shown, and a handle 14 is attached to the outer face to match the handles (not shown) on the cupboard doors 4 and drawer 10. Alternatively, the flap 11 could be made to match a further trim panel.

Each hinge 13 has a base plate 15 which is secured to the upright frame member 8 by screws or the like (not shown) and has a bracket 16 which is secured to the inner face of the flap 11 by screws or the like (not shown). The base plate 15 and the bracket 16 are connected together by upper and lower pivotal link arms 17 and 18 respectively of which the upper arm is longer than the lower arm.

The upper link arm 17 extends between and is pivotally connected at opposed ends 17a, 17b to the base plate 15 and bracket 16. Likewise, the lower link arm 18 extends between and is pivotally connected at opposed ends 18a, 18b to the base plate 15 and bracket 16.

The pivot connections between the arms 17, 18 and the base plate 15 are vertically spaced apart a greater distance than the pivot connections between the arms 17, 18 and the bracket 16 with the arrangement being such that the flap 11 is maintained in the closed position when the link arms 17, 18 are folded and in an over top dead centre position to hold the flap 11 shut.

Each hinge 13 has a stop formed by a recess 17c at the end 17b of the upper link arm engaged by the end 18b of the lower link arm to limit opening movement of the flap 11 to the position shown in Figure 1 in which the flap extends at an angle of approximately 75° relative to the front plane of the unit and is maintained in the open position by gravity with the link arms 17, 18 fully extended.

One or more of the pivot connections may be a

friction pivot joint to provide frictionally restrained hinging movement of the flap 11 to assist in retaining the flap 11 in the closed and open positions. In a modification shown in Figure 5 at least one of the hinges 13 has a spring 19 acting between the base plate 15 and bracket 16 to retain the flap 11 in the closed position with the flap 11 being retained in the open position when the link arms 17,18 are fully extended and in an over-centre position with respect to the spring force.

The storage tray 12 is a one piece plastics moulded container of rectangular open-box form having opposed side walls 20,21, a rounded bottom wall 22 and closed end walls 23. In a modification shown in Figure 5, the bottom wall 22 is flat. The storage tray 12 may be made by any suitable method such as injection moulding or vacuum forming.

The front side wall 20 is of reduced depth from the bottom wall 22 and is divergent relative to the back side wall 21 to facilitate access to the interior of the storage tray 12 when the flap 11 is in the open position. In addition, the front side wall 20 is formed with a plurality of longitudinally spaced apart ridges 24 extending vertically from the bottom wall 22 to increase strength and rigidity of the storage tray 12 and terminating short of a lip 25 extending along the top of the wall 20.

The back side wall 21 is formed with a respective key-hole shaped opening 26 at each end in the upper corner by means of which the storage tray 12 is located and releasably secured on the inner face of the flap 11 by dome-headed screws 27 received in the narrower parts of the openings 26. To remove the storage tray 12 when required, for example for cleaning, the storage tray 12 is slid relative to the heads of the screws 27 until the heads are aligned with the wider parts of the key-hole openings 26 enabling the tray 12 to be lifted off the flap 11. Fitment of the tray 12 is a reversal of the above procedure. Other arrangements for removal or detachment of the tray 12 could be provided.

The storage tray 12 may have any suitable shape and configuration to suit a particular form of void clearance space 7, but the rectangular open-box form of container above-described is considered best to store and hold user items such as the pot brush 28 and scourer pad 29 as depicted in Figure 5. The storage tray 12 may be designed to have one or more internal partition walls (not shown) to separate the tray 12 into compartments.

The storage tray 12 is positioned and secured to the flap 11 between the brackets 16 of the opposed hinges 13 so that the same hinges 13 can be used with different sizes of storage trays 12 as may be provided for kitchen units of different widths, for example to the common European

widths of 600mm, 500mm or 300mm. Alternatively, a common single size of storage tray 12 may be provided to fit different widths of kitchen units.

The storage device 5 may be provided and installed by the manufacturer of the unit 1. Alternatively, the storage device 5 may be sold as a kit of parts comprising the pair of hinges 13 and storage tray 12 with suitable screws for fitment to the dummy drawer front or flap 11 of an existing kitchen unit 1 using templates as may be provided with the kit for marking the relative positions of the holes for fixing and securing by the screws. The kit may be sold with and include a dummy drawer front or flap 11 of the appropriate size and design where required to match the size and design of the unit to which the device 5 is to be fitted.

By this invention, the void clearance space within the kitchen unit between the sink bowl and the front plane of the unit is utilised in a simple and neat manner to store the user items associated with preparation and cleaning at the sink, and the aesthetic appearance of the kitchen fittings and furniture is retained.

Claims

1. In a kitchen unit (1) mounting a sink (3) having a bowl (6) depending into the unit (1), a storage device (5) characterised in that the storage device (5) comprises a storage tray (12) mounted on a support flap (11) mounted on the unit (1) by hinge means (13) permitting hinging movement of the flap (11) between a closed position in which the flap (11) is aligned with the front plane of the unit (1) and the storage tray (12) is received within a clearance space (7) inside the unit (1) between the front plane of the unit (1) and the sink bowl (6), and an open position in which the flap (11) is extended outwardly from the front plane of the unit (1) for access to the storage tray (12).

2. The storage device according to Claim 1 characterised in that the storage tray (12) comprises a one piece open-top box container having end and side walls (23;20,21) extending from a bottom wall (22) with one side wall (21) being secured to an inner face of the flap (11).

3. The storage device according to Claim 2 characterised in that said one side wall (21) is of greater depth from the bottom wall (22) than the opposed other side wall (20) and said other side wall (20) is divergent from the bottom wall (22) relative to said one side wall (21).

4. The storage device according to any one of the preceding Claims characterised in that the storage tray (12) is detachably mounted on the flap (11).

5. The storage device according to any one of the preceding Claims characterised in that the hinge means (13) holds the flap (11) shut in the closed position.

6. The storage device according to any one of the preceding Claims characterised in that the hinge means (13) comprises a pair of hinges (13) secured to the flap (11) at each side and the storage tray (12) is secured to the flap (11) between the hinges (13).

7. The storage device according to Claim 6 characterised in that each hinge (13) comprises a base plate (15) secured to the unit (1), a bracket (16) secured to the flap (11) and pivotal links (17,18) connecting the base plate (15) and bracket (16) together for pivotal movement of the flap (11) between the open and closed positions.

8. The storage device according to Claim 7 characterised in that the pivotal links (17,18) comprise an upper link arm (17) and a shorter, lower link arm (18) each pivotally connected at opposed ends to the base plate (15) and bracket (16) with the pivotal connections to the base plate (15) being vertically spaced apart a greater distance than the pivotal connections to the bracket (16) so as to provide an over top dead centre position of the hinge (13) to hold the flap (11) shut in the closed position.

9. The storage device according to any one of Claims 6 to 8 characterised in that at least one hinge (13) includes a spring (19) to hold the flap (11) shut in the closed position and/or a stop (17c) to limit opening movement of the flap (11).

10. The storage device according to any one of the preceding Claims characterised in that the flap (11) comprises a dummy drawer front or trim panel of the unit (1) and includes means (14) for manually hinging the flap (11) between the open and closed positions.

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FIG. 1

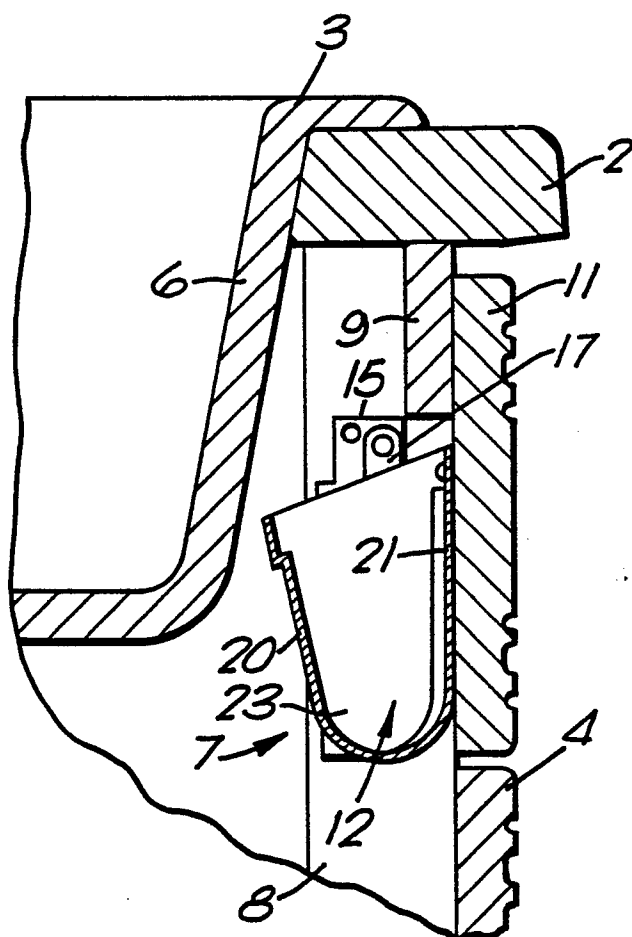
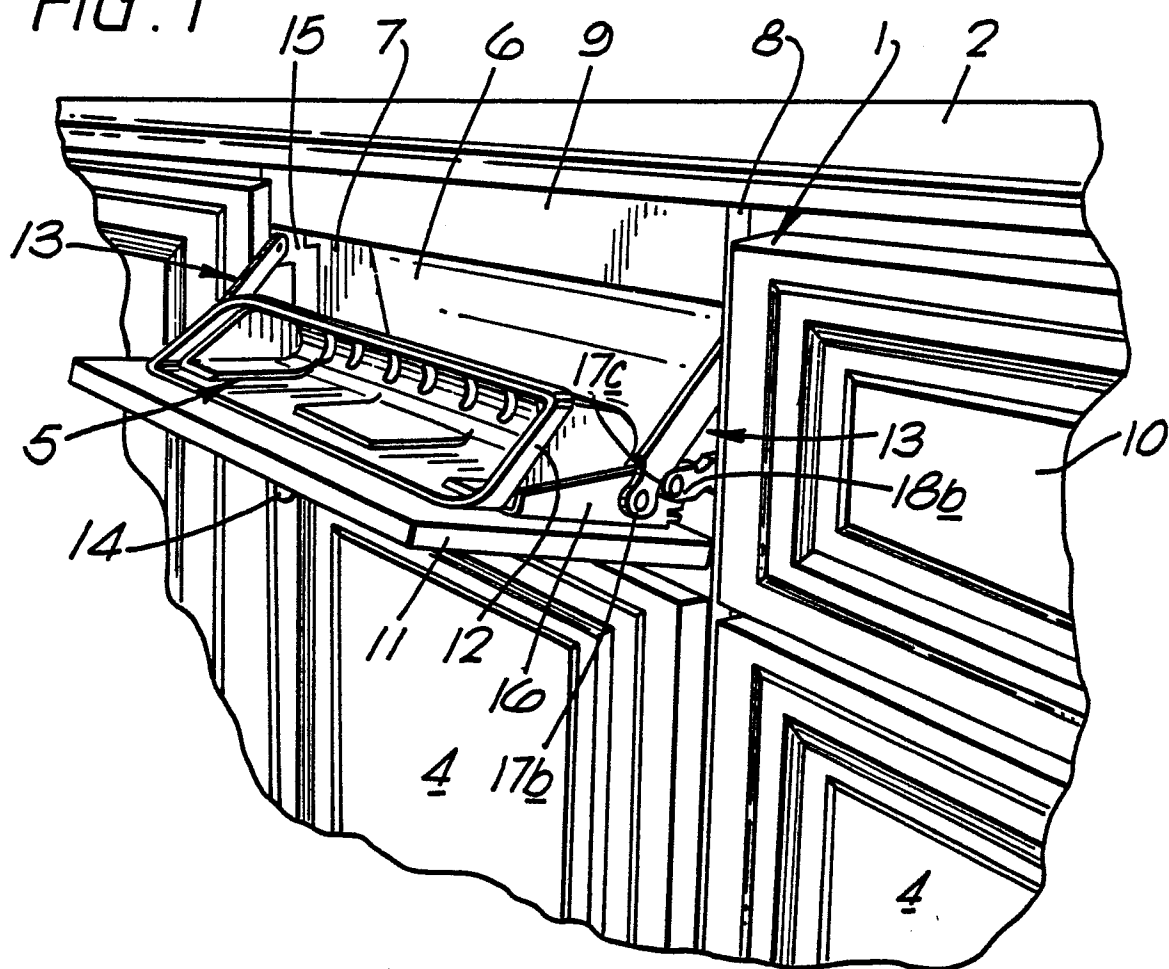


FIG. 2

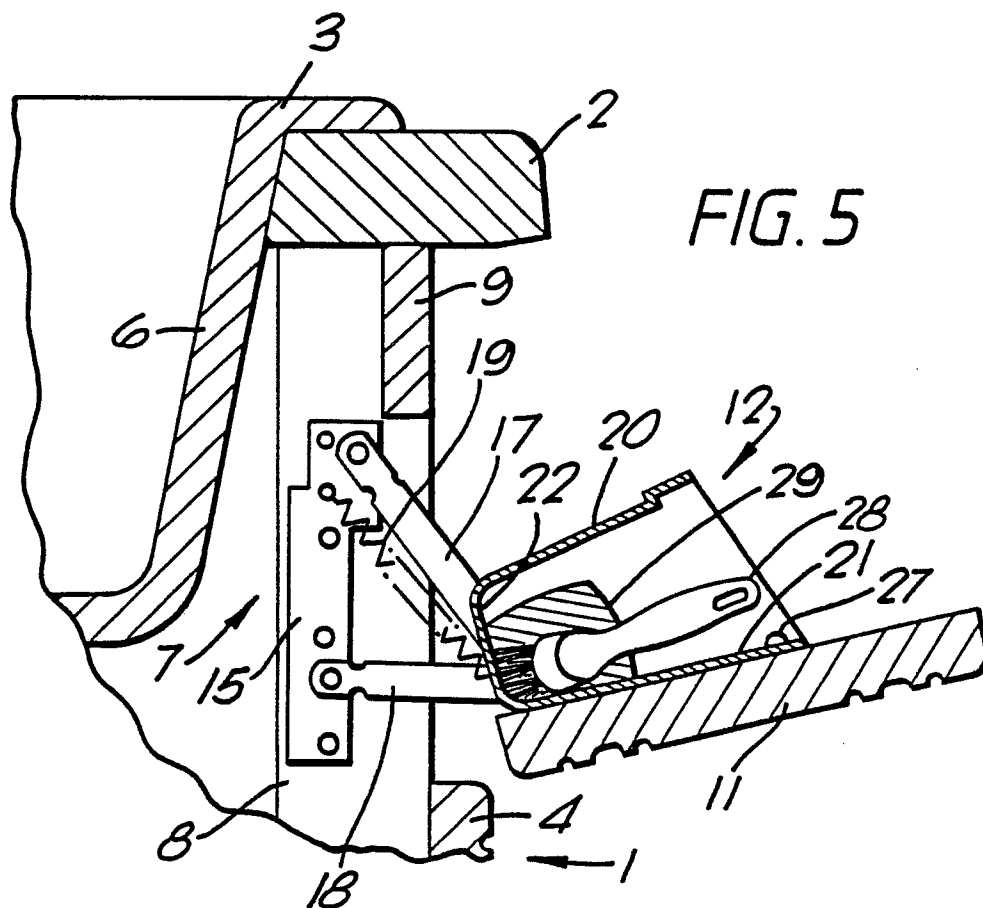
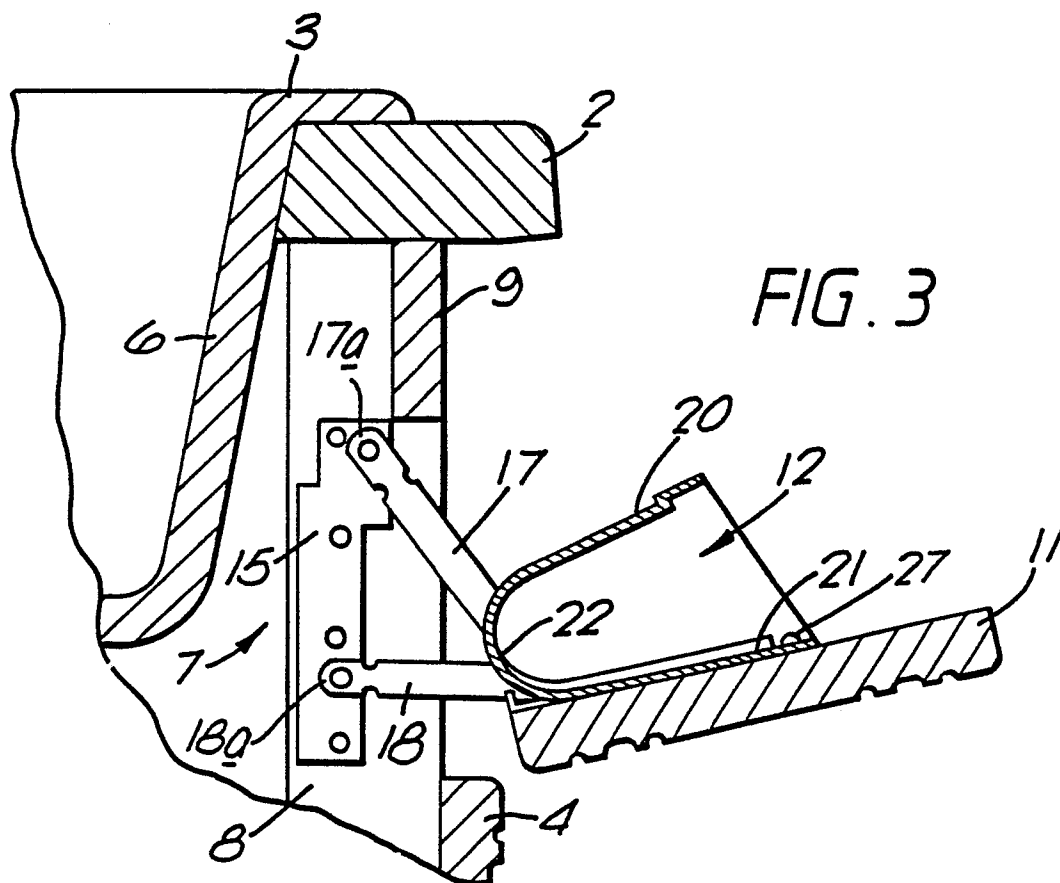


FIG. 4

