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(12) # EUROPEAN PATENT APPLICATION

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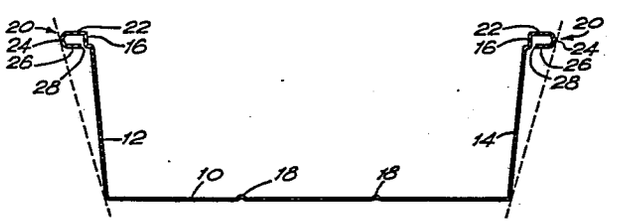
(54) **Food packaging tray.**

(57) A rectangular food packaging tray of plastics material has a floor 10 and walls 12, 14 around which a rim structure 20 extends. The rim structure has an inturned free edge 28 which prevents film material wrapped around the tray from tearing and protects the hands of users from cuts. The trays are also readily de-nested and relatively stiff even when made from light gauge material. Figures 2 to 4 of the drawings show alternative rim structures.



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FOOD PACKAGING TRAY

DESCRIPTION

This invention relates to packaging trays, for example trays in which food items such as pieces of meat, fruit and vegetables are packaged prior to sale. After a food item has been placed in such a tray, the tray and food item are often wrapped in transparent plastics film which covers at least the sides and open top of the tray.

Known packaging trays suffer from several disadvantages in manufacture and use. One of these disadvantages is that transparent plastics film wrapped around the trays tends to split or tear on the edges of the tray, thus rendering ineffective the seal provided by the film. The known trays have also been found to be difficult to de-nest, particularly by workers with wet or slippery hands, as is often the case in the food packaging industry, and have tended to cut the hands of the workers, thus being particularly inconvenient during food preparation and packaging operations.

The present invention provides a food packaging tray of plastics material, the tray having a rectangular (which term includes square in this specification)

floor, side and end walls extending upwardly from the edges of the floor, and a rim structure extending around the upper edges of the walls, the rim structure comprising a first, outwardly-extending flange portion and a second, inturned portion extending from a join with an outer edge of the first rim structure portion to a free edge which lies beneath the first portion and inwardly of the said outer edge.

Preferably, the free edge of the second rim structure portion lies inwardly of a straight line extending externally of the tray from the junction of the tray floor and side walls to and beyond the rim structure.

With trays according to the invention, the free edge of the second rim portion is shielded by other parts of the rim structure. The trays have the important advantage over the known trays mentioned above that plastics film wrapped around the tray does not become cut or torn on the rim of the tray. Moreover, the trays of the invention lead to a great reduction in the incidence of cuts in the hands of users during packaging operations and are much more easily de-nested for use than known trays. It has also been found that the rim structure of the tray of the invention can lead to a considerable stiffening of the tray compared with known trays and the trays can therefore be made of a lighter gauge than hitherto, with consequential savings in materials.

Preferably, the first rim portion extends substantially parallel to the floor of the tray. The second rim portion may have any of a wide variety of shapes but preferably a terminal portion extending to the free edge is substantially parallel to the tray

floor. However, this need not be the case and the second rim portion may thus have a terminal portion which is either plane or curved and is inclined downwardly and inwardly from the outer edge of the first rim portion.

When the second rim portion has a terminal portion which is substantially parallel to the floor of the tray, the first rim portion preferably also extends parallel to the floor and is spaced above the terminal portion. In such embodiments, the second rim portion includes an intermediate portion joining the first and terminal portions. This intermediate portion may curve outwardly or, otherwise, may be substantially planar and thus extend perpendicularly to the first and terminal portions.

Preferably, the depth of a tray according to the invention is less than one-half, more preferably less than 0.4 times, the length of the or the shorter edges of the floor.

The side walls of trays according to the present invention will usually flare outwardly to a small extent. The trays may range in size from about 125 mm by 100 mm to about 300 mm by 225 mm in plan. The depths of the trays range typically from about 10 mm to about 55 mm. Suitable plastics material are polystyrene, polyvinylchloride and polypropylene. The material may be transparent, either clear or coloured, translucent, either white or coloured, or opaque.

An embodiment of the invention will now be described by way of example with reference to the drawing, in which:

Figure 1 is a transverse sectional view of a food packaging tray, and

Figures 2, 3 and 4 are partial transverse sectional views of modified versions of the food packaging tray of Figure 1.

The tray shown in Figure 1 has a floor 10, opposed side walls 12, 14 and opposed end walls. The walls of the tray flare outwardly at about 5° to the vertical to a terminal vertical portion 16. The floor 10 may have any desired pattern or formation of strengthening ribs, such as the ribs 18 shown in Figure 1. The tray has a rectangular shape in plan and is formed from transparent polystyrene having a thickness in the range of 0.25 to 0.60 mm, the tray measuring about 180 mm by about 130 mm in plan and being about 50 mm deep.

A rim structure 20 of the tray extends around the upper edges of the tray walls and comprises a flange portion 22 which extends outwardly from the upper edge of the terminal vertical portion 16 of the walls. The flange portion 22 is substantially parallel to the floor 10 of the tray. At its outer edge, the flange portion 22 adjoins an intermediate portion 24 which curves slightly outwardly and meets a terminal portion 26 which extends inwardly and parallel to the flange portion 22 to its free edge 28. It will be noted that the free edge 28 lies inwardly of a straight line (shown in dashes in Figure 1) joining the outermost part of the rim structure and the junction between the walls and the floor 10.

Figure 2 shows a portion of a modified packaging tray which is identical to the tray of Figure 1 except that the intermediate portion 34 of the rim structure has a vertical planar outer surface which is perpendicular to the flange and terminal portions 32, 36.

The rim strucutre of the tray of Figure 3 has a first, flange portion 42 parallel to the tray floor and a second portion 43, which curves downwardly and inwardly to a free edge 48. In the tray of Figure 4, the rim structure again comprises a first, flange portion 52 but, in this case, the second portion 53 is planar and extends to a free edge 58. In all three modified embodiments, the free edges 38, 48, 58 of the rim structure lie inwardly of a straight line (shown in dashes) extending between the outermost part of the rim structure and the junction of the walls and floor of the tray.

In each of the trays described, it will be seen that, when the tray receives a food item and plastic film is stretched over the tray and around its side walls, the free edges 28, 38, 48, 58 of the rim structures, which may be sharp, each lie inside the dashed line which is the line on which packaging film will lie when stretched between the rim structure and the floor of the tray. Thus, the possibility the film material cutting or splitting on the free edge of the rim structure is avoided.

CLAIMS

1. A food packaging tray of plastics material, the tray having a rectangular floor, side and end walls extending upwardly from the edges of the floor, and a rim structure extending around the upper edges of the walls, the rim structure comprising a first, outwardly-extending flange portion and a second, inturned portion extending from a join with an outer edge of the first rim structure portion to a free edge which lies beneath the first portion and inwardly of the said outer edge.

2. A food packaging tray according to claim 1, in which the first rim structure portion extends substantially parallel to the floor of the tray.

3. A food packaging tray according to claim 1, in which the second rim structure portion includes a terminal portion extending parallel to the floor of the tray.

4. A food packaging tray according to claim 2, in which the second rim structure portion comprises a terminal portion extending parallel to the floor of the tray and an intermediate portion extending between the terminal portion and the first rim structure portion.

5. A food packaging tray according to claim 4, in which the intermediate portion is bowed outwardly.

6. A food packaging tray according to claim 4, in which the intermediate portion is planar.

7. A food packaging tray according to claim 6, in which the intermediate portion extends perpendicularly to the first and terminal portions.

8. A food packaging tray according to claim 2, in which the second rim structure portion extends

rectilinearly from its join with the first rim structure portion to its free edge.

9. A food packaging tray according to claim 2, in which the second rim structure portion extends along a curved path from its join with the first rim structure portion to its free edge.

10. A food packaging tray according to any preceding claim, in which the free edge of the second rim structure portion lies inwardly of a straight line extending externally of the tray from the junction of the tray floor and side walls to and beyond the rim structure.

11. A food packaging tray according to any preceding claim, in which the depth of the tray is less than one-half of the length of the or the shorter edges of the floor.

12. A food packaging tray according to claim 11, in which the depth of the tray is less than 0.4 times the length of the or the shorter edges of the floor.

13. A food packaging tray according to any preceding claim, in which the plastics material has a thickness of from 0.25 mm to 0.60 mm.

14. A food packaging tray substantially as hereinbefore described with reference to any figure of the drawings.

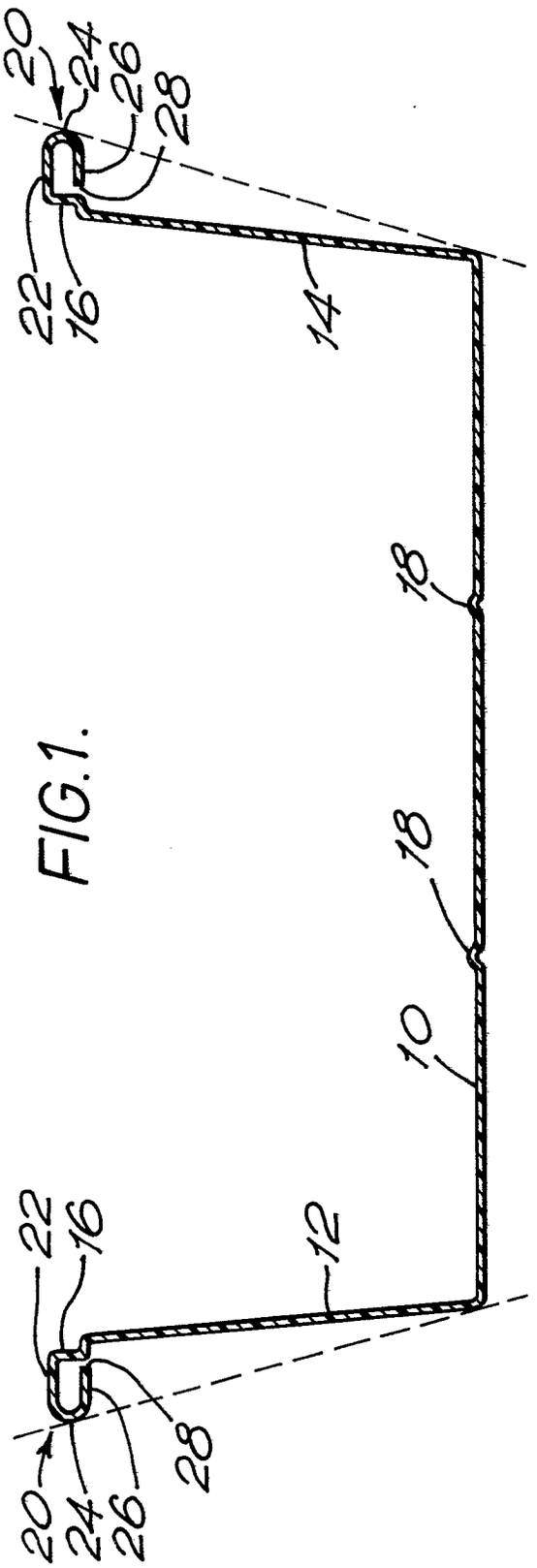

FIG.1.

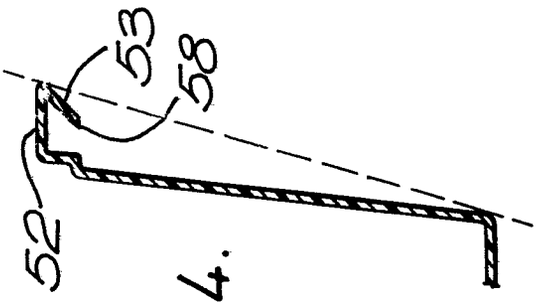

FIG.4.

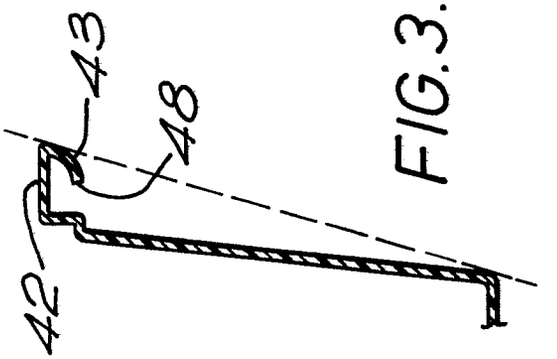

FIG.3.

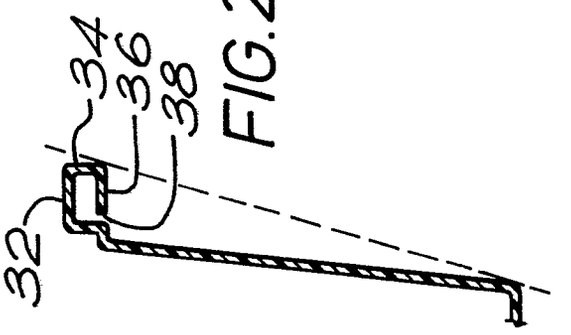

FIG.2.