

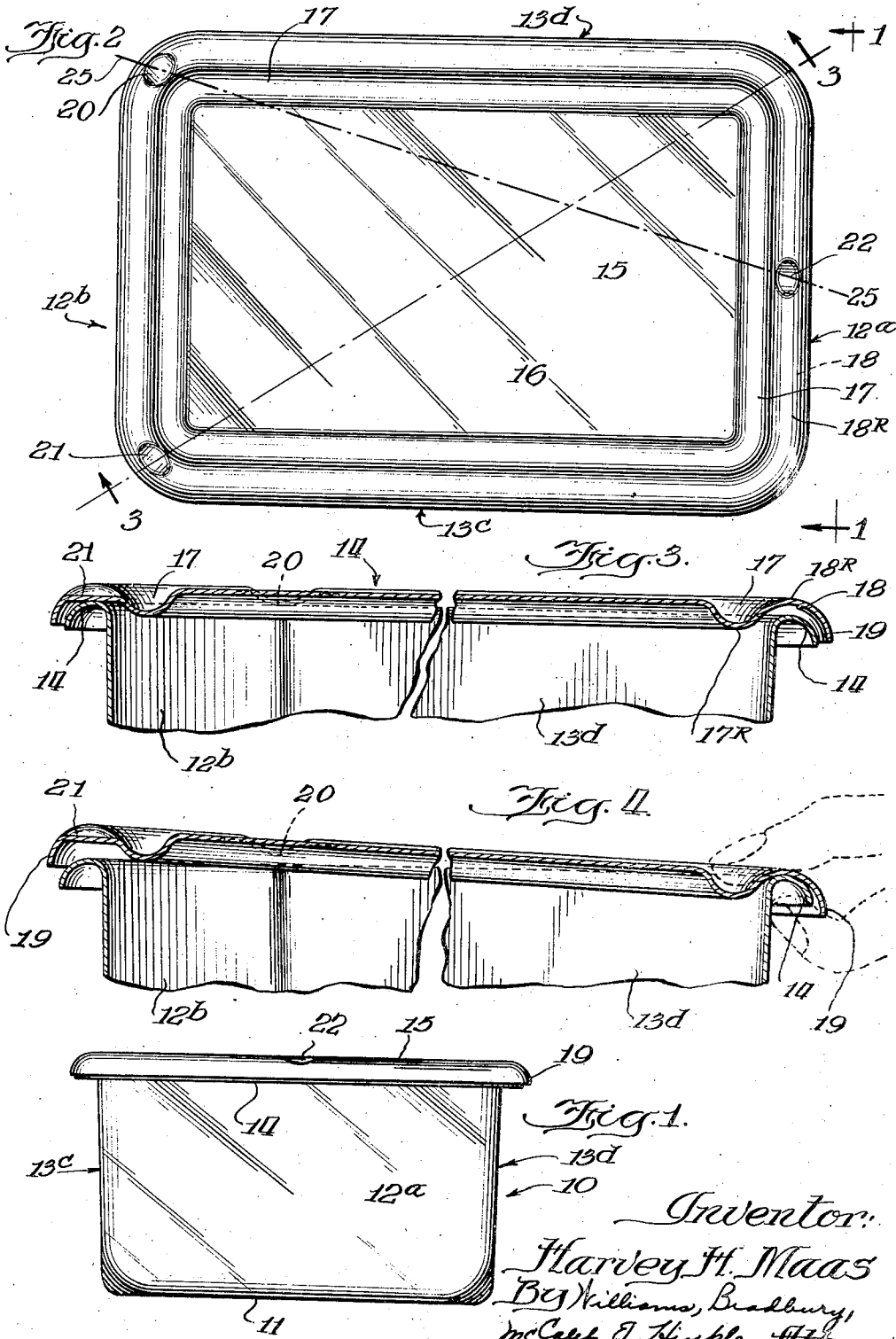
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VENTILATED REFRIGERATOR DISH

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VENTILATED REFRIGERATOR DISH

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5 Claims. (Cl. 62—1)

My invention relates to refrigerator dishes of the type adapted to retard the rate of dehydration of vegetables, meats and the like in mechanical refrigerators, by provision of restricted ventilation between the pan and cover. My invention, which is in the nature of an improvement over the ventilated refrigerator dish shown in Cornell Patent No. 1,843,918, is concerned with the elimination of the rattling of the cover under vibration, and the construction of an arrangement of instrumentalities for providing such non-rattling support for the cover—particularly a three point suspension.

Theoretically, a cover such as shown in the Cornell patent should rest solidly and non-vibrationally by its support on the four protuberances or cross-notches at the corners in the peripheral recesses of the cover which receives the upper marginal lip or rim of the pan. But in practice, the slight warping of a considerable portion of the ordinary production of enamel ware covers—such refrigerator dishes usually being made of enamel ware—frequently results in the four supporting protuberances not being exactly coplanar. As a consequence such covers are susceptible of rocking slightly which will produce a chattering or rattling if the dish is set in vibration as by the vibration of the refrigerant compressor which is usually mounted in or on the refrigerator.

To eliminate this objection and to permit of greater manufacturing tolerances, I eliminate one of the four supporting protuberances, leaving only three which constitute a sufficiently even, firm and self-aligning support for the cover to hold it against vibration under vibrations of such low magnitude as would probably be encountered in the vibration of the mechanical unit to which an electric refrigerator is subjected. My invention is particularly concerned with the disposition, arrangement and placement of the three supporting protuberances which I retain, and the construction and proportioning of the other elements to overcome problems created by the use of but three supporting points for the cover.

The foregoing together with further objects, features and advantages of my invention are set forth in the following description of a specific embodiment thereof and illustrated in the accompanying drawing wherein:

Fig. 1 is an end view of the refrigerator dish, comprising a pan and cover;

Fig. 2 is a top view thereof;

Fig. 3 is a diagonal vertical section through

the pan and cover taken on the line 3—3 of Fig. 2 and passing through opposite corners of the dish; and

Fig. 4 is a view similar to Fig. 3 but showing the cover in the position assumed when the upper right-hand (Fig. 2) corner of the cover is depressed.

The pan 10 is preferably stamped or pressed from a single piece of sheet metal without seaming or welding and it comprises a bottom 11, ends 12a and 12b, sides 13c and 13d, and an outwardly turned upper continuous flange or rim 14 convex in cross section and terminating at its outer-most edge in a downward direction. The corners formed by the edges and sides are not square corners, nor are the corners of the rim 14 mitered, but instead they are turned through arcs of generous radii to avoid sharp corners.

The cover 15 is likewise pressed from a single piece of sheet metal—and like the pan, it may subsequently be enamel unless, for example, it be made of stainless steel—and comprises a flat field 16 bounded by a pair of peripheral recesses 17 and 18. The inner recess 17 faces upwardly while the outer recess 18 faces downwardly, the two recesses of the cover being formed by pressing the periphery of the cover sheet into S-shaped cross section. At each side the respective center lines of the outer recess 18 and the rim 14 are in the same vertical plane, whereby the rim 14, which has a smaller radius of curvature, is adapted to be received in the recess 18. By the three protuberances 20, 21 and 22 across the valley of the recess 18, the cover is so supported that the valley of the recess 18 is spaced a fraction of an inch above the crown of the rim 14 as will later be discussed in greater detail. The outer-most flange 19 of the cover, which is also the termination of the recess 18, extends downwardly substantially as far as the outer-most down turned edge of the rim 14 for the purpose, among others, of utilizing the outer-most edge of the recess 18 to the best advantage in preventing the cover sliding off by engaging the outer-most aspect of the rim 14.

The reverse side 18R of the stock forming the recess 18 preferably extends as high as or perhaps a trifle higher than the field 15, so that if the cover be inverted and used as a tray for the contents of the dish, the convex bead 18R will afford a marginal support for the cover, when thus reversed, upon a table top. If, as indicated in the drawing, the field 15 is a trifle lower than the bead 18R, the latter will serve as a marginal bead to limit lateral shifting of another refrigerator

dish if set on the cover so that the two dishes are in stacked relation.

The reverse side of the stock forming the inner groove 17 constitutes a down facing convex peripheral bead 17R. This need not extend as low as does the outer-most edge of the recess 18. It does preferably extend below the crown of the pan rim 14, however. In this manner the bead 17R forms an interior abutment which can to a certain extent contact the crown of the rim 14 as an auxiliary limit on the lateral shifting of the cover. Further, as explained in the Cornell patent, the bead 17R forms a drip line from which any moisture condensing on the baffle-like inner surfaces of the cover adjacent the ventilating gap between the rim and recess 18, will be dropped down into the interior of the pan.

Adverting to the protuberances 20, 21 and 22 which hold the cover space from sealing contact with the rim, each protuberance is formed by a cross-notch pressed into the stock of the recess 18 and bridging across the valley of the recess 18 as best shown at the left-hand end of Fig. 3. The contact of these protuberances with the crown of the rim 14 of the pan support the cover upon the pan with the crown a spaced distance away from the recess 18 to afford a restricted air passage into and out of the interior of the pan through a gap which is continuous around the periphery except at the protuberances. Two of the protuberances—20 and 21—come at the corners at the end 12b of the pan. The third protuberance—22—comes at the end 12a and midway between the corners.

In storing a rectangular refrigerator dish, such as here shown, in a refrigerator, the dish is generally inserted endwise for the more compact storage and ready accessibility of the dish and other receptacles and objects kept in the refrigerator. In sliding or lifting the refrigerator dish into or out of the refrigerator shelf, it is most natural for one to grasp one end of the cover and the associated end of the rim 14 between the thumb and forefinger, placing the other fingers against the end of the pan near the bottom to brace the hold. If the dish is grasped at the end 12b, there is no tendency for the cover to rock about the three supporting protuberances because the down pressure of the cover against the pan is applied along a line passing through two protuberances. If the cover and rim be grasped at the end 12a, there will be a tendency to rock the cover about an axis passing through the protuberance 22 and one of the other protuberances, unless the cover and rim are grasped at the region of the protuberance 22. But as this comes at the center of the end, and that is the most natural place to grasp it, the probability is the cover will not be rocked. If the three protuberances were placed on a rectangular cover to get the greatest spread as is customary in general in supporting objects on three feet, two of them would be at the corners on one side and the third would be at the midpoint at the opposite side. In such position the dish could not be grasped at the middle, or at any other region, of either end intermediate the corners without rocking the cover.

Referring again to Figs. 3 and 4, if the finger pressure is applied to one side of the protuberance 22 and there is a rocking of the cover about an oblique axis passing through the protuberance 22 and the protuberance 20 or 21, the rocking will be limited by the crown of the rim 14 against the valley of the recess 18 at the adjacent corner. This is illustrated in Fig. 4 where pressure has

been applied at the corner formed by the side 13d and the end 12a. This rocks the cover about an axis 25—25 passing through the protuberances 20 and 22 and in the plane of the crown of the rim 14. Because, under such circumstances, a normal from the axis 25 to the point of contact between the rim and recess is about one-half of the length of a normal from the axis to the opposite corner (that is, the corner having the protuberance 21), the latter corner will be elevated substantially twice as far as the diagonally opposite corner is depressed. Since the maximum depression at the corners of the end having the protuberance 22 is the vertical distance between the protuberances and the valley of the recess 18, the maximum elevation of the opposite corner is twice that distance. It is a feature of my invention that the terminal flange 19 of the recess 18 extends down from the valley of the recess 18 more than three times as far as do the protuberances. As a result, as illustrated at the left-hand end of Fig. 4, the flange 19, even when the corner is at its maximum elevation, still vertically overlaps the crown of the rim 14 further preventing the lateral shifting or rotating of the cover off the rim. If this most distant and most elevated corner of the flange 19 be kept below the crown of the rim 14, there is less tendency for the flange 19, either to ride on to the top of the crown of the rim 14, or having done so, to continue in a shifting and rotating manner to move out of position by riding further on to the crown of the rim.

Having thus described my invention, I claim:

1. A refrigerator dish comprising a rectangular pan having an outwardly turned rim in its upper edges and a cover having a downwardly facing peripheral recess for the reception of the rim and three rim-engaging supporting elements bridging the valley of the recess to not more than one-third of its depth, two of the elements being substantially at the corners of one end and the third being on the opposite end intermediate the corners.
2. A refrigerator dish comprising a rectangular pan having an outwardly turned rim in its upper edges and a cover having a downwardly facing peripheral recess for the reception of the rim and three supporting elements intercepting the valley of the recess at less than its depth for engaging the rim, two of the elements being substantially at the corners of one end and the third being on the opposite end intermediate the corners.
3. A rectangular refrigerator dish comprising a pan having a peripheral rim at its upper edges and a cover having a down turned peripheral flange adapted to embrace the rim and receive it inwardly of the flange and three supporting surfaces formed inwardly of the flange and above its lower edge, the supporting surfaces being adapted to rest upon the rim and hold the cover spaced upwardly from the rim to provide a marginal ventilating gap between the cover and the pan for the passage of air into and out of the dish, two of the three surfaces being disposed adjacent one end of the dish on the respective sides of the vertical longitudinal center plane of the dish and the third being at the opposite end intermediate its corners.
4. A rectangular refrigerator dish comprising a pan having a peripheral rim at its upper edges and a cover having a downturned peripheral flange adapted to embrace the rim and receive it inwardly of the flange and three supporting

surfaces formed inwardly of the flange and above its lower edge, the supporting surfaces being adapted to rest upon the rim and hold the cover spaced upwardly from the rim to provide a marginal ventilating gap between the cover and the pan for the passage of air into and out of the dish, two of the three surfaces being disposed adjacent one end of the dish on the respective sides of the vertical longitudinal center plane of the dish and the third being at the opposite end intermediate its corners, the surfaces and the flange being so constructed and arranged, as regard their respective depths, that the maximum rocking of the cover about an axis passing between the third said surface and one of the first two surfaces will not elevate the lower edge of the flange above the top of the rim.

5. A rectangular refrigerator dish comprising a pan having an out-turned peripheral rim at its upper edges and a stamped sheet metal cover having its peripheral edge formed in S-shaped cross section to provide an inner peripheral rectangular outwardly facing recess and an outer peripheral rectangular downwardly facing recess therebeyond, the terminal flange of the outer recess extending below the rim and the outer recess being substantially wider than the rim and adapted to receive it, and three cross notches formed in the stock of the outer recess and extending transversely across the valley thereof and extending downwardly from the valley of the outer recess not more than one-third as far as does the terminal flange of the outer recess, two of the recesses being in the respective corners at the ends of one end of the cover and the third being at the other end intermediate its corners, said cross notches normally constituting the sole support of the cover upon the pan.

HARVEY H. MAAS.

20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150