

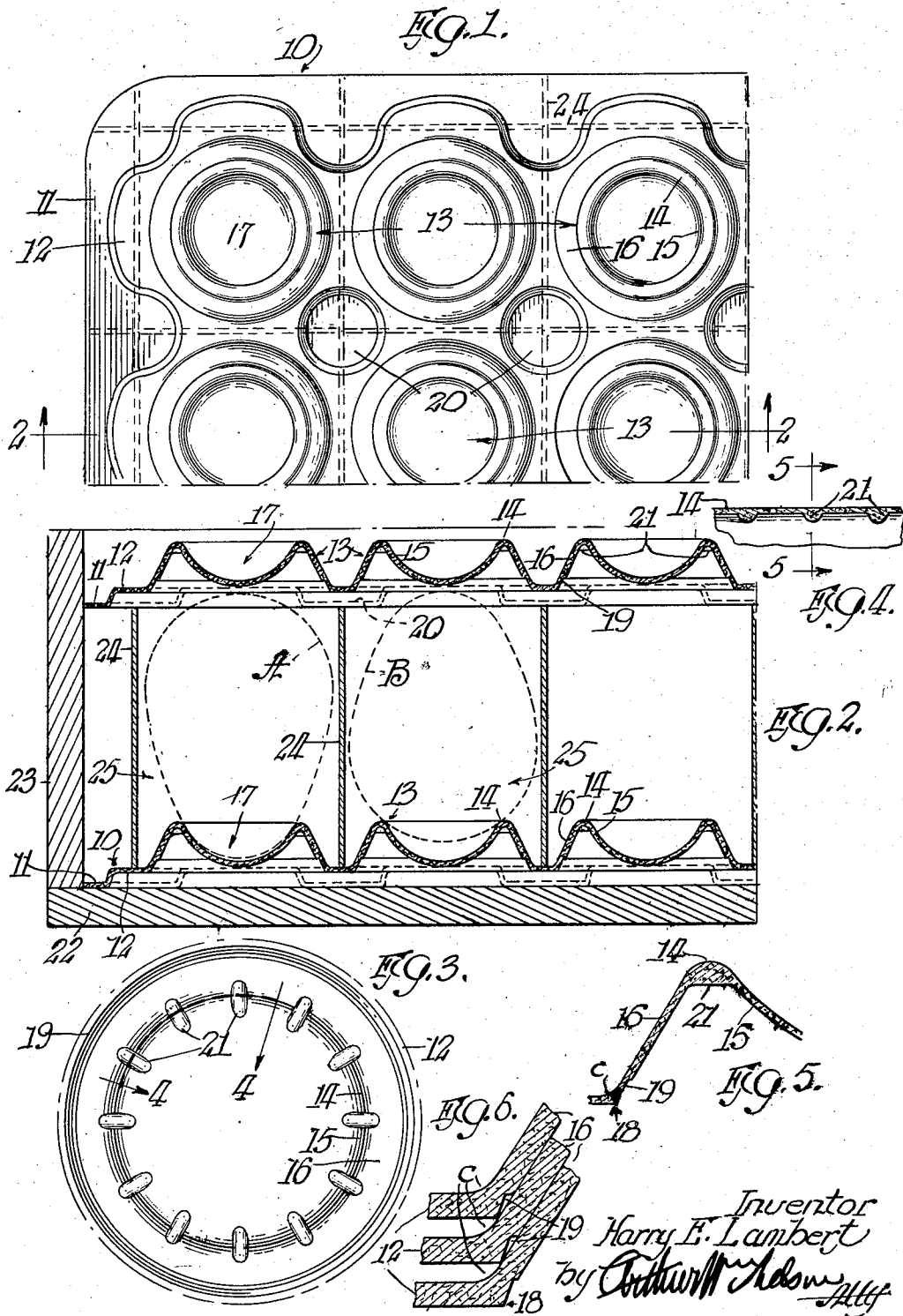
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H. E. LAMBERT

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EGG PACKING MATERIAL

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Inventor
Harry E. Lambert
by *Arthur W. Adams* Att'y

1

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EGG PACKING MATERIAL

Harry E. Lambert, Gary, Ind., assignor, by mesne assignments, to Central Fibre Products Company, Quincy, Ill., a corporation of Delaware

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This invention relates to improvements in egg packing material and it consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The packing material with which the present invention is more especially concerned is of the kind made of molded pulp in the form of a flat or pad for use with conventional intersecting strip-like fillers in a compartment of a standard egg case and having on its upper side intersecting rows of egg receiving seats disposed one within the area of each cell formed by the filler.

Egg receiving seats of such material have heretofore been of various shapes, of which circular, diamond shape, octagonal and square are the principal examples. The round or circular seats are preferred because of the better support they afford the eggs, because of the greater space provided for the accommodation of the eggs, and because the dies for molding such seats are of simpler and less expensive construction. However, round or circular seats have a tendency to roll inwardly from the ridge thereof under the pressure imposed thereon by the eggs. This tendency is reduced in the octagonal or square shaped seat, as the corners between the side portions of the seats better resist such a tendency to roll.

When such round or circular seats as heretofore constructed rolled inwardly and downwardly from the ridge thereof, not only did the original cross sectional contour of the seat change, but the seat also was weakened so that in some instances it collapsed to lose the egg cushioning action the seat was intended to provide.

One of the objects of the invention is to provide a molded flat or pad having a seat comprising an annular ridge defining a cavity adapted to support fragile articles, and in which the structure shall be so constructed as better to resist the tendency of the ridge to roll under pressure.

It is also an object of the present invention to provide a simple and novel arrangement of parts of the pulp material, adjacent the ridge of the seat, to strengthen the ridge at a number of arcuate points thereof, so that greater resistance against rolling and also greater strength against distortion or axial crushing and collapse of the seat results.

Another object of the invention is to provide a seat structure for packing material of the kind described, having a smooth outer surfaced ridge at the top, and inner and outer side walls that diverge downwardly and outwardly in opposite directions from the ridge and which is formed at arcuately spaced points on the inside of the ridge extending between adjacent inner faces of the side walls with struts that function to prevent rolling of the seat under the normal pressure imposed thereon.

A further object of the invention is to provide in a seat structure of this kind a novel arrangement of parts at the underside of the junction of the outer side wall of each cup with the base or body of the material, whereby a plurality of the pads may be pressed tightly together

2

to form a compact stack thereof and yet enable easy separation of single pads from the stack.

The above mentioned objects of the invention, as well as others, together with the advantages thereof will more fully appear as the specification proceeds.

In the drawing:

Fig. 1 is a plan view, substantially on a full size scale, of the article receiving side of a corner section of the improved packing material in the form of an egg case pad.

Fig. 2 is a fragmentary vertical sectional view through a bottom end part of a packed standard egg case and illustrates the use of the improved pads therein, in connection with the standard strip type of cellular fillers, the plane of the section through the pads being indicated by the line 2—2 on Fig. 1.

Fig. 3 is a view of the bottom side of one of the egg receiving seats of the pad, on a scale enlarged over that of Figs. 1 and 2.

Fig. 4 is a detail sectional view through the ridge portion of the seat appearing in Fig. 3 as taken on the arcuate line 4—4 thereon, but inverted with respect thereto.

Fig. 5 is a detail sectional view through one side of the seat, as taken on the line 5—5 of Fig. 4 and on an enlarged scale.

Fig. 6 is a detail sectional view through corner parts of a number of pieces or pads of the improved packing material, showing the manner in which these parts of the articles are relatively disposed when a number of the pads are arranged in a tightly nested and pressed together stack.

Referring now in detail to the illustrative embodiment of the invention shown in the drawing, the improved pad, which is made of molded pulp material, includes a rectangular body 10 of an area to fit within the compartment of a standard egg case. Preferably, but not necessarily so, the body is provided within its margin 11 with a raised platform portion 12. On the top side of this platform portion are right angled rows of annular egg receiving seats 13. Each seat, which is preferably of a round or circular shape, includes an annular ridge 14 at the top and inner and outer side walls 15 and 16 respectively, each of which is joined at the top to the associated side of the ridge, the inner wall forming an open top cup 17 which constitutes a part of a sphere. The central bottom portion of this cup is disposed substantially in the plane of the platform 12. The outer wall 16 of each seat joins the platform 12 by an inside corner 18 and the inner face of this wall, at the bottom thereof, is formed to provide an annular recess 19. The recess 19 extends entirely around the inside of the wall 16 of the seat adjacent the outside corner.

In a pulp molding operation it is difficult to control the exact amount of pulp which will deposit in the vicinity of the bottom of the wall 16 adjacent the area where the wall changes direction to merge into the portion 12 which is disposed to form a considerable angle with the wall 16. Hence, the curvature of the inside corner or fillet C joining the wall to the platform and the thickness of the wall 16 immediately above the fillet C is not always uniform in all pads. However, with the provision of the recess 19, as herein described, a relief space is provided in the pulp material at this point so that when a plurality of such pads are arranged as a nested and pressed together stack, excessive stock in the area of wall 16 immediately above the inside corner fillet C of an underlying flat or pad finds accommodation in the relief space 19 of the immediately overlying flat or pad.

It is to be noted from Fig. 6 that the wall 16 slopes or angles upwardly and inwardly from its base, toward the ridge 14 and that the recess 19 has a depth, axially

of the seat 13 as a whole, which approximates the thickness in the platform portion 12 so that the radial top wall of the recess is disposed substantially in the plane of the top surface of said portion. It is also to be noted from said Fig. 6 that the annular outer surface of said recess, while not arranged perpendicular to the platform portion 12, has a slope or angle which is different from that of the wall 16 and more nearly approaches the perpendicular. With a recess structure such as just above mentioned, the inner and outer surfaces of the wall 16, where they join the lower and upper surfaces of the platform portion 12, have dissimilar cross-sectional contours. Said recess forms a space around the bottom inner portion of the wall 16 that relieves excessive pressure, when a plurality of the pads are nested and pressed together as a stack.

Centrally between each four adjacent seats, there may be provided in the platform a shallow depressed cup-like boss 20, the bottom of which is disposed in the plane of the margin 11 of the body. However, said bosses are not a part of the present invention.

It is pointed out that eggs may some times be packed small end down in the seat, as at A or large end down as at B. Downward pressure of the egg tends to roll the ridge inwardly. Should this occur, not only does it alter the original intended cross sectional shape or contour of the seat, but also causes the seat to collapse, at least in part, with the result that the cushioning action, which the seat originally affords, is adversely affected. The pad seat of this invention is so constructed as better to resist the tendency of the ridge to roll under pressure. On the inside of the ridge at arcuately spaced points thereof is a plurality of rib-like portions 21 which are thicker than the pulp of the pad. As best shown in Figs. 3, 4 and 5, these rib-like portions are joined at the top to the inside of the ridge and to adjacent parts of the inner surface of the inner and outer side walls of the seat. The rib-like portions 21 greatly strengthen the ridge 14 of the seat and resist substantially forces tending to roll the cup inwardly.

In Fig. 2 I have shown fragmentary parts of a plurality of the pads disposed in a part of the bottom of a standard egg case compartment in which 22 is a fragmentary part of the bottom and 23 is a fragmentary part of an end.

In the use of the pads in such a case, a pad 10 is disposed in the bottom of the case, with the seats 13—13 facing upwardly and with the margin 11 of the body and with the bottoms of the recesses 20 between each four adjacent seats engaged flatwise upon the bottom of the case. A filler 24 is then placed in position in the case compartment with the bottom edges of the strips thereof disposed upon the platform parts between the seats and with the intersections disposed one above each depression 20. The intersecting strips then define a cell 25, one above each seat. Eggs are placed, one in each cell, and it is pointed out at this time that it makes no particular difference which end of the egg is disposed downwardly to engage upon its seat.

After the cells in the bottom tier or layer have been filled with eggs, another pad 10 is positioned on the top of the first filler, as before, and a second filler then disposed on the second pad, the cells of which are filled with eggs, as before. With the round or circular seats, any egg placed therein, either end down, will readily find its own best engagement area on the associated seat. Seats made as described prevent or at least minimize inward rolling of the seat, and stand up better in use and afford more adequate protection for the eggs.

Also as previously explained the improved seat structure is such as to enable a number of pads to be ar-

ranged in a pressed stack, for convenience in storage and shipment, and yet permit the ready separation of individual pads from the stack as they may be required for use.

Obviously seats embodying the advantageous features of the invention may be shaped to receive fragile articles other than eggs so that reference to egg seats should be considered as by way of illustration rather than by way of limitation within the scope of the appended claims.

I claim:

1. A molded pulp egg packing material embodying therein a sheet-like body having right angled rows of spaced apart hollow egg receiving seats on one side thereof, each seat including an annular ridge at the top and inner and outer walls extending angularly downwardly in opposite directions therefrom, the inner wall forming an upwardly opening cup, the bottom portion of the outer wall joining the body of the material, by a rounded inside corner on the upper face thereof and by an outside corner on the lower face of the bottom end of the outer wall, there being an annular recess at the bottom end of said outer wall adjacent said outside corner and extending about the circumference thereof, the annular wall surface of said recess having an angularity different from that of said outer wall.

2. A pad formed of molded pulp and comprising a sheet like base and at least one seat member thereon which includes an upstanding annular wall that merges at the bottom into said base, the outer surface of said wall joining the upper surface of said base by an inside corner, the inner surface of said wall where it joins the bottom surface of said base at the outside corner having a cut back annular recess therein, said outer and inner surfaces of said wall where they join the upper and lower surfaces of said base having dissimilar cross sectional contours, said recess providing an annular relief space around the bottom inner portion of said wall adjacent the outside corner for receiving excess stock in said wall immediately above the inside corner of an overlying pad when a plurality of pads are nested and pressed together as a stack.

3. A pad formed of molded pulp stock comprising a sheet-like base portion and at least one seat member, the seat member including an annular upstanding outer wall merging at the bottom into said sheet-like base, the inner side of the outer wall where it joins the base at the outside corner having an annular recess therein formed by a reduction of the thickness of the wall stock whereby there is provided a relief space for the accommodation of the outer face of the wall stock of a superposed pad when a plurality of such pads are nested as a stack.

References Cited in the file of this patent

UNITED STATES PATENTS

189,390	Sands	Apr. 10, 1877
654,301	Barnes	July 24, 1900
1,687,224	Oxhandler	Oct. 9, 1928
1,803,128	Oxhandler	Apr. 28, 1931
1,967,026	Gray et al.	July 17, 1934
2,088,181	Swift, Jr.	July 27, 1937
2,215,252	Randall et al.	Sept. 17, 1940
2,423,756	Chaplin	July 8, 1947
2,564,729	Shepard	Aug. 21, 1951
2,600,130	Schilling	June 10, 1952

FOREIGN PATENTS

299,404	Great Britain	Oct. 26, 1928
375,913	Great Britain	July 7, 1932
540,129	Great Britain	Oct. 7, 1941