

G. W. SWIFT, JR.
DIVIDING BOARD OR FLAT FOR EGG CASE FILLERS.
APPLICATION FILED NOV. 21, 1918.

1,302,992.

Patented May 6, 1919.
2 SHEETS—SHEET 1.

Fig. 1.

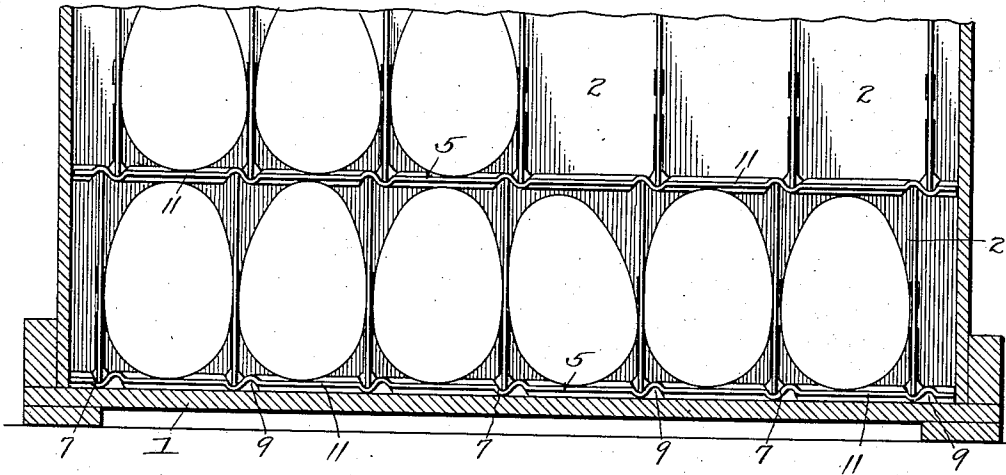


Fig. 2.

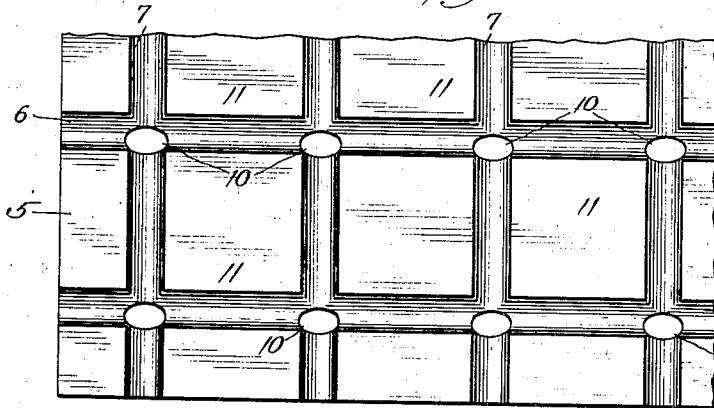


Fig. 4.

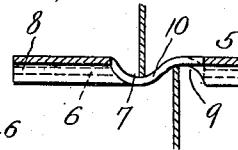
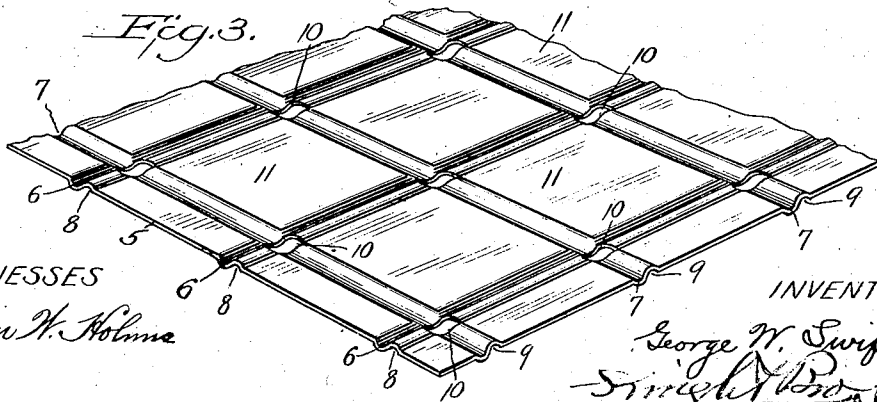


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 5.

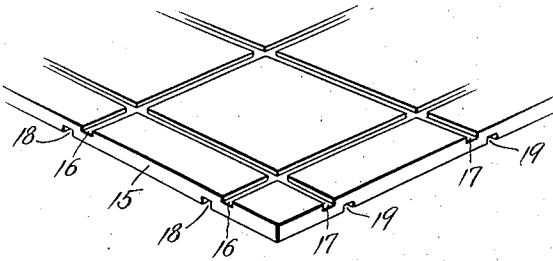


Fig. 6.

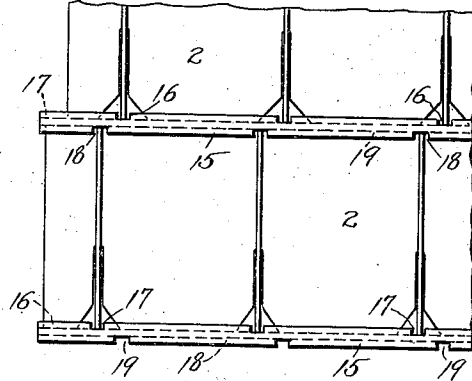


Fig. 7.

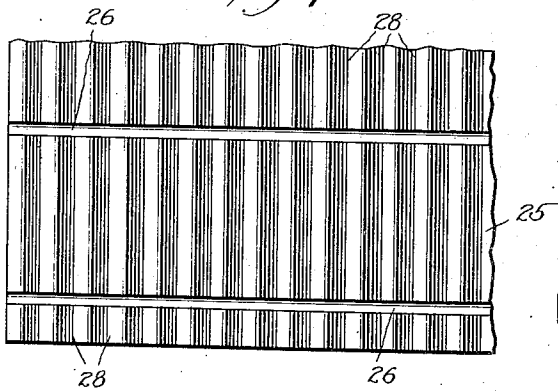


Fig. 8.

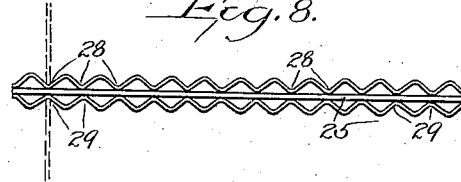


Fig. 9.

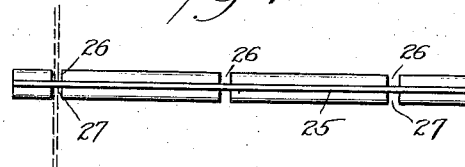


Fig. 10.

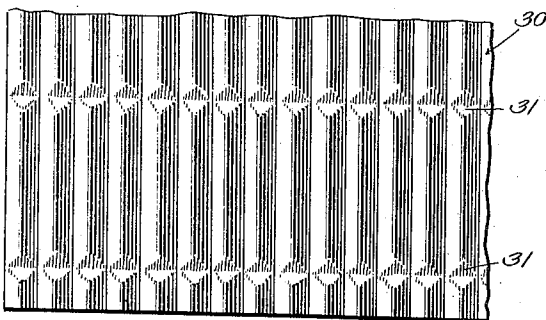
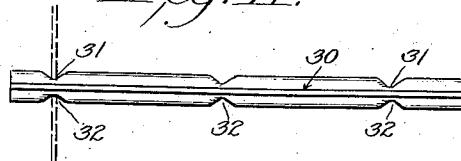


Fig. 11.



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UNITED STATES PATENT OFFICE.

GEORGE W. SWIFT, JR., OF BORDENTOWN, NEW JERSEY.

DIVIDING BOARD OR FLAT FOR EGG-CASE FILLERS.

1,302,992.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE W. SWIFT, Jr., a citizen of the United States, residing at Bordentown, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Dividing Boards or Flats for Egg-Case Fillers, of which the following is a full and clear specification.

Eggs are packed for shipment in crates or cases in which the fillers for separating and supporting the eggs are in the form of cell sections made up of interlocking strips and dividing boards or flats separating the cell sections.

The present invention relates to the form of dividing board or flat which engages the side walls of the individual cells of a cell section to support them against lateral collapse within the crate or case, and has for its object the production of a dividing board or flat which will be economical to manufacture and more practical in use than those heretofore produced.

To this end the present invention comprises a dividing board or flat formed in both its upper and lower faces with intersecting grooves or recesses which are disposed in approximately the same angular relation as the intersecting walls of the cell sections to form seats for the engagement of the cell walls to hold them accurately against displacement in all directions. Each dividing board or flat has such recessed or grooved seats in both faces so that the upper edges of the cell walls of one cell section will engage in the groove seats in the lower face of a flat while the lower edges of the cell walls of the next adjacent cell section above will engage in the groove seats of the upper surface of the same flat. Each cell section will be firmly held above and below between two dividing boards which fit snugly in the crate or case so that each individual egg cell is held against collapse in every direction. The improved construction is such that the boards can be substituted for old forms of flats and be utilized by the packers in conjunction with the crates and cell sections as now manufactured. In arranging the dividing boards or flats with the groove seats in opposite faces, it is preferred, in the interest of strength to groove

or recess the opposite faces of the boards in different planes, so that the grooves in one face will not be in the same planes with the corresponding grooves in the other face of the board or flat.

The improved dividing board or flat is preferably formed by a rolling or embossing operation upon a sheet of the proper grade of straw board or other suitable stock, since the product produced in this way is the most economical and practical form. In some cases the dividing board or flat may be formed by cutting or channeling the grooves in the opposite faces and in some cases it may be preferred to utilize a dividing board with corrugated opposite faces in which case some of the grooves or channels of the corrugations would serve the purpose of the seat grooves extending in one direction while those seat grooves extending at an angle would be cut or embossed transversely of the corrugations.

In order that the invention may be fully understood it will first be described with reference to the accompanying drawings and afterward pointed out more particularly in the annexed claims.

In said drawings,

Figure 1 is a partial vertical sectional view of an egg case and fillers including the improved dividing boards or flats of the present invention;

Fig. 2 is a detail plan view of a portion of one of the boards or flats;

Fig. 3 is a perspective view of the same;

Fig. 4 is a detail sectional view of part of the same;

Fig. 5 is a detail perspective view of a modified form of dividing board;

Fig. 6 is a detail sectional elevation illustrating the coöperation of the form of Fig. 5 with the cell sections;

Fig. 7 is a detail plan view of a further modification; and

Figs. 8 and 9 are detail edge views of the same, taken at right angles to each other;

Fig. 10 is a detail plan view of a further modification; and

Fig. 11 is a detail edge view of the same.

The present invention relates solely to the structure of the dividing boards or flats which are employed to separate the cell sections in egg case fillers. The improved

form of dividing board or flat is designed for use as a part of the filler for any ordinary egg case or crate and for use in conjunction with any of the ordinary forms of cell sections.

In Fig. 1 is shown a sectional view of part of an egg crate or case indicated at 1 in which has been packed several layers of egg cell sections indicated at 2 and intervening dividing boards or flats of the form covered by the present invention.

The filler egg cell sections are, as is well understood in this art, formed of intersecting and interlocked strips of strawboard or suitable paper, such sections when opened out for use to receive eggs presenting an approximately rectangular cellular structure of a large number of rectangular cells of the proper size to receive eggs. These egg cell sections are usually made of very light material, so that difficulty is frequently experienced by the collapsing of the cell sections within the crate in cases when the crate has been subjected to sudden and unusual shocks. To overcome this danger it has heretofore been proposed to form dividing boards or flats with means for engaging parts of the cell sections to resist lateral movement. Such means as heretofore suggested for this purpose have proven unsatisfactory either because they were too expensive to produce or incapable of accomplishing the desired purpose.

The preferred form of the improved dividing board or flat is illustrated in Figs. 1, 2, 3 and 4 of the drawings, in which a sheet of straw board or suitable paper stock 5 is formed in one face with intersecting series of parallel grooves 6 and 7 extending at right angles to each other. The grooves of each series are spaced apart to correspond with the widths of the individual cells of the filler cell sections. The opposite face of the sheet 5 is similarly formed with intersecting series of parallel grooves 8 and 9 bearing the same relation to each other as the series of grooves 6 and 7 just referred to. It will be observed that the grooves 6 in one face of the sheet 5 are parallel with the grooves 8 in the opposite face of the sheet, and similarly the transverse grooves 7 in one face are in different planes from the transverse grooves 9 in the opposite face.

The form shown in Figs. 1 to 4 of the drawings is the most economical form for manufacture because it can be produced by a simple rolling or embossing operation. The two series of grooves extending parallel upon opposite faces of the sheet can be formed by a single operation in passing through grooving rollers, it being preferable at this first operation to cut out circular or oval portions of the stock at the points of

intersection of the grooves that will extend transversely of the initial grooves so as to prevent puckering of the stock at such intersections. Such cut outs are indicated at 10. The second set of transverse grooves are formed by passing the sheet through a second set of grooving rollers at right angles to its first grooving operation to form the parallel series 7 and 9 in the opposite faces of the sheet.

Fig. 1 shows the improved dividing board or flat in position supporting the cell sections and eggs. Each cell section 2 has all of its cell walls seated in the groove seats of two parallel dividing boards or flats, the lower edges of the cell walls resting in the upper seats of a lower board or flat, while the upper edges rest in the lower groove seats of an upper dividing board or flat. These dividing boards or flats form simple divisions between adjacent cell sections, each flat having complete groove seats in its lower face for the upper walls of one section and in its upper face for the lower walls of an upper cell section. Since the dividing walls or flats accurately fit within the crate or case and are prevented from lateral movement and effectively engage all of the cell walls of the cell sections it will be observed that every individual cell is positively and effectively held against displacement within the crate or case. In addition to this centering and supporting of the cells, the dividing boards or flats present cushioning walls or platforms indicated at 11 with which the ends of the eggs engage when confined in their individual cells. In this manner each individual egg is perfectly supported against shock and all danger of the collapse of the cell sections is removed.

In Figs. 5 and 6 I show a slight modification of the improved dividing board or flat in which the board is made of heavy stock 15 with the intersecting series of grooves 16 and 17 on one face and 18 and 19 on the opposite face which cut into the surfaces of the board. These grooves are formed in different vertical planes upon opposite sides of the board in the interest of strength. In Fig. 6 this form of dividing board or flat is illustrated in conjunction with the cell sections.

In Figs. 7, 8 and 9 I show a further modification in which the stock employed in the manufacture of the dividing boards or flats is multi-ply straw board having corrugated opposite faces. This oppositely corrugated straw board 25 has parallel grooves or channels 26 and 27 cut through the corrugations or ribs of the opposite faces. In the form shown the grooves 26 in one face are in the same plane as the grooves 27 in the opposite face but these grooves upon opposite faces can be formed in different vertical planes as in the preferred form above described, if

desired. In this form of dividing board or filler the grooves or recesses between the crowns of the corrugations of the stock as indicated at 28 and 29, are employed as the
5 groove seats extending at right angles to the grooves or channels 26 or 27, it being understood that the difference in depth of the grooves 26, 27, as compared with those 28 and 29 is only the thickness of the paper
10 stock employed in the corrugated outer ply of the stock 25.

In Figs. 10 and 11 I show a further corrugated form of dividing board or filler in which the groove seats extending at right
15 angles to the channels of the corrugated stock are formed by an embossing or impressing operation. In this form the oppositely corrugated stock 30 is formed with channels or depressions 31 in one face and
20 similar channels or depressions 32 in the opposite face.

The forms shown in Figs. 7 to 11 are employed in the same manner as the preferred
25 form above described.

The improved dividing board or flat is of simple construction and easy to manufacture. This economy is due not only to the slight cost of manufacture but to the fact
30 that it can be substituted for any of the dividing boards or flats now in use, so that the

packers can utilize their crates and cell sections now in stock without modification.

I claim:

1. A dividing board or flat for egg case fillers having formed in each of its opposite
35 faces angularly disposed grooved or recessed seats to engage both intersecting series of walls of filler cell sections and hold them against lateral displacement.

2. A dividing board or flat for egg case
40 fillers, having angularly disposed recessed seats in its opposite faces adapted to engage the walls of filler cell sections, the parallel seats of opposite faces being arranged in different vertical planes.
45

3. A dividing board or flat for egg case fillers comprising a sheet of paper stock having intersecting grooves embossed in its opposite faces to form seats for the walls of
50 filler cell sections, the adjacent parallel grooves of opposite faces being in different vertical planes.

4. The combination with two filler cell sections, with a single dividing board or flat
55 arranged between said cell sections and formed with angularly disposed seats in each of its opposite faces adapted to engage both sets of angular walls of both cell sections.

GEORGE W. SWIFT, JR.