Jan. 16, 1923. 1,442,280.

E. C. LORENTZEN.

EGG CRATE FILLER.

FILED SEPT. 27, 1921.

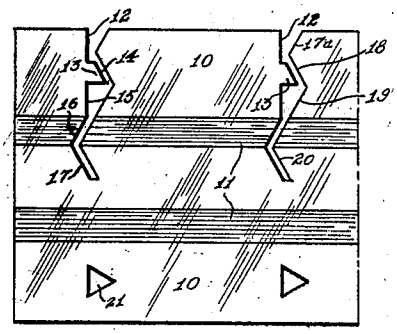


Fig. 1.

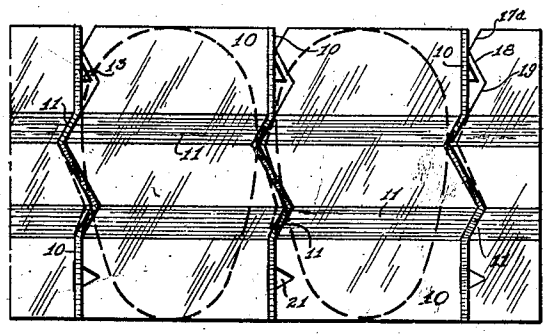


Fig. 2.

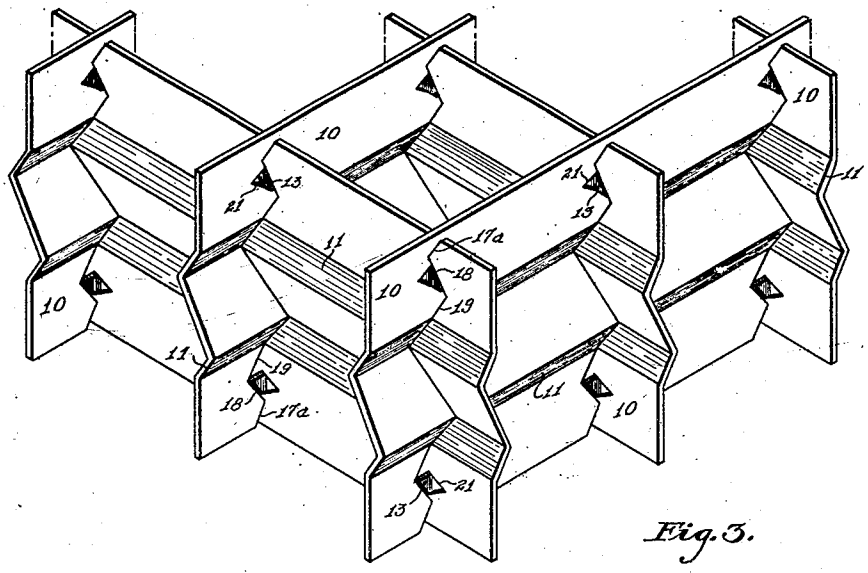


Fig. 3.

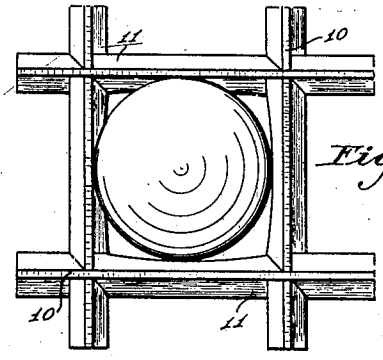


Fig. 4.

Inventor

Edward C. Lorentzen

by Owing & Hagus Attys.

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UNITED STATES PATENT OFFICE.

EDWARD C. LORENTZEN, OF SCRANTON, IOWA.

EGG-CRATE FILLER.

Application filed September 27, 1921. Serial No. 503,647.

To all whom it may concern:

Be it known that I, EDWARD C. LORENTZEN, a citizen of the United States, and a resident of Scranton, in the county of Greene and State of Iowa, have invented a certain new and useful Egg-Crate Filler, of which the following is a specification.

My invention relates to the art of egg crate fillers in which eggs or similar articles may be packed for shipment to avoid breakage.

Heretofore it has been customary to provide egg crate fillers formed of a series of flat pieces of wood fiber board arranged normally at right angles to each other to form a rectangular egg cell between them and which boards were so arranged in connection with each other as to be capable of folding flat in over-lying positions, when the eggs were removed, and the filler was to be stored or reshipped.

The object of my invention is to provide an egg crate filler of simple, durable, and inexpensive construction and having all of the advantages of the egg crate fillers now in common use and in addition thereto having the sides of the wood fiber boards automatically formed with horizontal corrugations when moved to position for receiving eggs and securely held in said corrugated position, whereby the sides of the cells will yieldingly engage an egg at one or more points to securely hold it against movement within the cell even though the eggs vary in size and diameter quite materially from each other and whereby the size of the cell is regulated or adjusted to the size of the egg.

My invention consists in the construction of the wood pulp fiber filler members and their arrangement and combination relative to each other whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Figure 1, shows a side elevation of a part of a filler constructed in accordance with my invention.

Figure 2, shows a vertical sectional view of several filler members embodying my invention and arranged relative to each other as in practical use. In this view there are dotted lines showing the positions of the corrugations as adjusted to fit the eggs which are also illustrated by dotted lines.

Figure 3, shows a perspective view of a part of an egg crate filler embodying my invention with the filler members arranged to form cells as in use, and,

Figure 4, shows a top or plan view of a portion of a filler embodying my invention, with an egg therein.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate the body portion in one of my improved filler members, this is preferably formed of a strip of wood pulp fiber board of the kind ordinarily used in egg crate fillers. It is provided with one or more longitudinal corrugations or ribs formed by bending the material or in any ordinary manner. These corrugations are indicated by the numeral 11.

Each filler member is provided with a series of slots or recesses of the kind shown in Figure 1, in this connection it is to be understood that when the filler members are assembled, those that run in one direction have the slots at the upper side and those running in the other side have the slots at the bottom. Each of the slots is formed on one side with a straight edge portion 12, a locking tongue 13 having a beveled edge 14, below the tongue is a vertical edge 15 and below the vertical edge an inclined edge 16 in one direction and another inclined edge 17 in the opposite direction. On the opposite side of the slot there is at the outer edge a beveled edge 17^a to form guide and adjacent to it is a beveled portion 18 extended in an opposite direction from the part 17^a and adjacent to the part 18 is another portion 19 parallel to the beveled portion 16 and at the end of the part 19 is a beveled or inclined portion 20 parallel with the part 17. Near the opposite edge of the fiber filler is a substantially triangular opening 21 for purposes hereinafter made clear.

From the foregoing and upon reference to the drawings it will be seen that each filler member, when viewed from the end, will have its upper and lower portions straight and in line with each other, and near its central portion there will be a single rib projecting laterally in one direction and on the other side there will be a single rib projecting laterally in the opposite direction.

In assembling my improved filler, two filler members are arranged in substantially

vertical positions one above the other, the lower one with the slot uppermost and the upper one with the slot at its lower edge, then these two filler members are preferably brought to positions slightly divergent from the parallel, then the upper one is moved downwardly with the slots receiving the adjacent portions of the filler members until the lower edges of the two filler members reach the same plane. When this has been done the two filler members may be moved to positions at right angles to each other, which will cause the locking lugs 13 to enter the notches 21 and thus prevent vertical movement of the two members relative to each other. During this movement of the two members relative to each other from substantially parallel positions to positions of right angles, the projections formed by the two inclined edges 19 and 20 will press upon the adjacent previously folded or rib portion of the adjacent filler member and bend it outwardly to the position illustrated in Figure 2. In this manner an upper rib or corrugation is pressed outwardly on one set of filler members by the projecting of shoulders 19 and 20, and another rib or corrugation will be pressed outwardly on the other filler member in the same manner. However, before the locking lug 13 can enter its notch 21 the filler members must be pressed downwardly to a sufficient extent to admit the locking lug into its notch and when this has been done, both the upper and lower corrugations or ribs will have been formed in the filler members and these will be retained because of the locking lugs in said ribs so that in practice both the upper and lower corrugations or ribs are present in the filler when it is assembled and in position for use and in addition to this one rib at least on each filler member is positively held in position by one of the shoulders 19 and 20 pressing it into the corresponding depression formed by the parts 16 and 17.

These egg crate fillers are employed for various purposes and when employed for use in connection with eggs it is well known that the eggs vary to a considerable extent in diameter and it is obvious that the size of the cells must be at least as great as the diameter of the largest eggs, hence with fillers of the kind now in common use, the relatively smaller eggs will not engage all sides of the cell and will be permitted to move or rattle about, and thus cause breakage due to rough handling, however with my improved filler device the corrugations or ribs take care of the variations in size of the eggs, that is to say, when large eggs are inserted the corrugations or ribs are flattened or extend outwardly as indicated in Figures 2 and 4, just sufficiently to accommodate and fit the egg and when small eggs are inserted they will touch the sides of the corrugations or ribs, but will not press them outwardly so far, so that all of the eggs are held against rattling or movement within the cells. After the eggs have been removed the filler members may be folded into substantially parallel positions for packing or reshipment.

When the filler members are assembled as shown in the drawings, each cell will have on one side a single rib projecting inwardly toward the center of the cell beyond the flat surfaces above and below it, and on the opposite side of the cell there will be another rib projecting inwardly beyond the flat surfaces above and below in a different horizontal plane from the first mentioned rib, so that when an egg of average size is placed in a cell, it will slightly depress the edge of the inwardly projecting rib on one side, and the edge of the inwardly projecting rib on the opposite side, but will not touch the filler members at any other points on these same two sides, and the two points of contact between the filler and the egg on said sides will be on one side above the center of the egg, and on the other side below it.

By means of this arrangement the operation of removing a set of fillers from the eggs contained therein is greatly facilitated because the way this is ordinarily done is by grasping the filler and raising it away from the eggs. By means of my improvement the filler member may thus be readily elevated without carrying the eggs with it, because the rib on one side strikes the egg above the center, and the egg is not wedged in place and when the filler is moved slightly upwardly, then the lower end of the egg will be moved laterally by the action of the lower one of said ribs being moved upwardly, and this may be accomplished because the upper one of said ribs will have passed upwardly beyond the widest portion of the egg. In other words, by means of my improvement, the filler will readily and easily adapt itself in size to engage and yieldingly hold eggs of varied size, and at the same time when it is desired to withdraw the filler, this may be readily and easily accomplished.

I claim as my invention:

1. In a device of the class described, the combination of a series of filler members made of yielding material and arranged at right angles to each other to form cells between them, each filler member having a straight upper portion and a straight lower portion in line with each other, and also having above its center a rib or corrugation extending laterally in one direction beyond the adjacent straight portion, and another rib or corrugation below it extended laterally beyond the adjacent straight portion

in a direction opposite that of the first mentioned rib or corrugation, and whereby each side of each cell is formed with a single rib or corrugation extended inwardly toward the center of the cell to a point beyond any of the other parts of the cell side.

2. In a device of the class described, the combination of a series of filler members made of yielding material and arranged at right angles to each other to form cells between them, each filler member having a straight upper portion and a straight lower portion in line with each other, and also having above its center a rib or corrugation extending laterally in one direction beyond the adjacent straight portion, and another rib or corrugation below it extended laterally beyond the adjacent straight portion in a direction opposite that of the first mentioned rib or corrugation, and whereby each side of each cell is formed with a single rib or corrugation extended inwardly toward the center of the cell to a point beyond any of the other parts of the cell side, and said filler members being so arranged that the inwardly projecting rib or corrugation of one side will be out of line horizontally from the corresponding rib or corrugation on the opposite side.

3. In a device of the class described, the combination of a series of filler members made of yielding material and formed with longitudinal corrugations, some of the fillers being formed with slots at one edge and the others with slots at the opposite edge and each set of said fillers being assembled in the slot of the other set, each filler member being formed with a series of locking lugs and a series of openings to receive said lugs, and said lugs and openings being so spaced arranged relative to each other that they can only be placed in co-acting positions when the filler material is corrugated and when thus placed in co-acting positions they will serve to prevent the corrugations from flattening out.

4. In a device of the class described, a filler member formed of flexible material and provided with longitudinal corrugations or folds, and having adjacent at one edge a slot, there being formed within the slot at one side a locking lug 13 and inclined shoulders 16 and 17, there being also formed on the other side of the slot an inclined edge 18 adjacent to the locking lug and the inclined edges 19 and 20, adjacent to inclined edges 16 and 17, there being also adjacent to the opposite edge of the filler member an opening 21 substantially as and for the purposes stated.

Des Moines, Iowa, May 18th, 1921.

EDWARD C. LORENTZEN.