Aug. 30, 1932. L. BENOIT 1,874,162

FILLER FOR EGGS AND THE LIKE

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Fig. 1

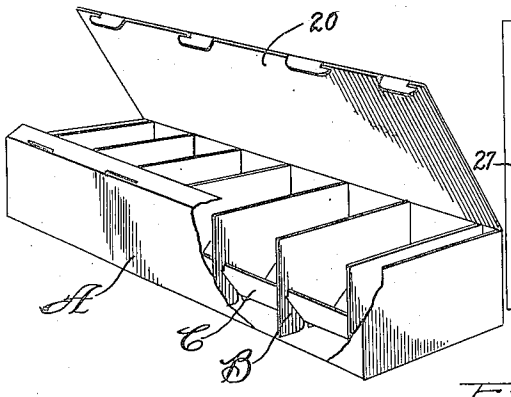


Fig. 2

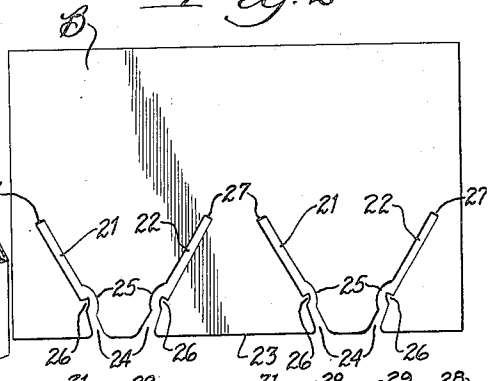


Fig. 3

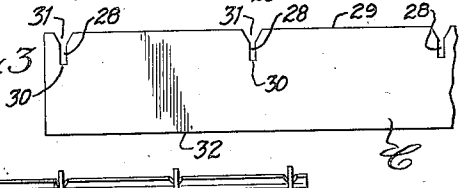


Fig. 4

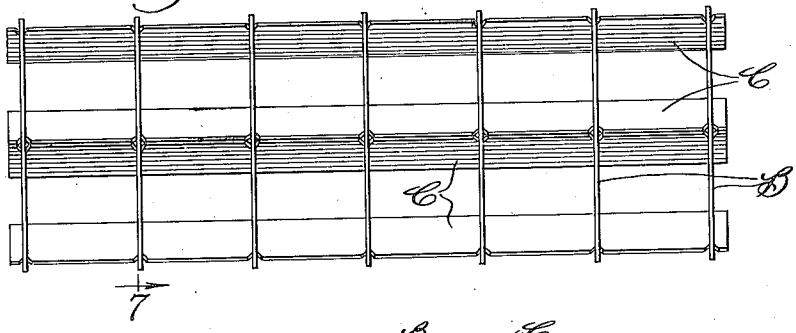


Fig. 5

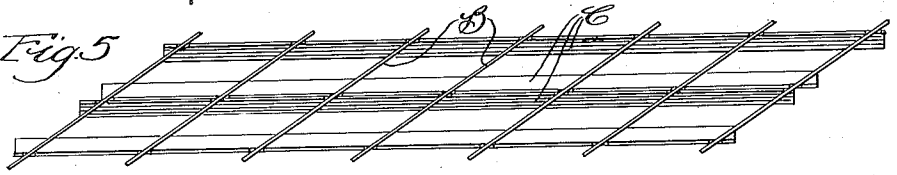


Fig. 6

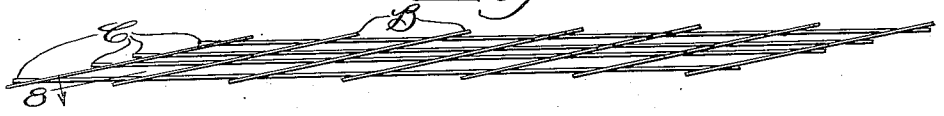


Fig. 7

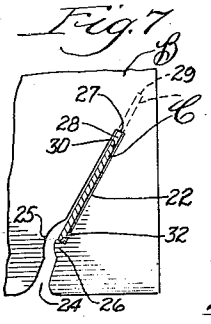
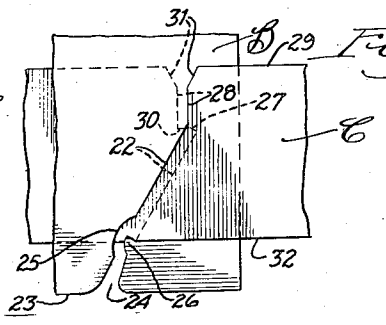


Fig. 8



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Fig. 9

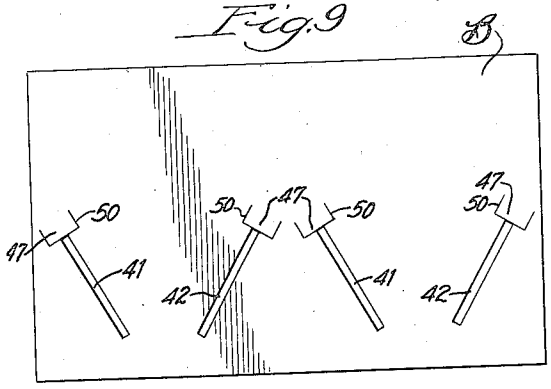


Fig. 10

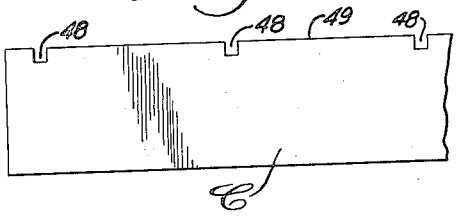


Fig. 11

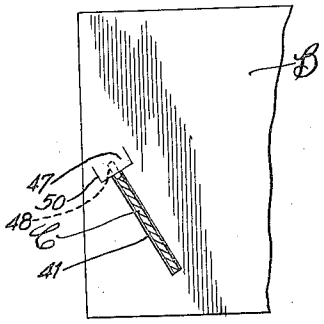


Fig. 12

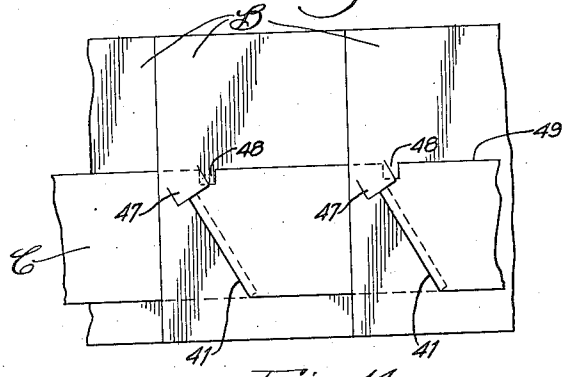


Fig. 13

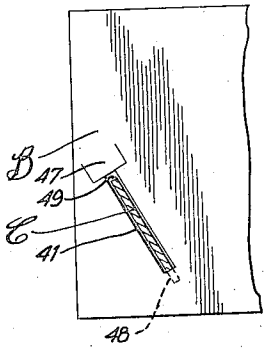
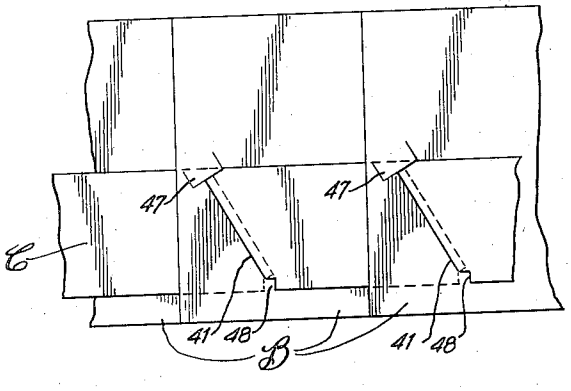


Fig. 14



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Fig. 15

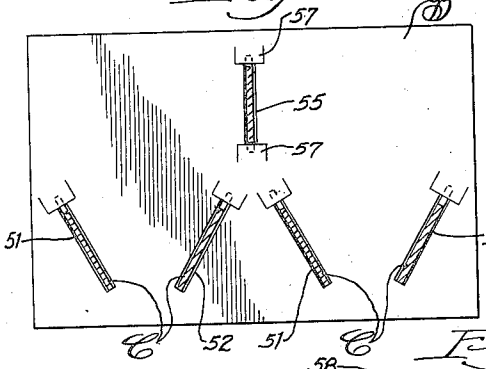


Fig. 17

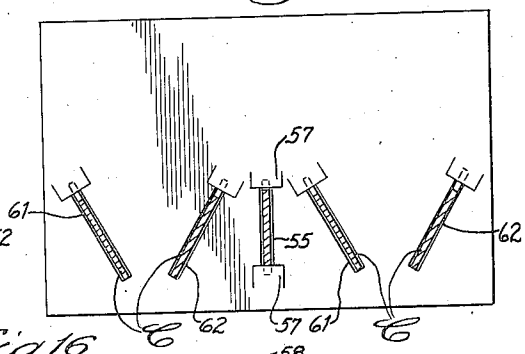


Fig. 16

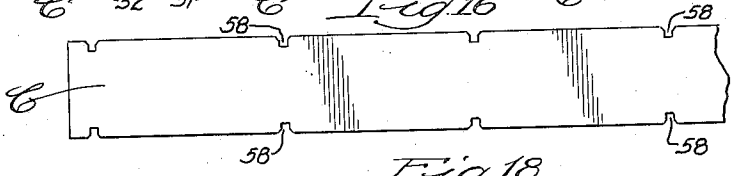
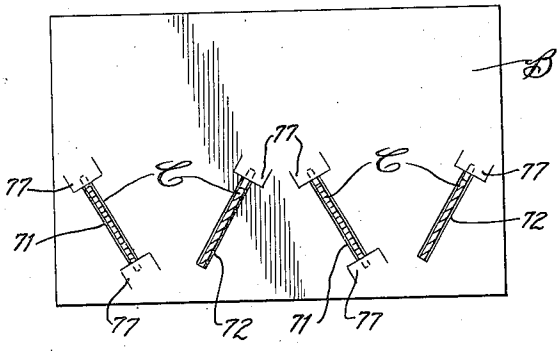


Fig. 18



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Patented Aug. 30, 1932 1,874,162

UNITED STATES PATENT OFFICE

LEON BENOIT, OF CHICAGO, ILLINOIS

FILLER FOR EGGS AND THE LIKE

Application filed October 6, 1930. Serial No. 486,578.

This invention relates to a filler adapted for reception in a carton or other enclosure for the accommodation of eggs or similar commodities which require individual protection. The improvements with which this invention is concerned have to do with a peculiar and special relationing of the filler components by which the structure is rendered collapsible preliminary to setting up within a carton, and is maintained in set up condition with little, if any, external assistance to provide cells within each of which may be accommodated and protected an egg or other intended content.

The present improvements may be variously embodied as suggested by the exemplifications shown in the accompanying drawing wherein—

Figure 1 is a view in perspective of a carton with one wall partly broken away to exhibit the filler of this invention;

Fig. 2 is an enlarged view in elevation of one of the cross wall components of the filler;

Fig. 3 is an enlarged fragmentary view in elevation of one of the partition components of the present filler;

Fig. 4 is a view in plan of the filler as it appears when completely assembled and extended out for use;

Fig. 5 which is a similar view shows the filler in a partial state of collapse;

Fig. 6 is a similar view showing the filler in a nearly complete condition of collapse;

Fig. 7 is an enlarged detail in section on line 7 of Fig. 4;

Fig. 8 is an enlarged detail in section on line 8 of Fig. 6;

Fig. 9 which is a view similar to Fig. 2 shows a modified construction of the cross wall component of the filler;

Fig. 10 is a view similar to Fig. 3 showing a modified form of partition component to adapt it specially for assembly with a cross wall having the construction of Fig. 9;

Fig. 11 is a fragmentary detail in section through a filler having cross wall and partition components as shown in Figs. 9 and 10;

Fig. 12 is a fragmentary view in elevation of the same filler as it appears when collapsed;

Figs. 13 and 14 are views similar to Figs. 11 and 12, respectively, showing a construction in which the partition component is modified to the extent of being reversed so as to present its edge notches downwardly instead of upwardly;

Fig. 15 is a transverse section through a filler exhibiting another modification;

Fig. 16 is a fragmentary view in elevation of a partition component as used in the filler of Fig. 15;

Fig. 17 is a transverse section of a filler which exhibits a further modification in construction; and

Fig. 18 is a transverse section through a filler showing one further modification in the construction of the cross wall component used therein.

Considering first the construction shown in Figs. 1 to 8, I utilize some sort of a wrapper, box or carton A of rectangular form as an enclosure for the reception of a filler which is made up of a plurality of interfitting cross walls B and longitudinal partitions C. In the form shown, the carton is open at the top with a cover 20 adapted, when closed, to maintain the filler securely in place therewithin.

The improvements of this invention are concerned with a filler of the kind adapted to be received within a carton, wrapper or enclosure, such as has been suggested. The filler may take several forms, one of which, shown in Figs. 1 to 8 inclusive, comprises a series of cross walls B in the form of cards each having four slots extended inwardly from its bottom edge. These slots are arranged in groups of two each of which is located symmetrically with respect to the other and to the card, so as to occupy a position entirely to one side of a line running centrally and vertically of the cross wall. The slots in each group, designated at 21 and 22, diverge at an angle from the bottom edge 23 of the card, and each is formed with an entry way 24 which leads to a bend 25 into which is projected a shoulder 26. Beyond this

shoulder the slot continues in line with the entry way to its inner end 27 which is closed. The distance to which each slot extends from the bottom edge of the card is, by preference, much less than the vertical height thereof it being desirable that their inner or upper ends should terminate in the region of a horizontal line extending centrally across the wall, or even therebelow.

For a 2 x 6 filler, such as is standard, I use seven cross walls, all alike and spaced equidistantly when assembled with the longitudinal partitions C, of which four are used in the illustrative embodiment. These partitions which are alike are adapted for insertion within the card slots. As shown best in Fig. 3, each partition is in the form of an elongated rectangular strip having a series of spaced slots 28 open upon its upper edge 29 and extending inwardly therefrom to a closed inner end 30. These slots are, by preference, provided in each instance with a flaring entrance 31, and one is provided for each of the seven cards which go into the assembly of the filler. The four strips are inserted within the slots of the cross walls, being forced past the shoulders 26 which then serve to resist any reverse movement tending toward disassembly of these parts. In this position the lower strip edge 32 rests upon or against the card shoulders 26 by which it is sustained. The distance across the partitions from the inner end 30 of each slot to the remote edge 32 is somewhat less than the length of the cross wall slots as measured between the shoulders 26 and the ends 27 (see Fig. 7), permitting of a limited shifting movement of each strip transversely of itself and longitudinally within the slots 21, as may be required when the filler is moved from a position of collapse to a fully extended position, or vice versa.

A filler constructed and assembled, as described, will present a series of cross walls aligned in parallel vertical planes, and another series of longitudinal partitions arranged divergingly in groups of two, the partitions in each group providing opposite slanting or inclined walls between which may be received eggs or other commodities. The partitions, as shown, are extended upwardly for about one-half the height of the filler which is determined by the vertical dimension of the cross walls, and this circumstance, in conjunction with others, accounts for the adaptability of the filler to collapse or open up, as occasion may require.

In moving from one of these positions to the other, the cross walls maintain always their vertical positions. The partitions, however, are required to execute a swinging movement from the vertical, when the filler is collapsed, to slanting positions when the filler is fully extended. In proceeding through these movements, there must be relative sliding movement between the cross walls and fillers along their lines of juncture, the excess length of the cross wall slots being provided to accommodate the partitions when the parts are collapsed, as shown best in Fig. 8. The need for this extra slot length is occasioned by the fact that the partitions when straightened up into vertical planes, as when the filler is collapsed, will be extended upwardly for a greater distance than when the filler components are otherwise related.

A generally similar construction is disclosed in Figs. 9 to 12 inclusive, wherein the filler is composed of cross walls and partitions B and C, respectively, the former having two groups of slots 41 and 42, and the latter open slots or notches 48 along its upper edge 49. In this modified construction, however, the cross wall slots are of the internal variety, in consequence of which they are closed at opposite ends. At the upper end of each slot I provide a flap 47 formed by three connected right angular slits 50, one of which cuts across the upper end of the slot. With such a construction the flaps may yield, as required, when the partitions are inserted endwise through the slots preliminary to reaching their final positions. Due to the character of the fibrous material which is ordinarily used for the filler components, these flaps tend to move back into the plane of the cross walls so as to enter the edge notches 48 of the partitions by which the latter are held against longitudinal movement relative to the cross walls. In this construction, when the filler is collapsed, the cross walls are required to straighten up into parallelism, as already described, and in executing this movement the flaps will yield, as required to do so, to accommodate the transverse width of the partition body which is received within the cross wall slots 41 and 42. In this connection it will be noted that the edge notches 48 formed in the partitions may be of a width sufficient to permit the flaps 47 to swing laterally therein when the filler is moved to a state of collapse; or the partition edge adjacent its notches may enter one of the slits 50 to be accommodated therein when the filler is collapsed.

The construction shown in Figs. 13 and 14 is very similar to that just described in connection with Figs. 9 to 12, the only difference being in the manner of assembly which, as shown, reverses the position of the partitions to present the notches 48 along the lower edges 52 instead of the upper edges 49 thereof. In this example the parts function the same as in the construction last described, so that further description is unnecessary.

In Figs. 15 and 16 I have shown filler components very similar to the constructions described in connection with Figs. 9 to 14 inclusive, the only modification being that a fifth slot 55 is provided in the cross wall for

the reception of a fifth partition which may take the form shown in Fig. 16.

This additional slot may be disposed centrally of the cross walls above the two inner oppositely slanted slots 51 and 52, and at opposite ends thereof this fifth slot may be provided with a yielding flap 57 having the characteristics already noted. This same extra slot may be otherwise located, as suggested in Fig. 17, where it is positioned centrally between the adjacent slots 61 and 62 instead of above them to accommodate a partition, as shown. Flaps 57 may be provided at opposite ends to engage with slots 58 along opposite partition edges, (see Fig. 16). By the provision of such an extra partition, and particularly one with notches in opposite edges, as shown, the entire filler structure is stiffened and reinforced somewhat.

A further adaptation of the construction hereinbefore described is suggested in Fig. 18 wherein alternate and parallel slots 71 are provided with flaps 77 at opposite ends, the remaining alternate and parallel slots 72 being equipped with such flaps at the upper ends only. In this construction the partitions to be used with these slots will be provided with notches along one edge only, or upon opposite edges, according to the arrangement of the flaps with which such notches co-operate.

The filler of this invention, in any of the suggestive forms indicated, is advantageous in that it is inexpensive to produce, it provides a self-sustaining structure, it may be set up with the partitions slanted divergingly for the reception of eggs or other commodities and may be collapsed on occasion when space is to be conserved, as for shipping or storing, and it is movable to the different positions required without mutilation or destruction of the fibrous material of which the walls and partitions are ordinarily made. Because of these features, and the fact that it provides an adequate degree of protection and security for fragile articles contained therein, the filler may be produced, used and handled commercially with success.

I claim:

1. In a collapsible filler, the combination of a series of cross walls having separated slots with which is assembled a series of interfitting slotted longitudinal partitions, certain slots in the cross walls being divergently slanted whereby to sustain the partitions in inclined positions relative to the vertical, and the slots in the partitions being disposed along one edge in the planes of the slots in the cross walls, the transverse distance across the partitions between the closed ends of these slots and the opposite edge being less than the length of the accommodating slots in the cross walls, whereby to provide a clearance along one edge of each partition permitting the latter to shift transversely of itself within the cross wall slots as required when the cross walls and partitions are swung relatively to each other to or from positions of substantially parallelism.

2. In a collapsible filler, a series of cross walls having divergingly slanted separated slots with which is assembled a series of interfitting longitudinal partitions having open edge slots located at the planes of juncture with the cross walls, each cross wall slot having spaced means by which to confine the associated partition in place against transverse disassembly, the distance between such spaced means in the cross wall slots being greater than the transverse distance across the partitions between the closed ends of the slots therein and the opposite edge of the partitions whereby to provide a clearance along one edge of each partition permitting the latter to shift transversely of itself within the cross wall slots as required when the cross walls and partitions are swung relatively upon each other to positions of substantial parallelism or otherwise.

3. In a collapsible filler, the combination of a series of cross walls having divergingly slanted separated slots with which is assembled a series of interfitting longitudinal partitions having open edge slots located at the planes of juncture with the cross walls, each cross wall slot having spaced means by which to confine the associated partition in place against transverse disassembly, the distance between such spaced means in the cross wall slots being greater than the transverse distance across the partitions between the closed ends of the slots therein and the opposite edge of the partitions whereby to provide a clearance along one edge of each partition permitting the latter to shift transversely of itself within the cross wall slots as required when the cross walls and partitions are swung relatively upon each other to positions of substantial parallelism or otherwise, and one of said spaced means in the cross wall slots being yieldable to accommodate a partition of greater transverse width than the distance between said spaced means.

4. In a collapsible filler, the combination of a series of cross walls having separated divergingly slanted slots with which is assembled a series of interfitting longitudinal partitions having open edge slots located at the planes of juncture with the cross wall slots, there being a further partition accommodated within other slots of the cross walls in a vertical plane centrally between adjacent series of diverging partitions, each cross wall slot having spaced means by which to confine the associated partition in place against transverse disassembly, the distance between such spaced means in the cross wall slots being greater than the transverse distance across the partition between the closed ends of the slots therein and the opposite edge of the

partition whereby to provide a clearance along one edge of each partition permitting the latter to shift transversely of itself within the cross wall slots as required when the cross walls and partitions are swung relatively upon each other to positions of substantial parallelism or otherwise.

5. In a collapsible filler, the combination of a series of interfitting cross walls and longitudinal partitions, each slotted to accommodate portions of the other and the slots of one being separated and slanted from the vertical and extended in length somewhat greater than the portions of the other accommodated within slots, permitting the latter to shift transversely of themselves when the cross walls and partitions are swung relatively to each other to or from positions of substantial parallelism.

6. In a collapsible filler, the combination of a series of interfitting relatively high cross walls and relatively low longitudinal partitions, the former having in their lower regions separated slots slanted from the vertical and the latter being fitted through such slots in slanting positions, the transverse dimensions of the partitions being less than the length of the slots in which they are accommodated whereby to provide sufficient excess for the partition to extend therethrough at varying angles, the partitions and cross walls together in one position defining a plurality of cells, and a further partition extended longitudinally of the filler centrally of the cross walls through vertical slots therein and above the remaining partitions.

7. In a collapsible filler, the combination of a series of interfitting cross walls and longitudinal partitions, each slotted to accommodate portions of the other and the slots of one being separated and slanted from the vertical and extended in length somewhat greater than the portions of the other accommodated within such slots, permitting the latter to shift transversely of themselves when the cross walls and partitions are swung relatively to each other to or from positions of substantial parallelism, and a further partition extended longitudinally of the filler centrally of the cross walls through vertical slots therein.

8. A collapsible cellular holder for eggs and the like, comprising a series of interfitting cross walls and longitudinal partitions each slotted to accommodate portions of the other, the slots of the cross walls being separated and slanted from the vertical and provided with yielding means at their ends to permit the associated partitions to shift transversely of themselves within the slots of the cross walls when the cross walls and partitions are swung relative to each other to or from positions of substantial parallelism.

LEON BENOIT.

CERTIFICATE OF CORRECTION.

Patent No. 1,874,162. August 30, 1932.

LEON BENOIT.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 4, line 15, claim 5, after the word "within" insert the word such; and line 30, claim 6 for, "partition" read partitions; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 22nd day of November, A. D. 1932.

M. J. Moore,
Acting Commissioner of Patents.

(Seal)