Oct. 1, 1946. E. E. ELDREDGE 2,408,616

PACKAGING

Filed Nov. 24, 1941 2 Sheets-Sheet 1

Fig. 1

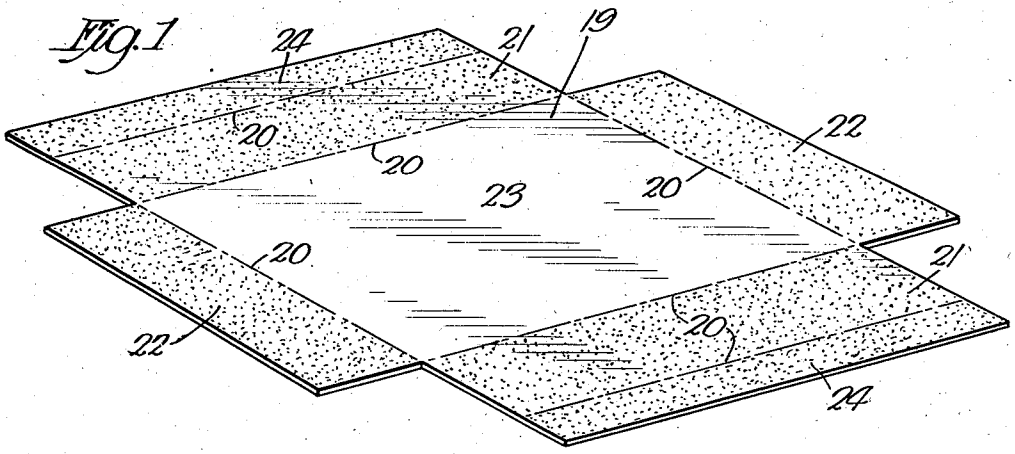


Fig. 2

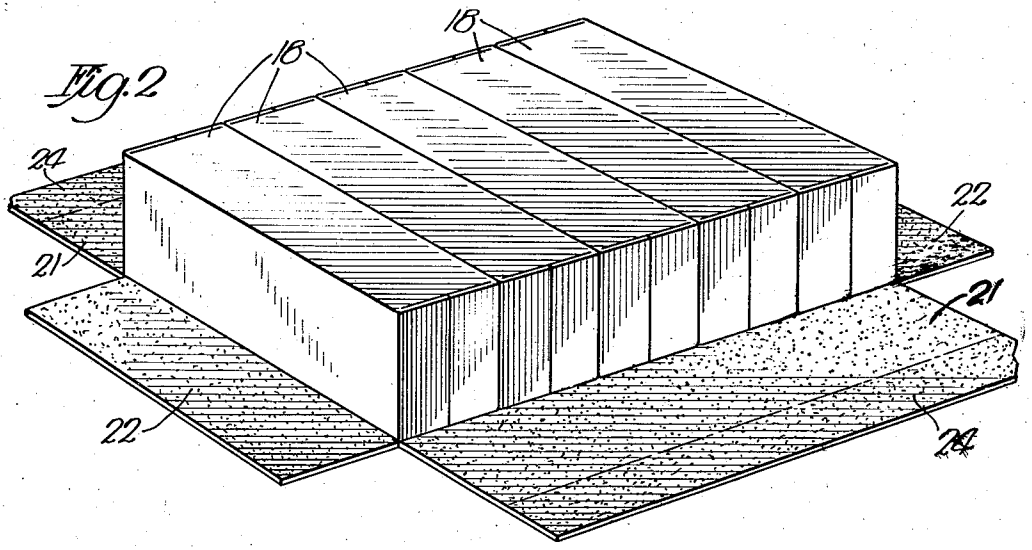
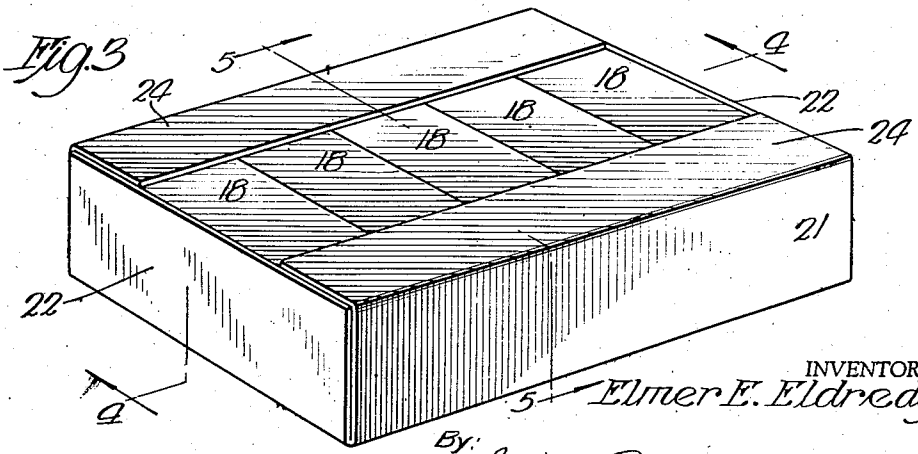


Fig. 3



INVENTOR
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Fig. 4

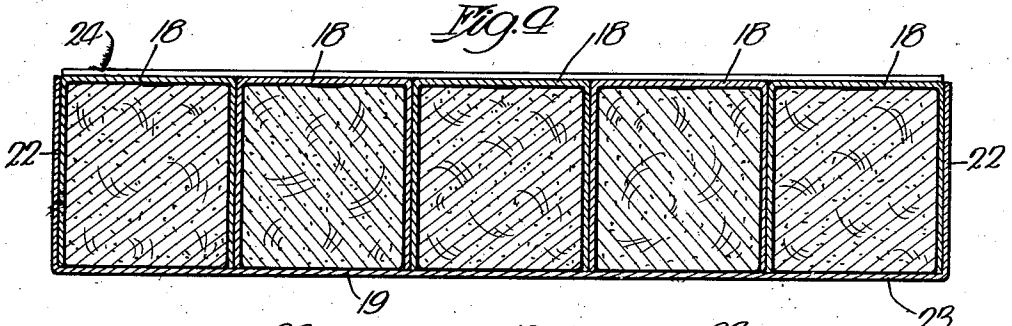


Fig. 5

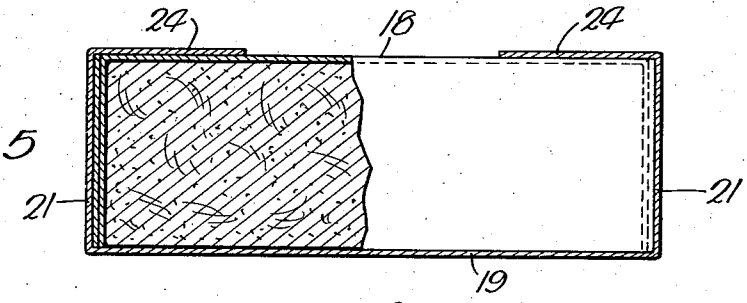


Fig. 6

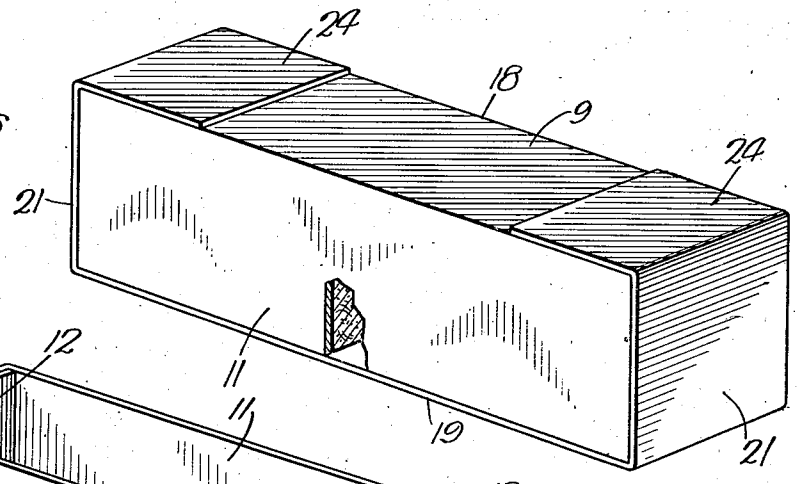
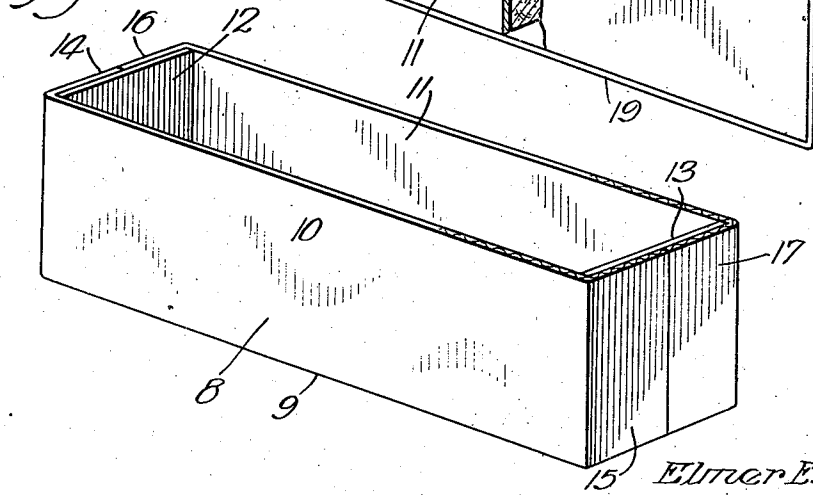


Fig. 7



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Patented Oct. 1, 1946

2,408,616

UNITED STATES PATENT OFFICE

2,408,616

PACKAGING

Elmer E. Eldredge, Plymouth, Wis., assignor to Kraft Foods Company, a corporation of Delaware

Application November 24, 1941, Serial No. 420,271

1 Claim. (Cl. 206—56)

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This invention relates to improvements in packaging and it has particular reference to a formation of loaves or bricks of material and the assembly thereof in a shipping package.

In the production of loaves of cheese and other similar loaves or bricks wherein the material when initially packaged is in a more or less fluid state, considerable difficulty has been experienced in attempts to use paper board or other semi-rigid containers instead of wooden boxes and the like in which to pour the material and in which the loaves or bricks are molded. Materials such as cheese are of a relatively heavy character and tend to bulge out the side walls of paper board receptacles such as it would otherwise be practicable to use.

The main objects of the invention are to provide an arrangement whereby a semi-rigid paper board receptacle may be successfully employed for the molding of the loaves of cheese or other material; to provide a package arrangement which, while serving to facilitate the packaging of material in paper board receptacles, also adapts the packaging to shipping purposes without enclosing the package in an extra or special shipping container; to provide improved packaging of the character indicated which will be economical and low in cost; and in general it is the object of the invention to provide an improved packaging of the character indicated.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawings (2 sheets) wherein there is illustrated packaging embodying a selected form of the invention.

In the drawings:

Figs. 1, 2 and 3 are perspective illustrations showing various elements of the improved packaging and successive steps in the formation thereof;

Figs. 4 and 5 are cross sections on the lines 4—4 and 5—5, respectively, of Fig. 3;

Fig. 6 is a perspective of one section of the completed package as it would appear when removed from the completed package; and

Fig. 7 is a perspective illustrating one of the receptacles employed in forming the package.

The present disclosure is with reference to the formation of a shipping package comprising five 5-pound loaves of cheese but it is to be understood that this disclosure is merely typical and that the invention is not restricted to the packaging of this particular kind of material.

Each loaf of cheese or other material is formed in a rectangular paper board receptacle designated 8 and shown in its entirety in Figure 7. Each receptacle 8 is preferably formed of a suitable grade of corrugated paper board embodying an intermediate corrugated ply and inner and outer smooth-faced plies of paper, such composite paper board being commonly used in the formation of shipping containers.

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The containers 8 may be formed from a single sheet of material suitably scored to provide a bottom wall 9, opposite elongated side walls 10 and 11, opposite end walls 12 and 13 extending from the bottom wall 9, and end wall flaps 14 and 15 extending from the side wall 10, and 16 and 17 extending from the side wall 11. The overlapping end walls and flaps are of course suitably united preferably adhesively to maintain the receptacle in the rectangular form shown in Figure 7.

For forming the five loaf package herein illustrated, five of the receptacles shown in Figure 7 are filled with the cheese or other material, the receptacles being first preferably lined with a suitable moisture-proof sheeting which, after the receptacle is filled, is closed over the open top of the receptacle and sealed so as to produce an impervious enclosure for the package content. The details of the lining sheet and its sealing form no part of the present invention and therefore will not be explained further.

A series of such filled receptacles which are respectively designated 18 (see Figure 4) are placed side by side, that is, with their elongated sides against one another, and they are placed with their open tops down on a cover sheet designated 19, substantially as shown in Figure 2. The cover sheet 19 is also preferably formed of corrugated paper board embodying an intermediate corrugated paper ply and inner and outer smooth paper plies and it is suitably creased or scored as indicated by the dot and dash lines 20—20 (Fig. 1) to provide side flaps 21, 21, and end flaps 22, 22, which are foldable relative to the intervening bottom wall portion 23. There is also formed by the scoring, flaps 24, 24, the same extending outwardly from the long edges of the side flaps 21, 21.

As shown in Figure 2, the filled receptacles are placed on the bottom wall 23 of the cover sheet 19 in such position that the side and end flaps 21 and 22, respectively, may be folded upwardly and adhesively united to the respectively adjacent side and end walls of the series of packages 18.

The flaps 24 are then folded inwardly over the then top walls of the packages 18 and adhesively united thereto, so that the package assumes the

appearance illustrated in Figure 3. It should be understood that there is no adhesive connection between the adjacent side walls 10 and 11 of the series of filled receptacles and that the only connecting means between said units 18 are the side walls 21, 21 and the flaps 24, 24 of the cover sheet 19, which side walls and flaps are adhesively united to the units 18 and thereby serve to interconnect the same.

For purposes of explanation, it has been stated that the filled receptacles 18, 18 are placed in inverted position on the cover sheet 19. However, it will be understood that it is not essential that the units 18 be inverted and placed on the cover sheet but that the cover sheet may instead be placed over the tops of the units 18, the latter remaining in upright position, the side and end walls 21 and 22 being folded downwardly and adhesively united to the respective adjacent surfaces of the units 18, after which the flaps 24, 24 may be folded inwardly and under the units for adhesive attachment thereto. The weight of the units 18 would, of course, serve to provide sufficient pressure to insure effective bonding between the flaps 24, 24 and the bottom portions of the units 18, and suitable holding or guiding means may be provided for maintaining the flaps 21 and 22 in tight contact with the respectively adjacent wall portions of the filled containers, even while the latter are maintained in travel from a filling machine or from a liner closing machine.

A package embodying the described structure has been found to be adequate to withstand the normal rough handling to which it is subjected during transportation from the manufacturer and packager of the package content to retail dealers or other recipients. The package is especially convenient in the hands of a retail dealer in that he is not required to pry apart any wooden box cover or the like but may remove from the package one unit of material simply by cutting off one section such as illustrated in Figure 6, it being necessary to cut only the bottom wall part 23, the side flaps 21, and flaps 24 of the cover sheet, whereupon the unit 18 will be separated from the remainder of the package. For guiding such severance, suitable light crease lines or printed or other lines may be provided on the member 19. It is then a simple matter to open the single unit so as to permit removal of the loaf of cheese or other material from the container 8.

The described packaging structure is especially advantageous in connection with the packaging of cheese which is generally sold by butchers who may use a knife for cutting a unit from the complete package and for opening the individual unit to effect removal of the loaf of cheese from the individual receptacle 8. When the loaves of material are enclosed in an impervious wrapper such as previously referred to, the wrapped loaf may also be removed from the paper board receptacle 8 for display and to facilitate the cutting of predetermined amounts from the loaf as may be called for by purchasers.

The described packaging structure causes the associated units to support one another so as to retain the desired flatness of their adjacent side walls and the application of the cover member 19 with its down-turned end flaps 22, 22 serves to support the otherwise unsupported side walls of the respective end units to maintain the same in the desired flat condition. The wall portion 23 of the cover sheet 19 serves in the nature of a tie member for preventing outward bulging of the outermost side walls of the assemblage of units 18 and the flaps 22, 22 adhesively united to such outermost side walls results in a two-ply structure or reinforced outer side wall which of itself tends to resist bulging under the weight of the package content.

The end walls of the respective units 18 are initially of two-ply or reinforced construction, and, being of relatively small expanse, require no extra support. However, the end walls of the individual units are strengthened by the side wall flaps 21. The said side walls 21 serve the additional important function of covering up the small crevices remaining between adjacent receptacles and between adjacent edges of the end wall flaps 15 and 17, or 14 and 16, of the individual receptacles 8. Such covering of the crevices assists in the maintenance of a clean looking package and also eliminates numerous exposed recesses or edges which are so apt to get caught against other objects.

It is preferred that the corrugations in the cover member 19 extend lengthwise of the panel 23, that is, in such direction that the corrugations extend transversely of the length of the assembled units 18, 18. It has been found that it is somewhat easier to sever the corrugated stock in the member 19 transversely of its corrugations than lengthwise thereof. Hence when the corrugations are arranged in the manner designated, separation of a unit 18 from the remainder of the package structure is facilitated.

It will be apparent that the extensions 24, 24 of the cover member 19 may be omitted if desired, and that other changes in the arrangement may also be made without departing from the spirit of the invention, the scope of which should be determined by the following claim, the same being construed as broadly as possible, consistent with the state of the art.

I claim:

A shipping package comprising a plurality of relatively independent, substantially like package units assembled in side by side, co-planar alignment, each of said units comprising a filled fiber board box having a bottom, sides, ends, and an open top, the open tops of the boxes being disposed in the same plane, and a fiber board member having a main panel disposed across said co-planar open tops of the assembled units, side flaps extending from opposite edges of said panel and respectively folded into overlapping relation to opposite aligned ends of the units and united thereto, extensions on said flaps folded inwardly of and united to the bottoms of said boxes, and end flaps folded into overlapping relation and united to the outer sides of the outermost unit boxes at the ends of the assemblage, the co-planar, exposed box bottoms intermediate said extensions constituting an outer surface portion of the shipping package, and said panel, side flaps, extensions and end flaps constituting other outer surface portions of the package, the fiber board in said boxes and in said member being of such character as to adapt the package to handling and shipping like a package enclosed in a conventional corrugated or like fiber board packing and shipping box.

ELMER E. ELDREDGE.