

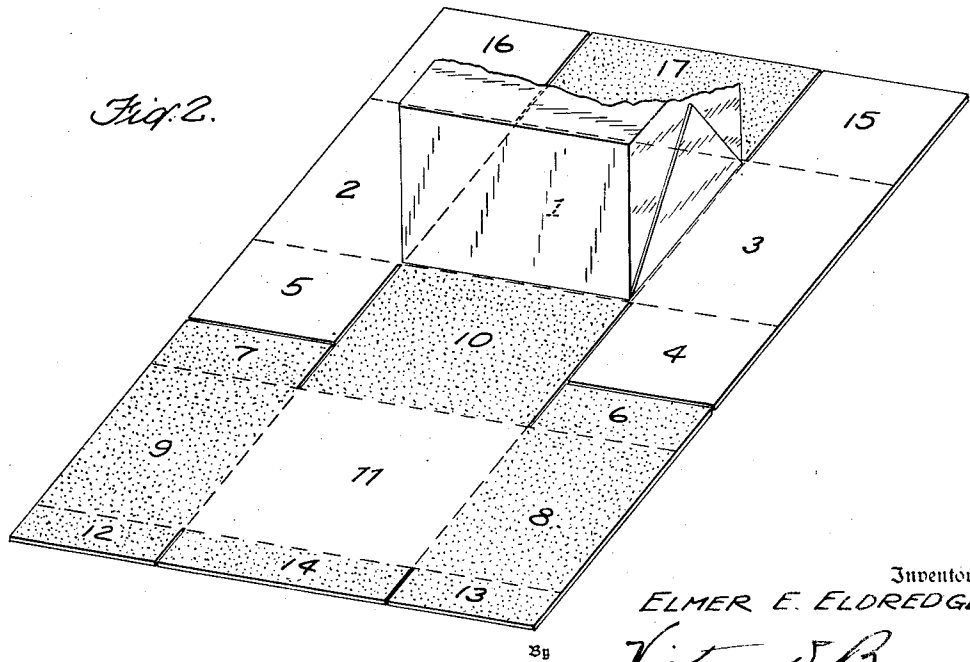
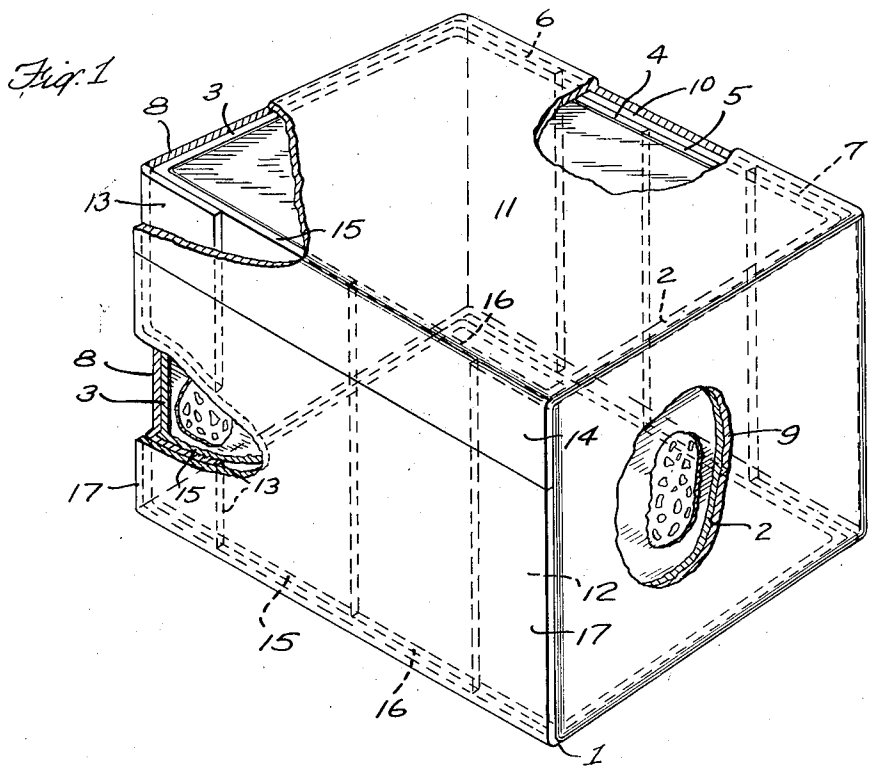
July 15, 1952

E. E. ELDREDGE
CARTON

2,603,404

Filed Sept. 20, 1949

3 Sheets-Sheet 1



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Fig. 3.

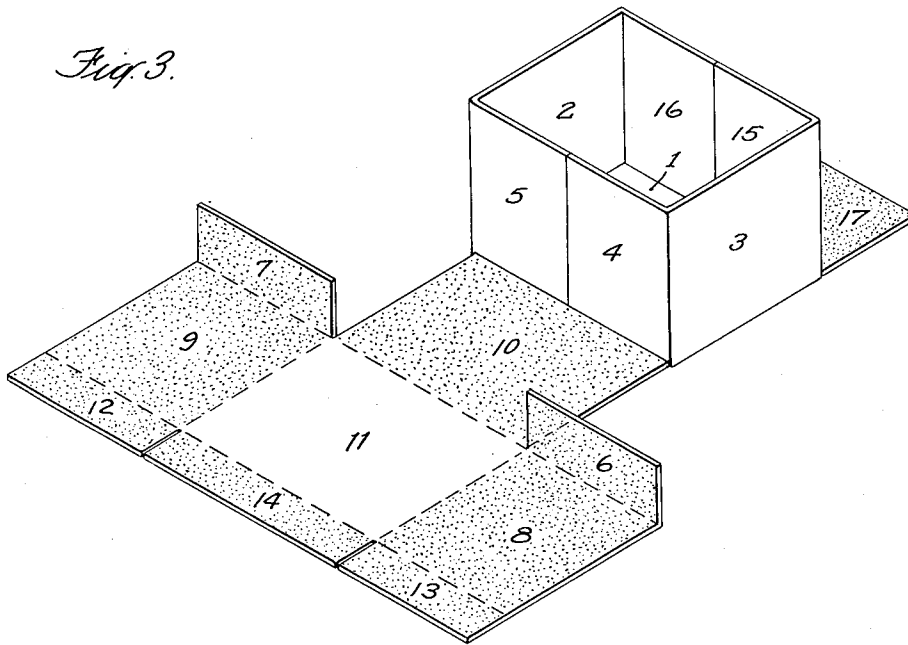
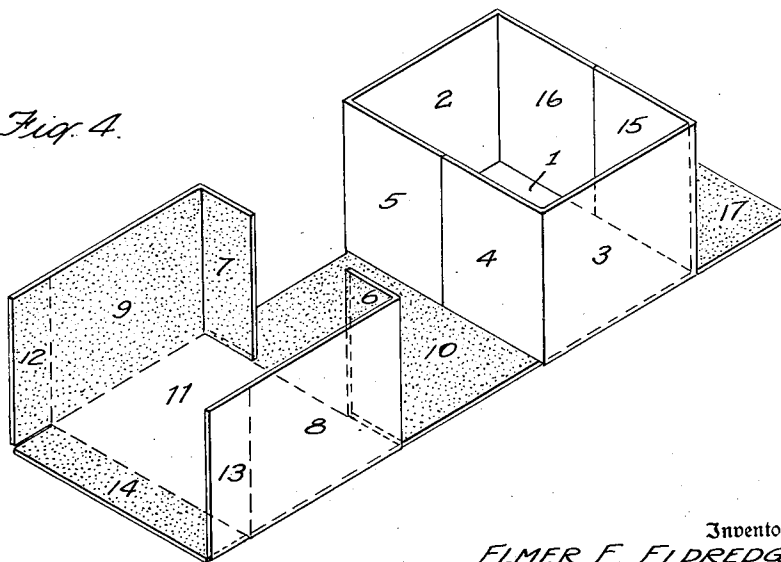


Fig. 4.



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Fig. 5

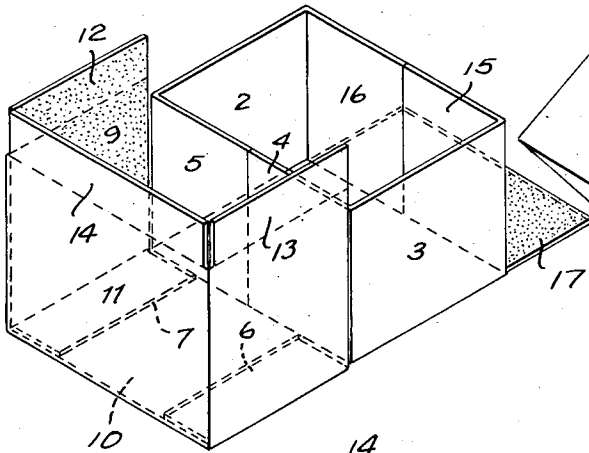


Fig. 6

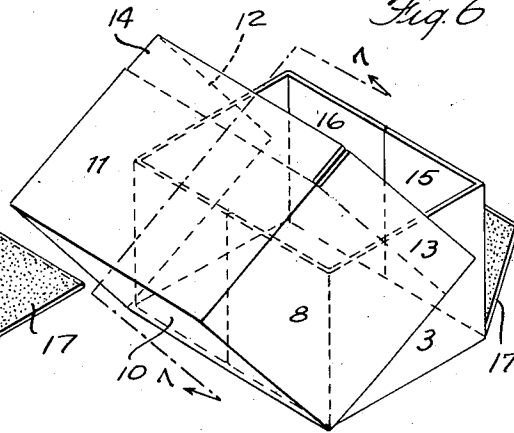


Fig. 7

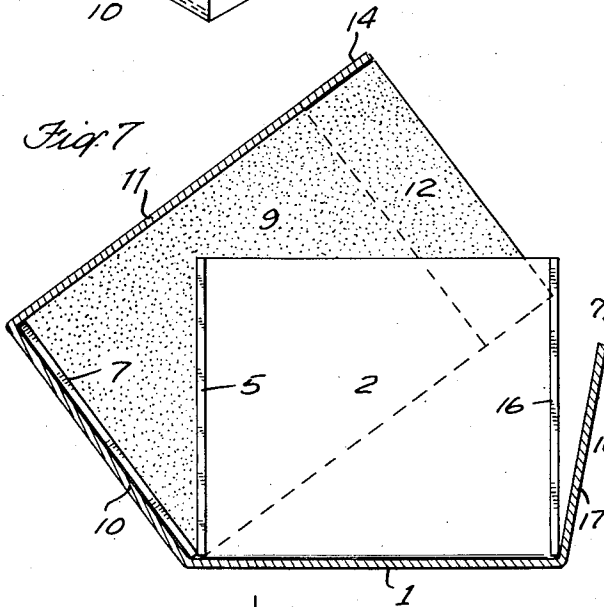


Fig. 8

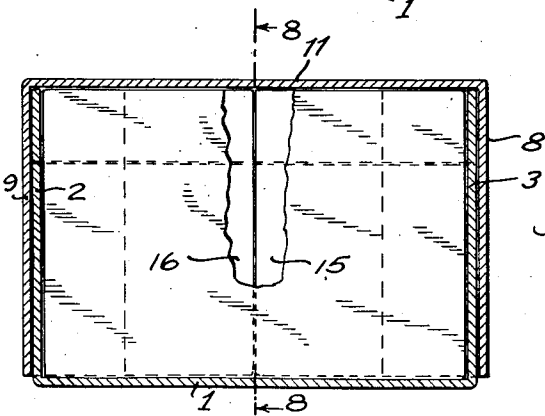
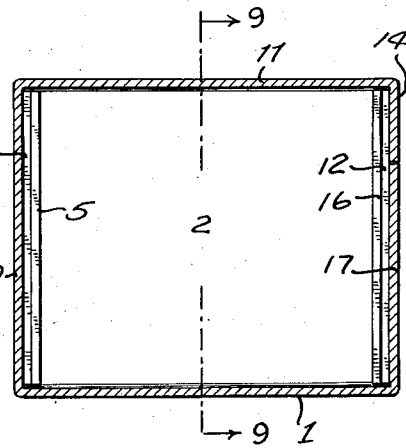


Fig. 9

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UNITED STATES PATENT OFFICE

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CARTON

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Application September 20, 1949, Serial No. 116,680

1 Claim. (Cl. 229—16)

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The carton to which this invention relates is designed particularly for the storage and shipping of cheese in rectangular block form, although manifestly it may be put to many other uses.

It is customary in cheese factories to prepare the raw or natural cheese in rectangular blocks of substantial size and weight, and to wrap the cheese in a suitable wrapping to exclude the air during the curing process while allowing the gases which form to escape. An example of such a wrapping is disclosed in my Patent No. 2,540,815, issued February 6, 1951. The cheese so wrapped is placed in a suitable container for storage and may eventually be shipped in the same container.

One of the requisites of such containers is strength, for the cheeses are commonly piled one on another and the containers must sustain the weight of those on top. Frequently the containers are made of wood which is sometimes reinforced.

In accordance with this invention, I have devised a container which is a cardboard carton, preferably of corrugated paper, constructed to have the requisite strength. Among the special merits of the carton are economy in manufacture and simplicity and ease of fabrication and use.

The cartons are made from blanks which are rectangular and involve no waste whatever. The operation of cutting and scoring the blanks for folding is very simple.

A characteristic of the carton is the fact that it is made from a single, unitary blank and yet has double walls on all four vertical sides, thereby affording the strength required. Also the four vertical corners are reinforced by extra strips, making the vertical walls in the immediate vicinity of the corners three ply.

As will be observed from the following description of the illustrated embodiment of the invention, the blank is cut and scored to fold along definite lines and provide the multiple vertical walls, in effect one complete carton inside another with a close fit, but made from a single blank. The front and rear inside vertical walls are composed of extensions to the inside side walls which are folded in and meet centrally of the bottom wall. The blank continues rearwardly from the bottom wall into approximately a T-shape extension which provides outer rear and side walls and a top wall. The top wall has an extension which folds down over the front wall and meets a turned-up extension of the front edge of the bottom wall, these two extensions

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forming an outer front wall. Thus there is provided a double wall on all four of the vertical sides.

It will be seen that this construction is suitable for any rectangular shaped enclosure, irrespective of the dimensions, whether cubical or oblong. However, the rearward extensions on the inner side walls can each be only half the length of the carton since together they form the inner rear wall, and if the height of the carton exceeds half its length, then the length of the outer rear wall will exceed the length of said extensions. This gives excess material between the ends of said extensions and the adjacent ends of the outer side walls. Preferably the carton is so designed that this excess exists, and the excess is utilized to form the corner reinforcements above referred to.

Similarly extensions on the other ends of the outer side walls form corner reinforcements for the other two vertical corners, and between these two extensions is the flap to be turned down over the front as part of the outer front wall. These extensions may all be of the same length so as to give the blank straight ends and avoid any wastage.

The two flaps which comprise the outer front wall will be glued down and, preferably, also the other overlying sections will be glued to their contacting inner sections.

The invention also comprehends other features and has further advantages, as will appear from the following particular description, reference being had to the accompanying drawings in which

Fig. 1 is an isometric view, partly in section, of a closed carton embodying my invention.

Fig. 2 is an isometric view of a blank scored, cut and glued and ready to be folded into a carton.

Fig. 3 is an isometric view of the blank partially folded.

Fig. 4 is a similar view of the blank further folded.

Figs. 5 and 6 are similar views showing further progressive stages of folding.

Fig. 7 is a central sectional elevation on the plane of line 7—7 of Fig. 6, on a somewhat larger scale, but in the same stage of folding as in Fig. 6.

Fig. 8 is a sectional elevation on the same plane as that of Fig. 7 but showing the carton fully closed.

Fig. 9 is a sectional elevation on the plane of line 9—9 of Fig. 8.

The blank in Fig. 2 is shown flat, ready for

folding and a block of wrapped cheese, partially broken away, is shown in place. The several wall elements of the blank are numbered. The bottom wall of the final carton, the one on which the cheese is placed, is numbered 1. The two attached side wall members are numbered 2 and 3, the rear extensions of the side walls which form the inside rear vertical wall, are numbered 4 and 5, while the front extensions of the side walls which form the inside front wall, are numbered 15 and 16. The front extension of the bottom wall which forms part of the outside front wall is numbered 17.

The rear extension of the bottom wall which forms the outside rear wall is numbered 10. This forms the leg of the T-extension, the head of which comprises the wall element 11 which constitutes the top wall of the carton, and its two side extensions 8 and 9 which constitute the outer side walls of the carton. In addition the top wall 11 has extension 14 which cooperates with extension 17 for the outer front wall, and the side wall members 8 and 9 have foldable extensions on each end, numbered 6 and 13 on member 8, and 7 and 12 on member 9, which make the corner reinforcements. The score lines on which folding occurs are indicated by broken lines, while the continuous lines, in some cases double, indicate the lines of cut. The areas to be glued are indicated by stippling.

Figs. 3 to 9 illustrate the successive steps in folding and closing the carton. First, as shown in Fig. 3, the sides 2 and 3 are turned up and the extensions 4 and 5, which are severed from the section 10, are turned in to form the rear wall, and similarly the extensions 15 and 16, which are severed from the flap extension 17, are turned in to form the front wall.

Next, the extensions 6 and 7, which are severed from the section 10 are turned up, as shown in Fig. 3, and then the outer side wall elements 8 and 9 are raised, as shown in Fig. 4. The section 11 and its attached sections are then turned up through 90° to the position shown in Fig. 5, bringing the wall 11 vertical and laying the extensions 6 and 7 on to the wall element 10.

Next, the wall 10 is turned up about its line of contact with the bottom wall 1, the two side walls 8 and 9 passing outside the side walls 2 and 3, and this movement is continued through the stage shown in Figs. 6 and 7 to the position shown in Fig. 8 where the wall 10 is parallel to the inner rear wall 4, 5 and the wall 11 is parallel to wall 1 and forms the top wall of the carton.

The extensions 12 and 13 are then turned in over the front corners and the extension flap 17 is brought up and the extension flap 14 is turned down, thus closing the front of the carton.

As indicated, glue is applied to blank sections 6, 7, 8, 9, 10, 12, 13, 14 and 17. The back of sections 6 and 7 are thus glued to section 10, and the front of sections 6 and 7 and the intervening portion of section 10 are glued to sections 4 and 5. Sections 8 and 9 are glued to sections 3 and 2, respectively, sections 12 and 13 are glued to sections 16 and 15, respectively, and the front flaps 14 and 17 are glued on to sections 12 and

13 and the intervening portions of sections 15 and 16.

Thus a permanently cemented and sealed carton is produced. As shown in the drawings and particularly in Fig. 1, a double wall is provided on all four vertical sides, and the elements 6, 7, 12 and 13 serve as supplemental corner reinforcements.

As will be apparent to those skilled in the art, modifications are possible in the precise construction of the layout as shown in the drawings and above particularly described, without departing from the scope of the invention as defined in the following claim.

I claim:

A cubical card board carton having a height exceeding half the front length comprising a rectangular bottom wall, two inner side walls integral and coextensive in length with the side edges of the bottom wall, an extension at each end of each inner side wall of a length equal to half the length of the front and rear edges of the bottom wall, the extensions being folded in and the opposing extensions meeting and forming complete inner front and rear walls, respectively, a bottom flap extension integral with the front edge of the bottom wall folded up to overlie the said inner front wall and having a vertical width equal to half the length of the front edge of the bottom wall, an outer rear wall integral with the rear edge of the bottom wall and folded to overlie and proportioned to completely cover the said inner rear wall, a top wall integral with the top edge of the said outer rear wall and folded to parallelism with the bottom wall, outer side walls integral and coextensive with the side edges of the top wall and folded to overlie and proportioned to cover completely the respective inner side walls, a top flap extension on the front edge of the top wall folded down over the front of the carton and of a length to meet the bottom flap in edge abutment and form therewith a complete outer front wall, and an extension on each end of each outer side wall equal in length to that of the said top flap and folded in between the two components of the front and rear double walls, respectively, and constituting vertical corner reinforcements, the inner surfaces of the outer walls and the extensions of the outer side walls being coated with adhesive and secured in position against the inner walls.

ELMER E. ELDREDGE.

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