

Jan. 1, 1935.

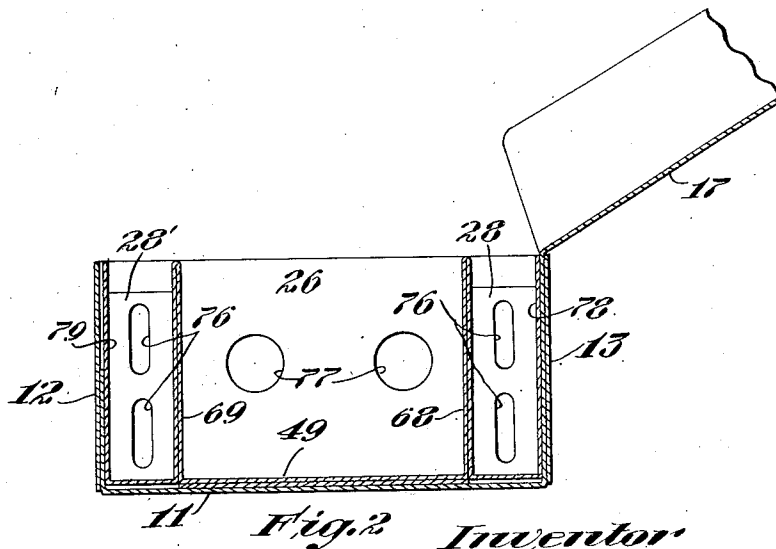
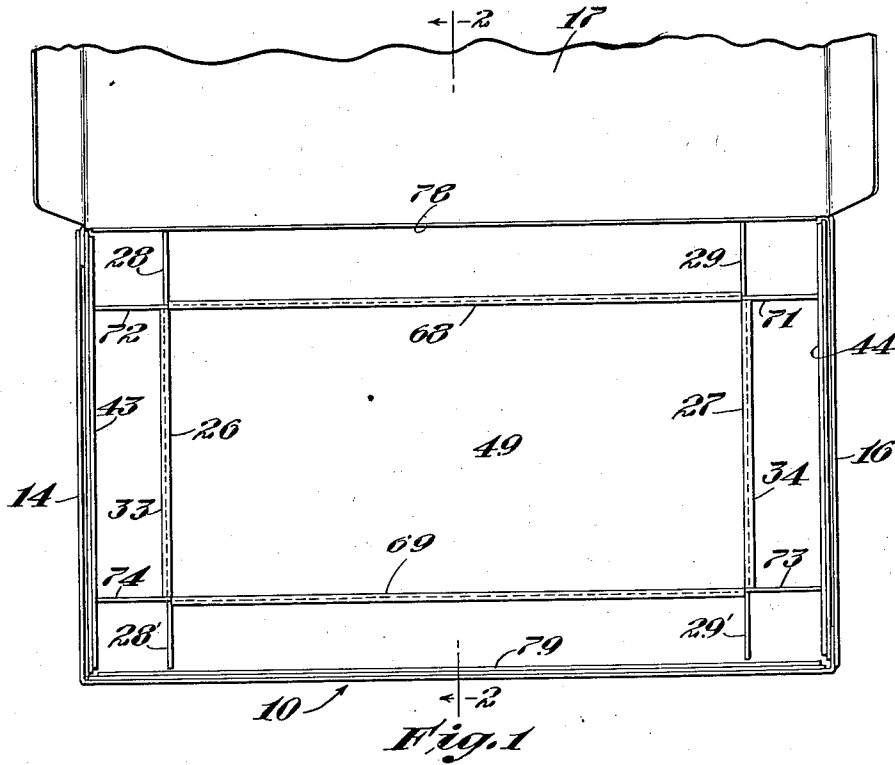
R. A. HATCH

1,986,263

PACKAGE

Filed Oct. 25, 1932

5 Sheets-Sheet 1



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Jan. 1, 1935.

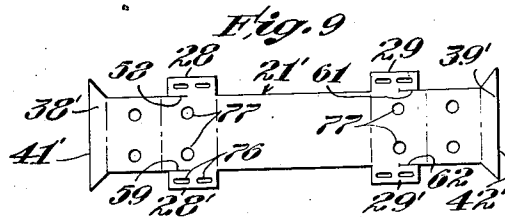
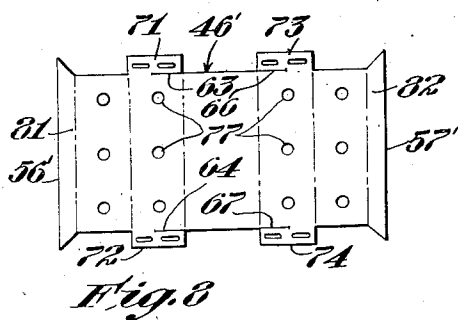
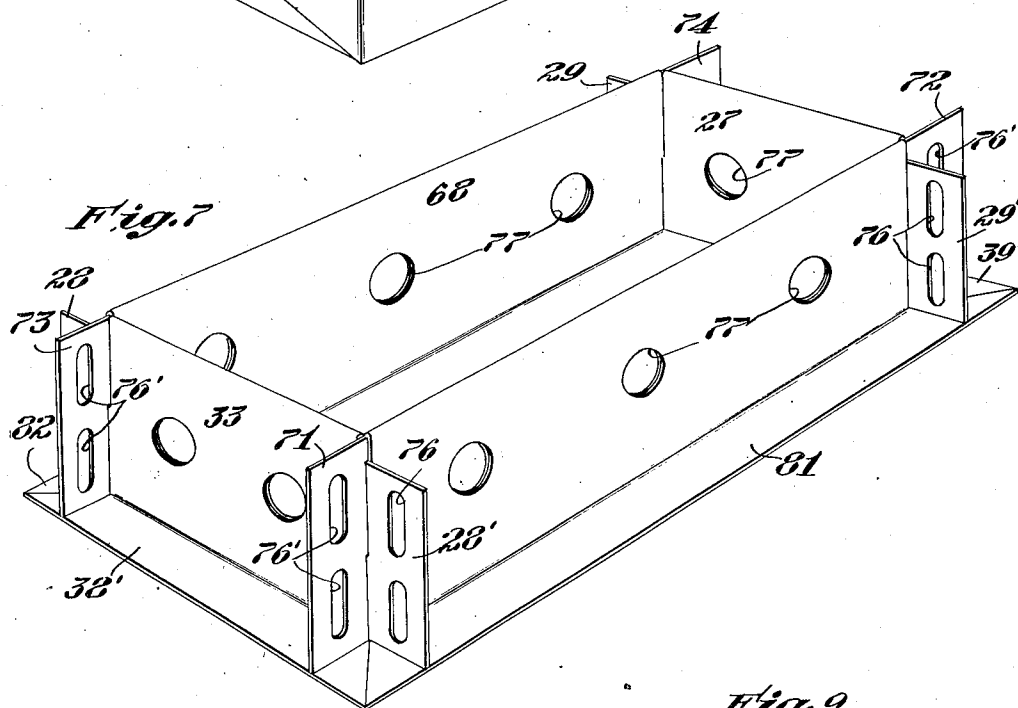
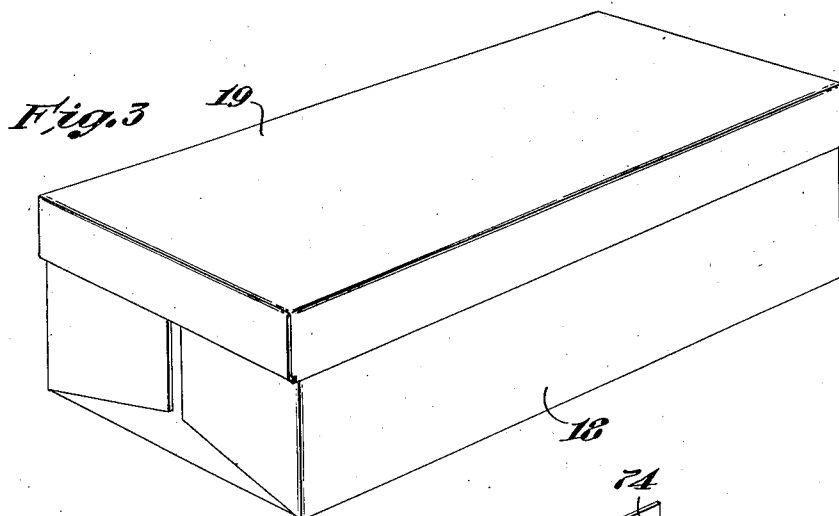
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5 Sheets-Sheet 2



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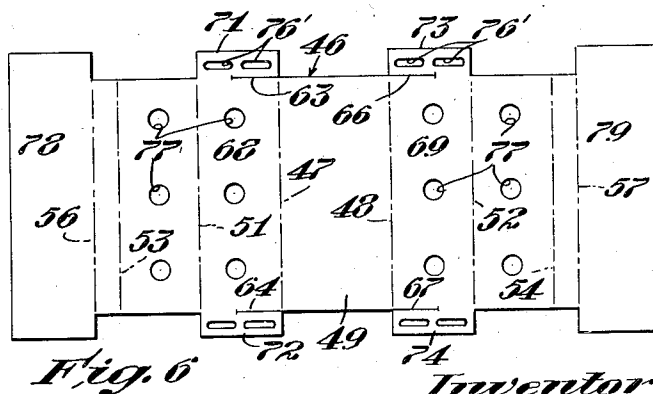
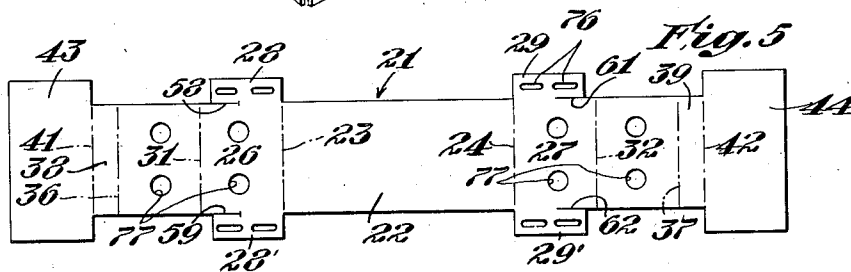
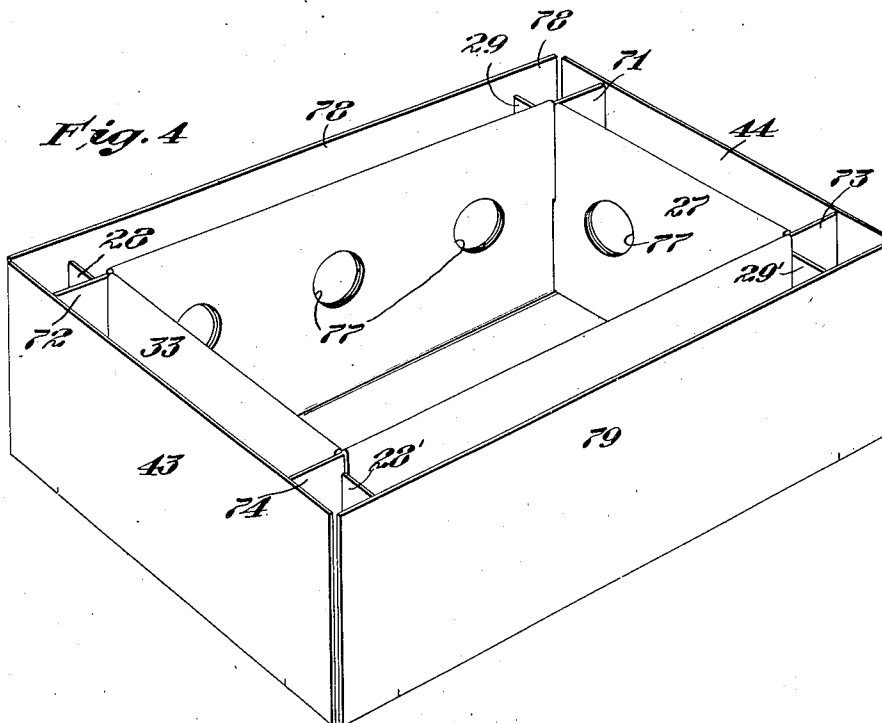
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PACKAGE

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5 Sheets-Sheet 3



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1,986,263

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5 Sheets-Sheet 4

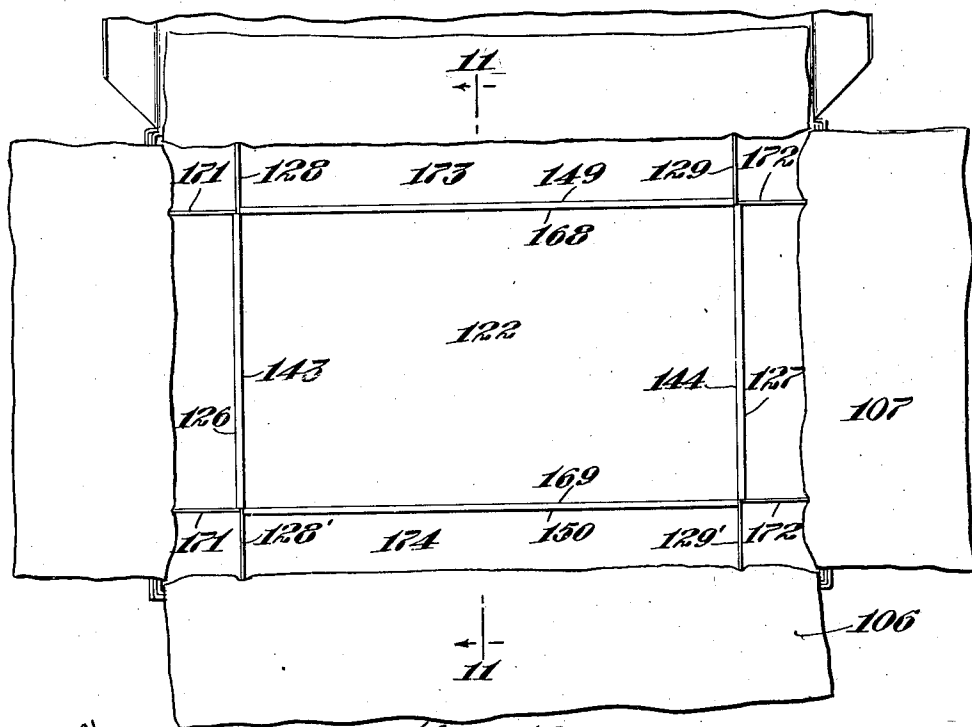


Fig. 10

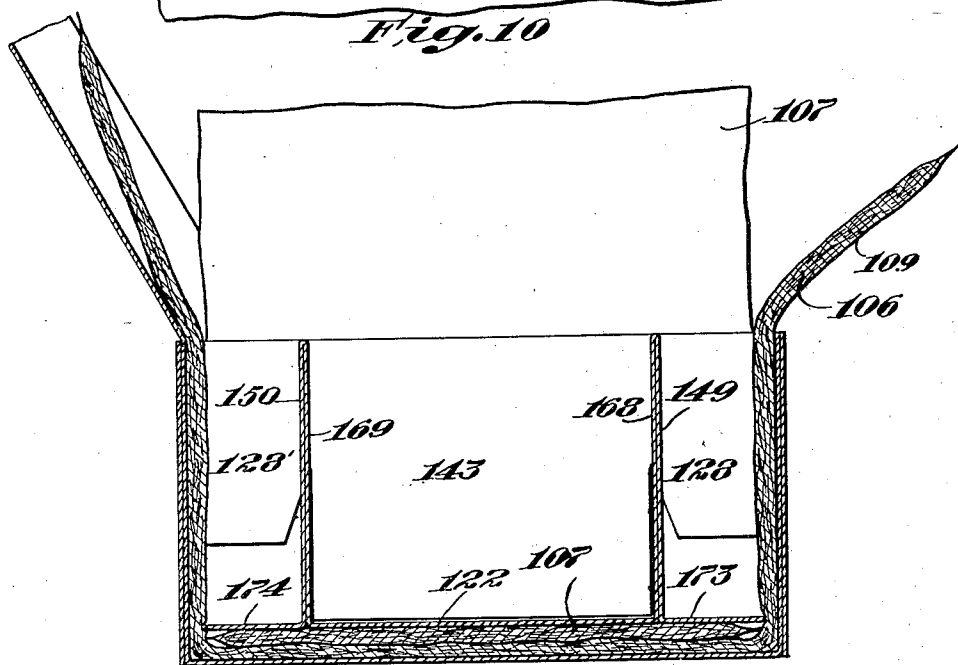


Fig. 11

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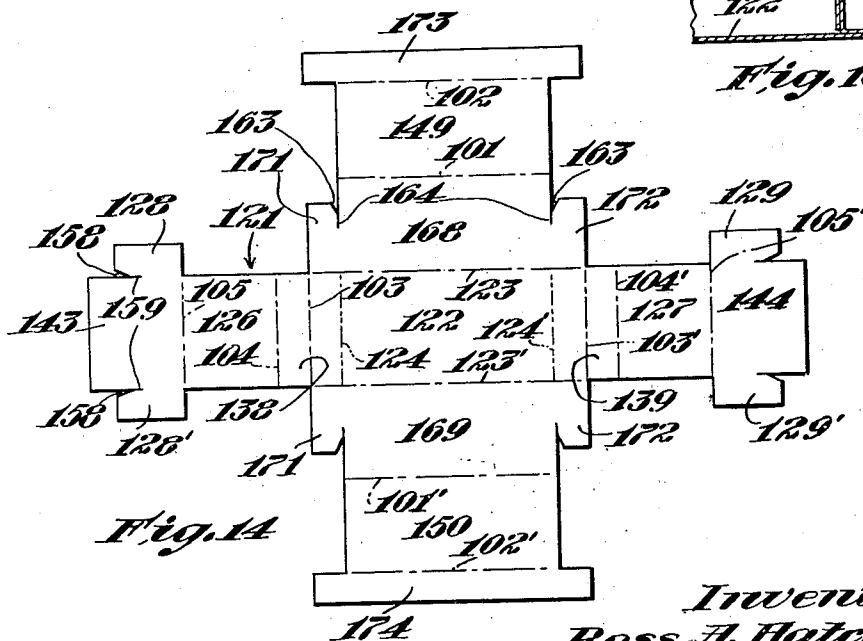
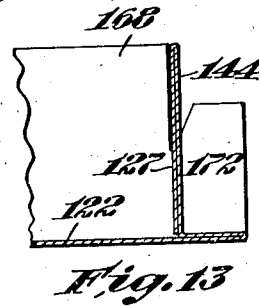
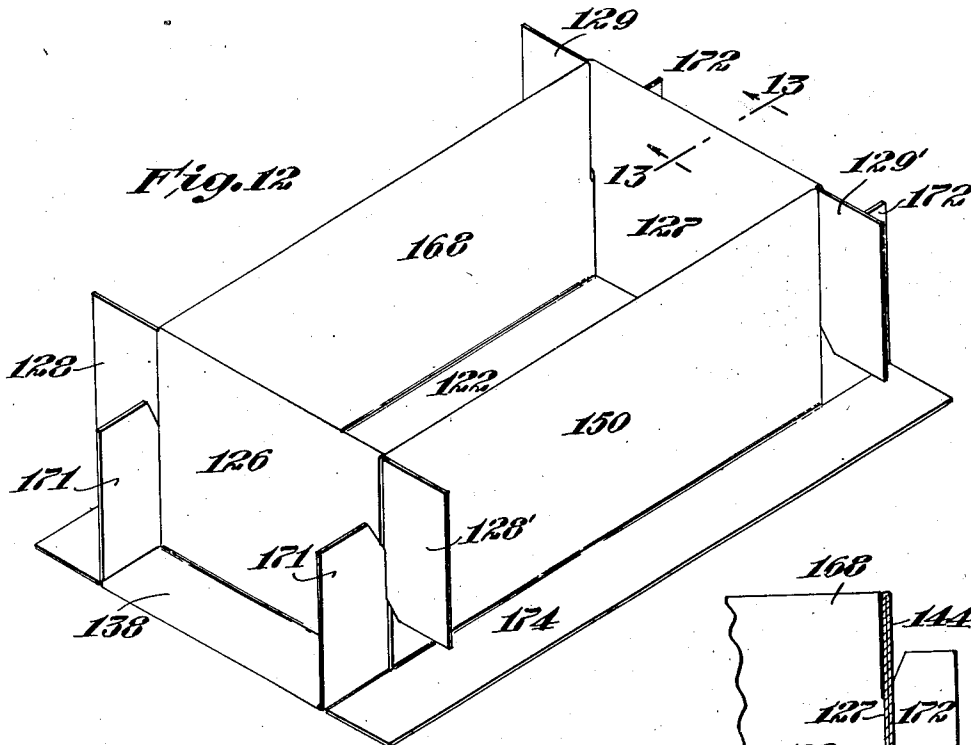
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PACKAGE

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5 Sheets-Sheet 5



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UNITED STATES PATENT OFFICE

1,986,263

PACKAGE

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Application October 25, 1932, Serial No. 639,425

14 Claims. (Cl. 62—91.5)

This invention relates to packaging commodities or foods for refrigeration while in transit and/or in storage. It has long been the practice to keep certain foods such, for example, as ice cream or other frozen confections in metal containers which are packed in ice in wooden pails or buckets. While this procedure provides quite satisfactory refrigeration, the containers and buckets are so expensive that a dealer who sells foods in this way must provide for the return of the refrigeration package and this usually involves a second trip on the part of the dealer for the sole purpose of picking up the bucket. Furthermore, these buckets are comparatively large and inconvenient to handle. It is also quite common to pack foods of this kind in cartons having a double bottom adapted to receive solidified carbon dioxide or like refrigerant, and while the cartons used for this purpose usually are so inexpensive that they may be thrown away, thus obviating the necessity of a second trip on the part of the dealer, this method does not provide satisfactory refrigeration and frequently produces such excessive cooling that edible products can not be used for some time after they have been removed from the carton.

Objects of this invention are to provide for overcoming difficulties of the kind just mentioned by providing a comparatively inexpensive package which may be destroyed after it has served its purpose of refrigerating a food or other material until it is used; and also to provide a package or carton for these purposes having an improved construction and relative arrangement of parts adapted to improve the refrigeration of commodities kept in such package.

In the drawings:

Fig. 1 is a top plan view of a package with the cover thrown back and broken away;

Fig. 2 is a vertical section along the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of a container for foods or other commodities to be refrigerated;

Fig. 4 is a perspective view of the spacing means shown in Fig. 1;

Figs. 5 and 6 are plan views of the blanks used in forming the spacing means illustrated in Fig. 4;

Fig. 7 is a perspective view illustrating a different form of spacing means;

Figs. 8 and 9 are plan views of the blanks used in forming the spacing means illustrated in Fig. 7;

Fig. 10 is a plan view similar to Fig. 1, but illustrating a modification;

Fig. 11 is a section along the line 11—11 of Fig. 10;

Fig. 12 is a perspective view illustrating a further modified form of spacing means;

Fig. 13 is a longitudinal vertical section on the line 13—13 of Fig. 12, illustrating a detail of construction; and

Fig. 14 is a plan view of a one-piece blank which may be used in forming the spacing means of Fig. 12.

In the embodiment selected for illustration in Figs. 1 to 6 of the drawings the package comprises an outer wrapper, here shown by way of example in the form of the ordinary pastry box or carton, indicated generally at 10, and having a bottom 11 and upwardly extending peripheral walls 12, 13, 14, 16 forming the sides and ends of the box, one of the side walls carrying the cover 17. A container which may be in the form of an ordinary box 18 (Fig. 3) having a removable cover 19, is provided for receiving the commodity or material to be refrigerated. Preferably this container is of pasteboard and has its inner surfaces suitably treated to be resistant to moisture. In order to space the container 18 from the peripheral walls of the outer carton 10, spacing means of the general form shown in Fig. 4 may be provided. This spacing means is formed from the blanks shown in Figs. 5 and 6.

The blank 21 shown in Fig. 5 has a bottom portion 22 located intermediate its ends and the blank is folded upwardly along the transverse lines 23 and 24 to form upstanding end walls 26 and 27. These end walls preferably have end portions 28, 28' and 29, 29' which extend laterally beyond the bottom portion 22 for engagement with adjacent walls of the outer carton. The blank 21 is then folded downwardly along the lines 31 and 32 to form the downwardly extending portions 33 and 34, which preferably extend substantially to the bottom of the outer carton 10, where the blank is again folded along the lines 36 and 37 to form outwardly or horizontally disposed portions 38 and 39 which are adapted to lie along the base or bottom of the outer carton 10 and to extend substantially to the end walls 14 and 16 of this outer carton. In this modification the blank 21 extends beyond the portions 38 and 39 and is folded upwardly along the lines 41 and 42 to provide the extreme end portions or flaps 43 and 44 which are substantially coextensive with the inner end walls of the outer carton 10.

The blank 46 shown in Fig. 6 may be formed in a similar manner as will be evident by fold-

ing this blank upwardly along the lines 47 and 48 which define the outer side edges of the bottom portion 49 and then folding the blank downwardly along the lines 51 and 52, then horizontally along the lines 53 and 54 and upwardly along the lines 56 and 57. In order to provide for releasably interconnecting these two blanks so that they will be substantially form-retaining when assembled together, the blank 21 is slitted along the lines 58, 59, 61 and 62 forming slits which extend from the upper side of the wall portions 26 and 27 downwardly, and the blank 46 is oppositely slitted along the lines 63, 64, 66 and 67 forming the slits which extend from the lower edges of the wall portions 68 and 69 upwardly.

In assembling the spacing means from blanks of this form, the blanks 21 and 46 are arranged transversely of each other with the bottom portions 22 and 49 in superposed relation, and the slitted portions 58 to 62 of the blank 21 are passed upwardly over the uncut portions connecting the extreme end portions 71, 72, 73 and 74 of the blank 46 so that the slitted portions 63 to 67 of this blank receive the uncut portions connecting the upright walls 26 and 27 with the extreme end portions 28, 28' and 29, 29' of the blank 21.

When the blanks are assembled in this manner they have substantially the form illustrated in Fig. 4, thus providing a spacing means which is adapted to fit snugly against the peripheral walls forming the sides and ends of the outer carton 10. It will be seen that this spacing means provides a central storage space which is enclosed by the upstanding walls 26 and 27 of the blank 21 and by similar walls 68 and 69 of the blank 46, and this storage space preferably is substantially complementary to the container, such as the box 18, which is to be used with this package. It is also preferred to provide openings such as the slotted holes 76 in the extreme end portions 28, 28' and 29, 29' and 76' in the end portions 71 to 74 to provide a continuous path for the circulation of air about the storage space, thereby assuring good refrigeration. Additional holes 77 may be formed in the side and end walls 68, 69, 26 and 27 to increase the cooling effect of the refrigerant employed. It will also be understood that the outer carton may be dispensed with and that this spacing means may be enclosed by wrapping it in ordinary wrapping paper or other suitable material in the same manner in which it is customary to wrap packages.

In the modification illustrated in Figs. 7 to 9, the spacing means is generally of the same form and is assembled in the same manner, but in this modification the blanks 21' and 46' have their outer end portions terminating along the lines 41', 42' and 56', 57', thereby dispensing with the extreme end portions or flaps 43, 44 and 78 and 79 of the blanks shown in Figs. 5 and 6. The outwardly extending portions 38', 39' and 81 and 82 of the blank shown in Figs. 8 and 9 extend laterally at an angle of 45° or at complementary angles so that the angular edges so formed will come substantially together in the manner illustrated in Fig. 7, and thus give stiffness and rigidity to the assembled structure. These blanks are assembled into the form shown in Fig. 7 by following the same procedure as that outlined with reference to the blanks shown in Figs. 5 and 6, and when assembled in this manner it will be seen that the outwardly ex-

tending portions 38', 39', 81 and 82 are adapted to engage the side and end walls of the outer carton or wrapper, and likewise the extreme end portions 28, 28', 29, 29' of the blank 21' are adapted to engage the opposite side walls 12 and 13 of the outer carton, while the end portions 71 to 74 of the blank 46' are adapted to engage the opposite end walls 14 and 16 of this outer carton. Furthermore, the end portions 71 to 74 overlie the outwardly disposed substantially horizontal portions 38' and 39' of the blank 21' and likewise the end portions 28, 28', 29 and 29' overlie the outwardly disposed substantially horizontal portions 81 and 83 of the blank 46', thereby effectively holding or securing these outwardly extending horizontal portions against the bottom of the outer carton or wrapper.

It will also be understood that while it is desirable to have the outwardly extending horizontal portions 38', 39', 81 and 82 formed with the complementary angles in order to provide a more rigid and more form-retaining structure, this is not necessary, as obviously these edges may have other forms, but it is preferred to have these edges extended sufficiently so that they may be effectively held down against the bottom of the outer carton by the aforementioned end portions of said upright walls.

The spacing means shown in Fig. 12 may be assembled from a one-piece blank 121 (Fig. 14) having a centrally disposed bottom portion 122 comprising the area within the parallel lines 123, 123' and 124 and 124'. This blank is provided with unitary and preferably integral inner end wall portions 126 and 127 which may be connected to the bottom portion by foldover connecting and spacing portions 138 and 139. Outer end wall members 143 and 144 are carried by the inner end wall portions. These outer end wall portions have extensions or spacing members 128, 128' and 129 and 129' which are partially separated from the wall portions with which they are associated by notches 158 and by slits 159 extending beyond the apices of these notches preferably in a direction substantially parallel to the lines 123 and 123' defining the bottom portion.

Similarly the blank may be provided with integral inner side wall portions 168 and 169 which may have extensions or spacing members 171 and 172 partially separated from the inner side wall portions with which they are associated by notches 163 and slits 164 extending beyond the apices of the notches preferably in a direction substantially parallel to the lines 124 and 124' defining the portion of the blank which is to constitute the bottom of the spacing means. The outer side wall members 149 and 150 are carried by the inner side wall members 168 and 169. Along their outer edges these outer side wall members carry spacing strips or extensions 173 and 174.

The spacing means illustrated in Fig. 12 may be formed from the blank 121 by folding the blank upwardly along the lines 123 and 123', downwardly along the lines 101 and 101', and then outwardly or horizontally along the lines 102 and 102', thereby bringing the inner and outer side wall portions and the spacing strips into proper assembled relation. The ends of this spacing means are formed by folding the end wall portions over the bottom portion 122 along the lines 103 and 103', then folding these portions upwardly along the lines 104 and 104' and downwardly along the lines 105 and 105'. In bringing the parts into this relationship the slitted

notches 158 of the end walls are engaged in the same but oppositely disposed notches 163 formed in the adjacent portions of the side walls. This secures the parts in the desired relationship.

maintained substantially at an even temperature and excessive cooling is avoided.

While it is contemplated that in some cases it may be desirable to form the members making up this improved package of various materials such as composition products, metals, and the like, or to embody metallic or composition members in the construction, as for example by providing spacing means of metallic construction, it is preferred to form substantially the entire package of materials which are relatively poor conductors of heat. Combustible materials such as wood, preferably in the form of veneers, and sheet material formed from paper stock, as pasteboard, cardboard, or various grades of paper, as well as other substantially impervious sheet materials, are suitable for these purposes, as will be apparent to those skilled in this art. Materials of this general class afford adequate insulation and have the further advantages of being comparatively inexpensive and also readily and completely destructible by the consumer.

It should be understood that the present disclosure is for the purpose of illustration only, and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. Means for packaging a container for refrigeration comprising superposed blanks arranged to extend transversely of each other, each blank having a bottom portion intermediate its ends, each blank being folded upwardly substantially at the extremities of its bottom portion to form opposed substantially upright walls, each blank being folded downwardly substantially at the upper extremities of said walls to form downwardly extending portions, the latter having portions extending outwardly for engagement with the walls of an outer carton for maintaining an air space between the latter and a container disposed on said bottom portion.

2. Means for packaging a container for refrigeration comprising superposed blanks arranged to extend transversely of each other, each blank having a bottom portion intermediate its ends, each blank being folded upwardly substantially at the extremities of said bottom portion to form opposed substantially upright walls, each blank being folded downwardly substantially at the upper extremities of said walls to form downwardly extending portions, said downwardly extending portions being folded outwardly substantially at the base of said upright walls to provide outwardly extending portions for engagement with adjacent walls of an outer carton.

3. Means for packaging a container for refrigeration comprising superposed blanks arranged to extend transversely of each other, each blank having a bottom portion intermediate its ends, each blank being folded upwardly substantially at the extremities of said bottom portion to form opposed substantially upright walls, each blank being folded downwardly substantially at the upper extremities of said walls to form downwardly extending portions, said downwardly extending portions being folded outwardly substantially at the base of said upright walls to provide outwardly extending portions for engagement with adjacent walls of an outer carton, and means for holding said outwardly extending portions substantially against the bottom of the outer carton.

4. Means for packaging a container for refrigeration comprising a pair of blanks, each

5 It will be observed that the end walls are set back so as to fit snugly between the extensions 171 and 172 of the side walls as will be apparent from Fig. 13, thereby assuring a firm, form-retaining structure. The spacing strips 173 and 10 174 of the side walls and the folded over spacing members 138 and 139 of the end walls together with the extreme end portions or spacing extensions 171, 172, 128, 128' and 129, 129' of the side and end walls are proportioned for 15 engagement with adjacent walls of an outer carton or wrapper so as to maintain the compartment formed by the side and end walls in proper spaced relation to the exterior of the package.

Suitable openings (not shown) may also be 20 provided for improving circulation and refrigeration as described herein with reference to other embodiments of the invention. This spacing means may be enclosed in an outer wrapper or carton to complete the package as will be understood from the previous description with refer- 25 ence to Figs. 1 to 9.

In some instances it is desirable to provide an additional insulating medium for improving the refrigerating qualities of this package. This may 30 be accomplished conveniently by arranging sheets of suitable insulating material preferably within the outer wrapper to enclose the spacing means as shown in Figs. 10 and 11. Preferably a sheet 106 of insulating material having a width approximately equal to the overall length of the 35 spacing means is arranged within the outer carton to extend across the bottom and upwardly along the side walls and a sufficient distance beyond the latter to provide for enclosing the top or 40 upper side of the spacing means. Another sheet 107 of similar material having a width approximately equal to the overall width of the spacing means may be arranged across the bottom of the outer carton in superposed relation with respect 45 to the sheet 106, with the sheet 107 extending upwardly along and beyond the end walls of the outer carton to provide sufficient insulating material for substantially enclosing the upper side of the spacing means. These sheets of insulating 50 material may comprise an envelope 109 containing loose fibrous material and aggregate or other material suitable for insulating purposes. Inexpensive sheets of insulating material may be formed of fibrous paper and aggregate enclosed in 55 paper envelopes.

In using this package the pastry box or other outer wrapper 10 is fitted with the spacing means preferably of the types shown in Figs. 4, 7 or 12, 60 and the material to be refrigerated is placed in the box 18 which is disposed in the central storage space provided by the spacing means. The cover 17 of the outer carton is then closed and the package is ready for delivery or storage. In some instances it may also be desirable to place a piece 65 of heavy cardboard or of cardboard faced with corrugated paper beneath or above the spacing means within the outer wrapper.

It is preferred to use solidified carbon dioxide as the refrigerant, and in most cases a piece of 70 this material may be placed in the air path about the central storage space adjacent either a side or end wall of the package, and due to the fact that a substantially continuous path for air circulation is provided through the holes 76 and 75 76', the entire contents of the container 18 are

having bottom portions intermediate its ends, each of said blanks being folded upwardly substantially at the extremities of its bottom portion to form opposed substantially upright walls, said walls having end portions extending outwardly beyond the bottom portions for engagement with adjacent walls of an outer carton, said blanks being disposed transversely of each other with their bottom portions in superposed relation, and means providing for interengagement of said outwardly extending end portions of said upright walls.

5. Means for packaging a container for refrigeration comprising a pair of blanks each having a bottom portion intermediate its ends, each of said blanks being folded upwardly substantially at the extremities of its bottom portion to form opposed substantially upright walls, said walls having end portions extending upwardly beyond said bottom portions for engagement with adjacent walls of an outer carton, said blanks being folded downwardly substantially along the upper edges of said upright walls to form downwardly extending portions, said downwardly extending portions carrying outwardly disposed substantially horizontal portions, the latter being adapted to engage adjacent walls of an outer carton, said blanks being disposed transversely of each other with their bottom portions in superposed relation, means providing for interengagement of said outwardly extending end portions of said upright walls, said outwardly extending end portions of said upright walls of one blank being adapted to overlie said outwardly disposed substantially horizontal portions of the other blank for securing the latter portions substantially against the bottom of the outer carton.

6. Means for packaging a container for refrigeration comprising a pair of blanks each having a bottom portion intermediate its ends, each of said blanks being folded upwardly substantially at the extremities of its bottom portion to form opposed substantially upright walls, said walls having end portions extending outwardly beyond said bottom portions for engagement with adjacent walls of an outer carton, said blanks being folded downwardly substantially along the upper edges of said upright walls to form downwardly extending portions, said downwardly extending portions carrying outwardly disposed substantially horizontal portions, the latter being adapted to engage adjacent walls of an outer carton, said blanks being disposed transversely of each other with their bottom portions in superposed relation, means providing for interengagement of said outwardly extending end portions of said upright walls, said outwardly substantially horizontal portions carrying upwardly disposed flaps adapted to lie against adjacent sides of the outer carton.

7. Means for packaging a container for refrigeration comprising a unitary one-piece blank having a centrally disposed bottom portion, substantially upright inner and outer side and end wall portions integral with said bottom portion and arranged to form a compartment for material to be refrigerated, means providing inter-fitting connections between these side and end wall portions for securing these parts in this relationship, and means integral with said blank for maintaining said side and said end walls spaced from adjacent walls of an outer carton.

8. Means for packaging a container for refrigeration comprising a unitary one-piece blank having a centrally disposed bottom portion, sub-

stantially upright inner and outer side and end wall portions integral with said bottom portion and arranged to form a compartment for material to be refrigerated, means providing inter-fitting connections between these side and end wall portions for securing these parts in this relationship, and means integral with said blank for maintaining said side and said end walls spaced from adjacent walls of an outer carton, and at least one sheet of insulating material disposed about said side and end walls.

9. Means for packaging a container for refrigeration comprising a unitary one-piece blank having a centrally disposed bottom portion, substantially upright inner and outer side and end wall portions integral with said bottom portion and arranged to form a compartment for material to be refrigerated, means providing inter-fitting connections between these side and end wall portions for securing these parts in this relationship, means integral with said blank for maintaining said side and said end walls spaced from adjacent walls of an outer carton, and sheets of insulating material disposed transversely with respect to each other and extending upwardly about and sufficiently beyond said side and end walls to provide for substantially enclosing all portions of said blank.

10. The combination with a carton comprising a bottom and substantially upright peripheral walls, of interengaging spacing members disposed transversely of each other within the carton, each of said spacing members comprising juxtaposed inner and outer substantially upright wall portions, laterally extending means carried by the outer wall portions thereof for engagement with adjacent walls of the outer carton, the inner walls of said spacing members defining a central space within the carton and being engageable with a container in said storage space for maintaining an air space about said container.

11. The combination with a carton comprising a bottom and substantially upright peripheral walls, of interengaging spacing members disposed transversely of each other within the carton at points spaced along said peripheral walls, each of said spacing members comprising juxtaposed inner and outer substantially upright wall portions, laterally extending means carried by the outer wall portions for engagement with adjacent walls of the outer carton, the inner walls of said spacing members defining a central storage space within the carton and being engageable with a container disposed in said storage space for maintaining an air space about said container, and a bottom for said storage space secured to a plurality of said spacing members.

12. Means for packaging a container for refrigeration comprising superposed blanks arranged to extend transversely of each other, each blank having a bottom portion intermediate its ends and having walls extending upwardly substantially at the extremities of said bottom portion for enclosing opposite portions of the container, each blank also having portions extending outwardly from said upwardly extending walls above the bottom for engagement with an outer carton to provide and maintain air spaces between the outer carton and said upwardly extending walls of said blank for facilitating refrigeration of the container.

13. Means for packaging a container for refrigeration comprising superposed blanks, each blank having a bottom portion and at least one wall extending upwardly therefrom for enclosing

ing an adjacent portion of the container, the blanks being arranged so that the upwardly extending wall of one blank is disposed angularly to the upwardly extending wall of the other
5 blank, each blank also having an upright portion extending outwardly from the upwardly extending wall thereof for engagement with an outer carton to provide and maintain an air space between the outer carton and said upwardly ex-
10 tending wall for facilitating refrigeration.

14. Means for packaging a container for refrigeration comprising a pair of blanks having bot-

tom portions intermediate their ends, each of said blanks having bottom portions intermediate their ends, each of said blanks being folded upwardly substantially at the extremities of its bottom portion to form opposed substantially upright walls, 5
each of said blanks having upright portions extending outwardly from said upright walls for engagement with adjacent walls of an outer carton, said blanks being disposed transversely of each other with their bottom portions in super- 10
posed relation.

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