Aug. 26, 1924. 1,506,208

J. W. WEBB

PAPER BOX

Filed Nov. 21, 1921

Fig. 1

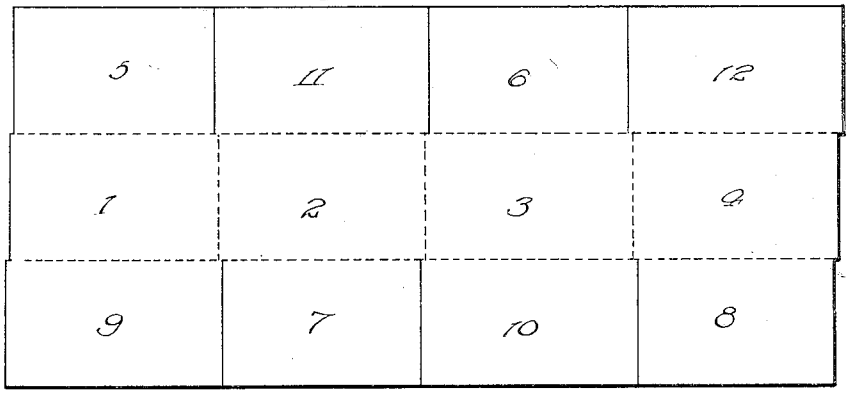


Fig. 2

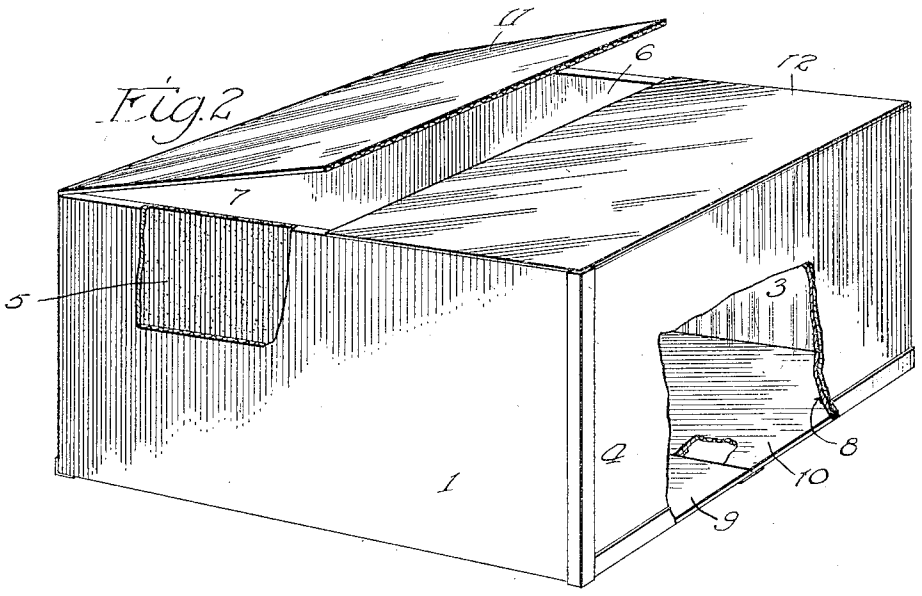
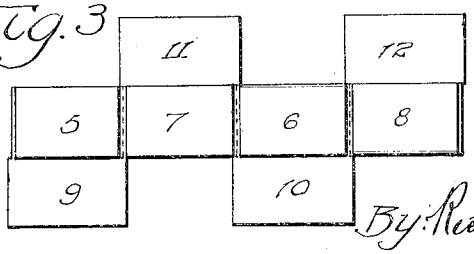


Fig. 3



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UNITED STATES PATENT OFFICE.

JOHN W. WEBB, OF CHICAGO, ILLINOIS.

PAPER BOX.

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To all whom it may concern:

Be it known that I, JOHN W. WEBB, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paper Boxes, of which the following is a specification.

My invention relates to a shipping box of novel construction, more particularly designed for the shipment of perishable articles, such as oranges or other fruit, for a considerable distance in refrigerator cars. Such boxes must exhibit a considerable degree of strength in resisting crushing pressure, since the boxes are stacked in the car in tiers of considerable height, and in addition to this and other requirements it is desirable that the containers shall afford some insulation against the effects of changes in temperature, as a protection against such variations as may occur during a long journey, because of the opening of the car, irregularity in the action of the refrigerating means, extreme weather conditions, etc. The air in the refrigerator cars is not only cool, but is very damp, and various articles of food shipped in such cars, including oranges and other citrus fruit, have more or less natural moisture tending to permeate the material of the container in which the articles are shipped. Corrugated paper board, consisting of a sheet of corrugated paper interposed between and cemented to opposite facing sheets of paper has of recent years come into extensive use as a material for the construction of shipping boxes and cartons, and is light and economical and excellent insulating material, but in all forms of shipping boxes constructed of this material which are known to me the construction is such that the walls of the box are relatively weak structurally and are insufficiently protected against moisture, the effect of which greatly impairs the strength the material would possess if dry, so that when stacked in quantities the lowermost boxes are liable to collapse. The object of my invention is the provision of a corrugated paper board box which shall in the highest degree possible resist the deleterious effects of moisture and have the strength and other desirable qualities adapting it for the shipment of oranges or other fruit or vegetables under the conditions above mentioned. To this end I have designed and invented the novel container hereinafter described, and my invention resides in the novel structural arrangement and construction of the box members, the essential elements thereof being more particularly pointed out in the appended claims.

Figure 1 of the drawing is a plan view of the blank of corrugated paper board of which my box is constructed; Fig. 2 is a perspective of the completed box ready for packing; and Fig. 3 is a blank having the inner wall sections cemented to the outer sections, ready for folding.

The same reference characters indicate the same parts in both figures of the drawing.

As shown in Fig. 1 the blank includes four side wall sections, numbered 1, 2, 3 and 4, respectively, inner wall sections 5 and 6 adapted to be turned from the top down upon and pasted on the side wall sections 1 and 3 respectively; inner wall sections 7 and 8 similarly turned upward from the bottom and secured to the sides 2 and 4; bottom closure sections 9 and 10 hinged to the sides 1 and 3 respectively, and top closure sections 11 and 12, hinged to the sides 2 and 4 respectively. The inner wall sections are permanently cemented together, preferably by means of a solution of silicate of soda which, when dried, is not readily redissolved and forms a practically waterproof film or layer uniting the inner and outer sections of the box sides. At least the outer facing sheet of the blank is waterproof, and preferably the inner one also.

The inner side sections 5, 6, 7 and 8, it will be noted, are slightly shorter (in a horizontal direction) than the sections 1, 2, 3 and 4, and the closure sections 9, 10, 11 and 12 are correspondingly longer, from which it results that upon pasting the inner side wall sections to the outer portions there will be spaces between the four inner sections permitting the box to be folded smoothly and without breaking at the vertical edges of the package. The closure sections, on the other hand, will be long enough to seat over and rest along their side edges upon both sections of the adjacent sides.

The box blank, with the inner side sections permanently secured to the outer sections in the form shown in Fig. 3 and folded flat with the free ends of the sides 1 and 4 secured together by an ordinary cloth hinge, may be conveniently shipped to

users of such boxes in bundles of any desired number. The box is prepared for packing by setting it up in square form and securing the bottom flaps to the side walls and the meeting edges of such flaps together by suitable adhesive strips of strong paper or cloth in the usual manner. After being packed the top closure flaps are secured in the same manner as the bottom.

It is obvious that my novel shipping box, constructed as above described, is well adapted to fulfil the requirements essential in a box for the shipment of fruit or similar commodities under the conditions above explained, since the side walls are of double thickness and are waterproofed both on the inside and outside of the box as well as between the two sections, and the horizontal closure members, though of single thickness are well supported and sufficiently strong to support separately the weight of the contents of the individual boxes. The box also affords a considerable measure of insulation against the effects of heat and cold, and the pattern is such that it can be most economically manufactured.

I claim:

1. A folded shipping box formed of cellular paperboard having an outer waterproofed facing sheet and comprising four connected side walls, a pair of inner wall sections connected to the top of two opposite side walls, a second pair of inner side wall sections connected to the bottom of the other two opposite side walls, said inner side wall sections being cemented to said side walls, a top pair of closure flaps intermediate of and alternating with said first-mentioned pair of inner side wall sections, and a bottom pair of closure flaps intermediate of and alternating with said second-mentioned pair of inner side wall sections.

2. A folded shipping box formed of cellular paper board having an outer waterproofed facing sheet and comprising four connected side walls, a pair of inner wall sections connected to the top of two opposite side walls, a second pair of inner side wall sections connected to the bottom of the other two opposite side walls, said inner side wall sections being shorter than the side walls to permit folding and being cemented to said side walls, a top pair of closure flaps alternating with and correspondingly longer than said first-mentioned pair of inner side wall sections, and a bottom pair of closure flaps alternating with and correspondingly longer than said second mentioned pair of inner side wall sections.

JOHN W. WEBB.