

Feb. 18, 1941.

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2,232,192

CRATE FOR CAPSULE BOXES

Filed Nov. 8, 1937

Fig. 1

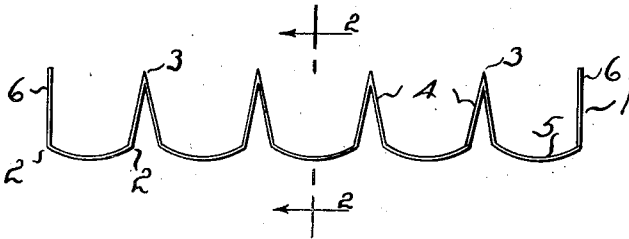


Fig. 2

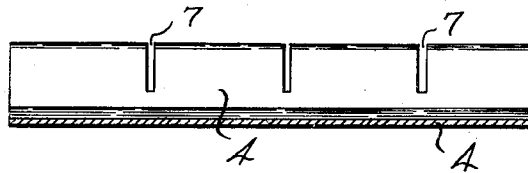


Fig. 3

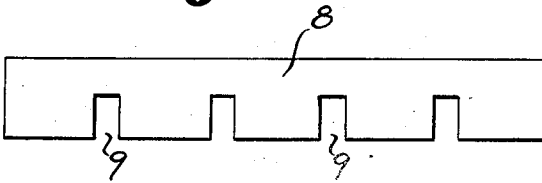
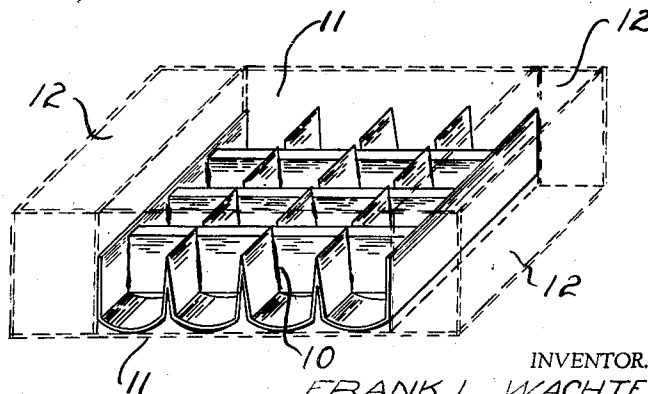


Fig. 4



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2,232,192

CRATE FOR CAPSULE BOXES

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Application November 8, 1937, Serial No. 173,289

4 Claims. (Cl. 93—37)

The present invention pertains to a novel box construction for containing medicinal capsules of the type that have recently become widely known in connection with vitamin-containing oils, such as cod liver oil and halibut liver oil. Some of the boxes for containing such capsules are provided with a filler forming a number of substantially cubical compartments of a size to contain one capsule each. According to prior methods, the filler is composed of a base or body sheet of paper folded to provide a number of parallel walls with intervening grooves, and strips of heavier paper crossing and interlocked with the aforementioned walls, to form cubicles. These paper parts are waxed, as a result of which they acquire a discoloration that gives them an appearance not compatible with nor generally associated with medicinal products.

The principal object of the invention is to produce a filler of the character described, adequately waxed but not discolored. The final color of the waxed product is a clean white having a waxy appearance without any chemical discoloration whatever.

This object of the invention is accomplished generally by the use of sulphite paper and, preferably, by chilling rapidly after dipping in highly refined paraffin wax. It has been found that no discoloration results from this process. The assembled filler or crate, however, is likely to contain insufficient wax for the purpose of the device, namely, liquid-proofing, and for this and other reasons is given a final dipping in wax after assembly.

In this final dipping operation, a number of assembled fillers or crates are placed in a wire basket, immersed in hot paraffin wax of a highly refined grade, lifted and permitted to drain, and cooled at room temperature. Another result of the final dipping is that the aforementioned partitioning strips are wax sealed to the walls of the base member, so that a more durable structure is obtained. Further, the final dipping covers and remedies any fractures or injuries that may have been imparted to the waxed parts during the manipulation thereof in assembling.

The invention is fully disclosed by way of example in the following description and in the accompanying drawing in which

Figure 1 is an end view of the base member of the filler or crate;

Figure 2 is a longitudinal structure thereof on the line 2—2 of Figure 1;

Figure 3 is an elevation of the partition strip, and

Figure 4 is a perspective view of the assembled crate, showing also the conventional box structure in outline.

Reference to these views will now be made by use of like characters that are employed to designate corresponding parts throughout.

The base member of the crate consists of a paper sheet 1 scored along equally spaced parallel lines 2 and 3. The lines 2 are formed on one surface and the lines 3 on the other surface, the sequence being two lines 2 and one line 3, etc. As a result, the base sheet is folded by a suitable die to form parallel walls 4 with intervening grooves 5. The end walls 6, however, are preferably single. The walls 4 are slit at 7 about half way down from the upper edge thereof at intervals somewhat greater than the longer dimension of the capsule to be contained in the crate.

The crate is completed by means of cross pieces or partitioning strips 8 of rectangular shape having a length equal to the distance between the end walls 6 and a height substantially equal to that of the walls 4 and 6. Each such strip is notched at 9 about half way up from the lower edge and at intervals equal to the distance between the walls 4. In assembling, the strips are laid perpendicularly across the walls 4 and inserted in the slits 7 thereof, the notches 9 receiving the walls. It will be seen that the notches have a substantial width that permit the double walls to spread and impart to the bottoms of the troughs or grooves 5 a somewhat rounded or concave configuration that is favorable to the ellipsoidal shape of the capsules contained in the cubicles formed by the intersecting strips and walls.

As already pointed out, the base member and the cross pieces are ordinarily waxed and thereby acquire a discoloration that is unsightly in general and unfavorable for medicinal products in particular. This difficulty is overcome in the present invention by the use of a special paper stock and a controlled waxing operation. The base 1 is a sulphite sheet of approximately 90 pound stock, that is, weighing 90 pounds to a ream of 24 x 36 inch sheets. The sheets, before being scored and shaped as in Figure 1, are waxed in the usual manner, except that a highly refined paraffin wax is used, and the chilling is preferably carried out quite rapidly. The original sheet is a pure, clean, white and of rather heavy weight. The result of the operation described is a waxed base sheet having a clean and fairly whitish appearance without discoloration, either immediately or after an extended period of time.

The cross pieces 8 are of a thickness to maintain stiffness in ordinary handling. They consist also of solid sulphite stock and are waxed on both sides with highly refined paraffin wax. As in the case of the base material, the strips are also preferably chilled rapidly on removal from the molten wax.

By means of suitable dies, the waxed base sheet is scored and shaped to the form shown in Figure 1. Next, the cross pieces 8 are inserted in the manner already described. The crates thus assembled are placed in a wire basket and given a final dipping in highly refined paraffin wax. On withdrawal from the wax, the crates are permitted to remain in the basket and to drain into the receptacle of wax while cooling at room temperature.

The final dipping operation leaves a light deposit 10 of wax at the intersections of the walls 4 and cross pieces 8, whereby these parts are additionally secured together to prevent particularly lateral sway of the walls. Also, any deficiency of wax deposit in the waxing operation before assembly is supplied in the final immersion. Complete waxing or liquid-proofing of the base member is important, since the general object of the construction is to prevent the flowing of a broken capsule from groove to groove and through the bottom of the base member.

Inasmuch as the crate is assembled partly by hand, fractures in the waxed surfaces are likely to occur. Such fractures are remedied by the final waxing operation which, moreover, imparts a clean and finished appearance to the crate and removes any evidence of a manual handling.

The assembled crate may be placed in a cardboard box of exactly the same size. In many cases the box itself is larger than the crate, and such an instance is illustrated in Figure 4. Here the box is indicated by the numeral 11, and the excess space is taken up by fillers 12.

Although the invention has been described with some particularity for the purpose of clearness and illustration, it will be understood that variations in the described process may be made within the scope indicated by the appended claims.

What I claim is:

1. A capsule crate of the character described comprising a base member of waxed paper folded to form parallel walls and intervening channels, parallel cross pieces of waxed paper intersecting and interlocked with said walls to form cubicles, and an additional continuous coating of wax over said base member and cross pieces forming sealing deposits at the intersections of said walls and cross pieces.

2. A capsule crate of the character described comprising a base member of sulphite paper treated with highly refined paraffin wax and folded to form parallel walls and intervening channels, and parallel cross pieces of sulphite paper treated with highly refined paraffin wax, intersecting and interlocked with said walls to form cubicles, and an additional continuous coating of wax over said base member and cross pieces forming sealing deposits at the intersections of said walls and cross pieces.

3. The method of forming a capsule crate of the character described, consisting in treating a sheet of sulphite paper with molten highly refined paraffin wax, folding said sheet to form parallel walls with intervening channels, treating strips of sulphite paper with molten highly refined paraffin wax, and interlocking said strips with and across said walls to form cubicles, and giving the assembled structure a final dipping in highly refined paraffin wax to form a continuous coating lining said cubicles.

4. The method of forming a capsule crate of the character described, consisting in treating a sheet of sulphite paper with molten highly refined paraffin wax, chilling rapidly, folding said sheet to form parallel walls with intervening channels, treating strips of sulphite paper with molten refined paraffin wax, chilling rapidly, and interlocking said strips with and across said walls to form cubicles, and giving the assembled structure a final dipping in highly refined paraffin wax to form a continuous coating lining said cubicles.

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