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2,344,640

PACKAGING METHOD

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Fig. 1.

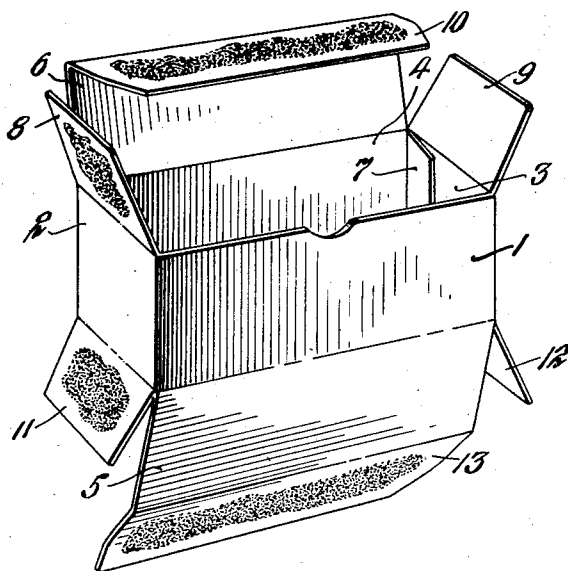


Fig. 2.

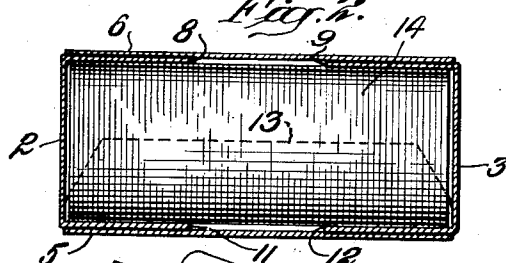


Fig. 4.

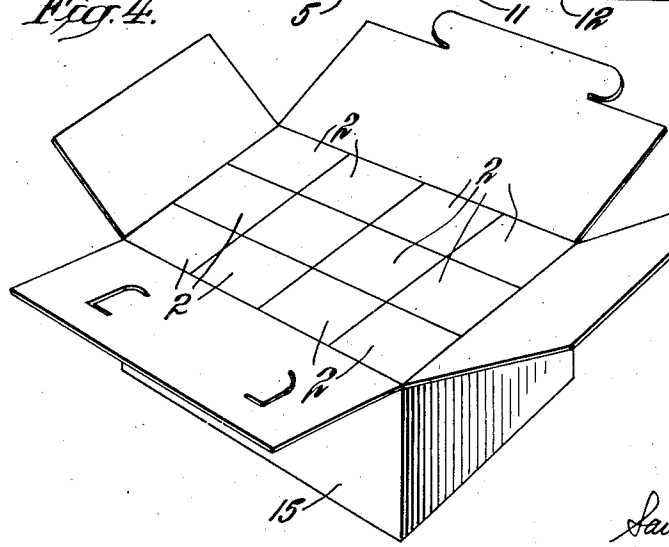
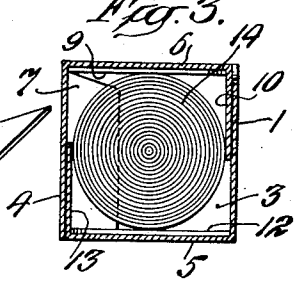


Fig. 3.



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PACKAGING METHOD

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8 Claims. (Cl. 93-6)

This invention relates to methods of packaging.

It is an object of the invention to produce a sterile package containing a bandage or the like which is sterilized in and together with the package and in which the package has infolded or tuck-in tabs fastened with adhesive.

It is a further object of the invention to produce such a sterile or sealed package without the use of special machinery and additional manufacturing operations.

With these and still further objects which will appear in the following full description in mind, the invention consists in the method of packaging which will now be fully described in connection with the accompanying drawing and then more particularly pointed out in the appended claims.

In the drawing:

Fig. 1 is a perspective view of a cardboard box suitable for use in practicing the invention;

Fig. 2 is a central longitudinal section of a completed package;

Fig. 3 is a central cross section of a completed package; and

Fig. 4 is a perspective showing a number of completed packages packed together in a carton.

Referring now to Fig. 1, the invention contemplates the use of a cardboard box which is generally of entirely familiar form, such a box being customarily cut out of a single blank and comprising a front wall 1, side walls 2, 3, rear wall 4, bottom 5 and top 6; the rear wall 4 and one of the side walls, 3, being fastened together by means of a tab 7 and further tabs 8, 9, 10, 11, 12 and 13 being provided. As will be understood, a box of this character is folded together by bending over tabs 8 and 9, then bending the top 6 over these tabs so that the tuck-in tab 10 enters into the box and lies against the inner surface of the front wall 1, and by similarly folding the parts forming the bottom of the box. According to the present invention, however, the tabs 8, 9, 10, 11, 12 and 13 are prepared with adhesive, a moisture-activated adhesive such as is commonly used upon letter envelopes being suitable, and the boxes are stored against later use with the adhesive in a dry condition. The tabs may be evenly coated over their entire outer surfaces, or partially coated or spotted with adhesive.

The article to be packaged, such, for example, as a roll of surgical gauze 14, is placed within the box and the various tabs folded in in the customary manner without moistening the adhesive, or otherwise activating the adhesive

where adhesives of other types are employed. The box may now be subjected, by itself, to the treatment about to be described, but more customarily will be packed in a carton 15 as shown in Fig. 4, together with a number of similar boxes. The boxes are preferably packed with a fixed wall, such as the wall 2, uppermost, so that folding parts are pressed in by adjacent boxes and by the carton side walls. The covers of the carton are now closed, and the package is in condition for shipment apart from sterilization and the sealing of the boxes. The entire package is now placed within an autoclave and sterilized with steam for the required period, which will normally be about forty-five minutes. The steam is now turned off and the package and contents are dehydrated, still within the autoclave, by means of heat and vacuum, until thoroughly dried. The packages may now be removed from the autoclave for shipment and the boxes will be found to have been sealed by the action of the moisture of the steam and the later drying, all the adhesive surfaces of tabs 8, 9, 10, 11, 12 and 13 having adhered properly to the adjacent surfaces of the box walls.

So far as I am aware, the results of the present invention have never been attained, nor have similar results been attained by any equally simple method of packaging and sterilizing. For example, no sealed box of the type having tuck-in tabs has been known but only boxes having flat tabs which require special and expensive automatic machinery for sealing. As will be understood, the tabs are preferably prepared with adhesive while the box blank is flat and unfolded, and the boxes are stored for later use with none of the tabs, except the tab 7, sealed to a wall surface. However, as will be apparent, some of the tabs may be presealed or may be fastened otherwise than by adhesive, as, for example, where a box with a completely fabricated bottom is used; in such case, the top tabs will be treated as above described, such treatment for the bottom tabs having been rendered unnecessary.

What is claimed is:

1. The method of sterile packaging which comprises preparing the tabs of a tuck-in folding box with adhesive, drying said adhesive, placing an article to be packaged within the box, folding in the said tabs thereof with the adhesive in unactivated condition and subjecting the box and contents to the successive action of steam and of dry heat and vacuum.
2. The method according to claim 1, which

comprises packing a plurality of such boxes in a carton prior to subjecting the same to the successive action of steam and of dry heat and vacuum.

3. The method according to claim 1 in which a moisture activated adhesive is utilized.

4. The method of sterile packaging of surgical gauze bandages and the like which comprises preparing the tabs of a tuck-in box with moisture activated adhesive, drying said adhesive, placing a roll of bandage within the box, folding in the said tabs thereof with the adhesive in unactivated condition and subjecting the box and contents to the successive action of steam and of dry heat and vacuum.

5. The method according to claim 4, which comprises packing a plurality of such boxes in a carton prior to subjecting the same to the successive action of steam and of dry heat and vacuum.

6. The method of sterile packaging which

comprises preparing the tabs of pasteboard folding boxes with adhesive in unactivated condition, placing articles to be packaged in said boxes, packing the said boxes in a carton side by side with a fixed wall uppermost, and subjecting the entire carton to the successive action of steam and of dry heat and vacuum.

7. The method of packaging which comprises preparing the tabs of pasteboard folding boxes with adhesive in unactivated condition, placing articles to be packaged in said boxes, packing the said boxes in a carton side by side with a fixed wall uppermost, and activating said adhesive while said boxes are in said carton to seal said boxes.

8. The method according to claim 7 in which a moisture activated adhesive is utilized and is activated by subjecting the entire carton to the action of steam.

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