June 3, 1930. T. J. GORMAN, JR 1,761,787

METHOD OF AND MEANS FOR SEALING CAN CONTAINING CARTONS

Filed Feb. 18, 1929

Fig. 1.

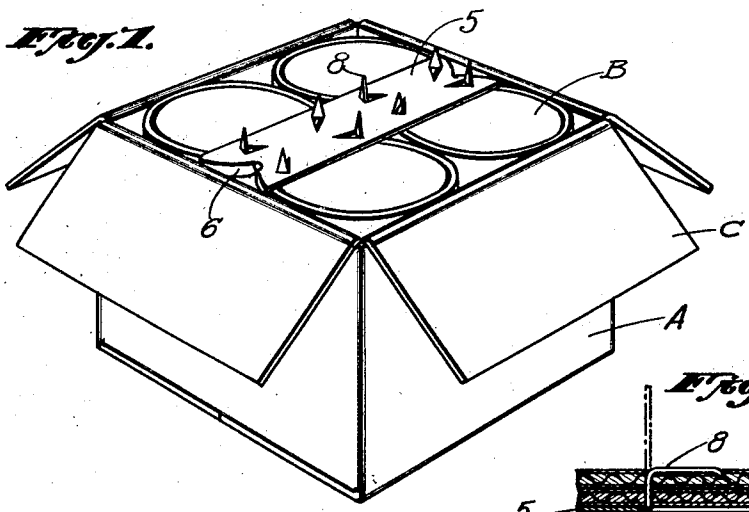


Fig. 3.

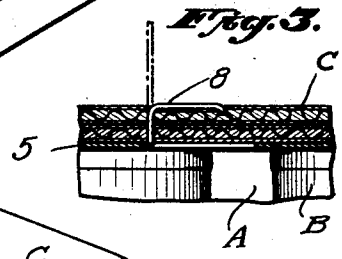


Fig. 2.

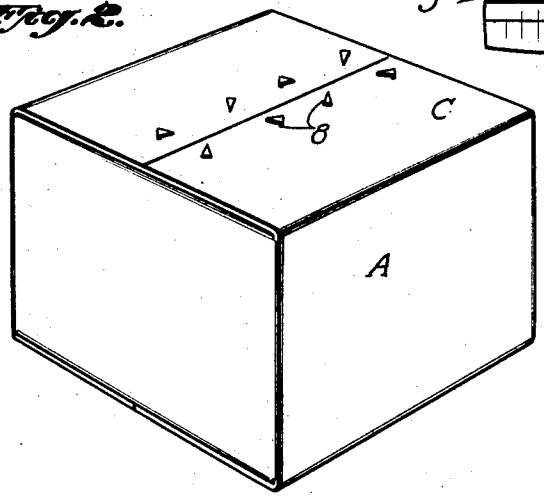


Fig. 4.

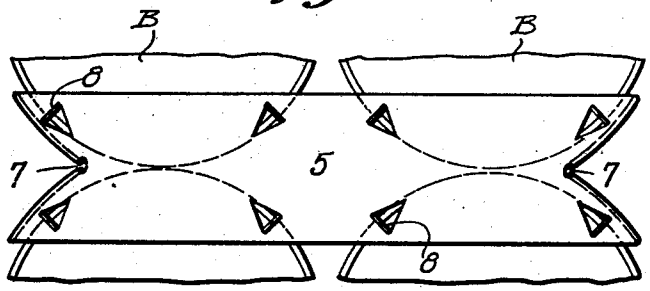
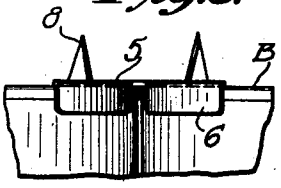


Fig. 5.



Inventor

THOMAS J. GORMAN, JR.

By Clarence A. O'Brien

Attorney

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UNITED STATES PATENT OFFICE

THOMAS JOHN GORMAN, JR., OF NEWARK, NEW JERSEY

METHOD OF AND MEANS FOR SEALING CAN-CONTAINING CARTONS

Application filed February 18, 1929. Serial No. 340,816.

This invention relates to a method of as well as the means employed for the sealing of conventional cardboard cartons, containing paint cans and other containers, and aims to provide a method and means whereby such cartons may be rapidly and securely sealed within a press without any possibility of injury to the cans or containers therein. Furthermore, the means employed is of an unusually simple and inexpensive nature enabling my method of sealing to be carried out at minimum expense, and also to enable the rapid sealing of the cartons by ordinary labor.

In the drawing wherein I have disclosed one embodiment of the physical means of carrying out my method:

Figure 1 is a top side perspective of a can containing carton, within which are arranged ordinary paint cans or the like, and upon which has been disposed the physical means to enable my method of sealing to be carried out.

Figure 2 is a top side perspective of the carton completely sealed in accordance with the invention.

Figure 3 is a fragmentary longitudinal section through the top wall of a carton sealed by my method.

Figure 4 is a top plan view disclosing the sealing unit as arranged upon the cans or containers within the carton, and

Figure 5 is an end elevation thereof.

In the drawing, A designates a generally conventional cardboard carton for the reception of paint cans, or other containers B, said carton being as is well known, provided at its open top side with four flaps C adapted to be folded inwardly in overlapping relation to provide the carton top wall, after the cans or containers have been arranged within the carton.

In carrying out my method of sealing these flaps in closed overlapping position, there is provided a metallic strip 5 of suitable design, adapted to be laid upon the upper ends of the cans or containers at the direct center of the carton, as illustrated in Figure 1. The said strip is of a length substantially equivalent to the length of the combined cans when arranged within the carton, and this strip is formed at its ends with depending abutments 6 to engage the side walls of the endmost cans at points inwardly of the width of the combined cans when within the carton to prevent movement of the strip in any direction other than vertically. In the present embodiment of the means employed in the sealing of the carton, the opposite ends of the strip 5 are formed with V-shaped notches 7—7, the side edges of which are down turned to provide flanges, which in the instance illustrated, results in the provision of the said abutments 6. Furthermore, these flanges are curved to conform to the curvature of the cans, as clearly disclosed in Figures 4 and 5.

The said strip 5 is formed with upwardly struck prongs 8, the number of which as well as their location within the strip, being preferably such as to provide a pair of prongs for each can within the center of the carton, and directly at the edges of the cans, so that during the forcing of the flap C into position to close the carton, and during the bending of the prongs downwardly upon the outermost flaps, said prongs will be supported by the strongest points of the cans or containers, so as not to injure the same.

After the strip has been disposed in position upon the upper ends of the cans as in Figure 1, the carton flaps C are folded over and forced downwardly, so that the prongs 8 will pierce the flaps. The length of these prongs is greater than the combined thickness of the overlapping flaps, so that a considerable portion of these prongs will project through the flaps, after they have been folded over. After the flap folding operation, the prongs are bent downwardly from the dotted line position to the full line posi-

tion, disclosed in Figure 3, so as to securely seal the flaps in closed position. The folding of the flaps, as well as the bending of the prongs can be performed through the medium of a very simple hand or machine power press, and it will be obvious that a carton sealed by reason of my method and means will be maintained permanently sealed until forcibly opened, and this without regards to any abuse that the package might receive while in shipment.

It is to be understood that I do not desire to be limited to any particular design of metallic strip, nor of the particular structure of the abutments at the ends of the strip, nor do I desire to be limited to the arrangement of the prongs within the strip, nor to the number thereof, as departures may be made without affecting the spirit and scope of the appended claims. It is also within the perview of this invention to arrange a protecting strip of cardboard, fabric or the like between the metallic strip 5 and the cans or containers B to protect said cans or containers from becoming marred by the engagement of the metallic strip therewith.

Having thus described my invention, what I claim as new, and desire to secure by Letters-Patent, is:

1. In a method of sealing receptacle containing cartons of the type having inwardly folding flaps at their upper open ends consisting in the arrangement of an upstanding prong carrying strip of material upon the upper ends of the containers, then folding the flaps over upon the containers so that said prongs will pierce the flaps and then bending the prongs downwardly.

2. In a method of sealing receptacle containing cartons of the type including flaps at the upper open end of the carton adapted to be folded inwardly when the carton has been packed, consisting in the application of upstanding prongs having abutments at their lower ends to the upper ends of the containers, then folding the flaps over upon the containers to cause the prongs to piece the flaps, and finally bending the prongs downwardly upon the faces of the outer flaps.

3. In a sealing means for receptacle cartons of the type including flaps at the upper open ends thereof, a strip of material adapted to be laid upon the upper ends of the central containers within the carton, ductile flap piercing means carried by said strip adapted to pierce the flaps when they are folded over and adapted to be bent over into engagement with the outer faces of the uppermost flaps after the flaps have been pierced, and means at the opposite ends of the strip adapted for engagement with the endmost containers to prevent sliding of the strip upon said containers.

4. In means for sealing container cartons having flaps at their upper open ends, a strip of metal adapted to be laid upon the upper ends of the containers within the carton, upstanding prongs struck from the strip adapted to pierce the flaps when they are folded inwardly and said prongs adapted to be bent over at their projecting ends, and means at the opposite ends of the strip for preventing sliding movement thereof upon the containers.

In testimony whereof I affix my signature.

THOMAS JOHN GORMAN, JR.