Jan. 18, 1944. C. L. WAGNER 2,339,305

PACKAGING METHOD

Filed April 16, 1942 2 Sheets-Sheet 1

Fig. 2.

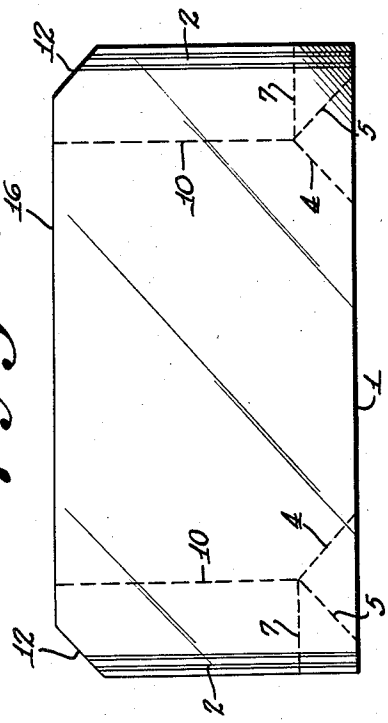


Fig. 3.

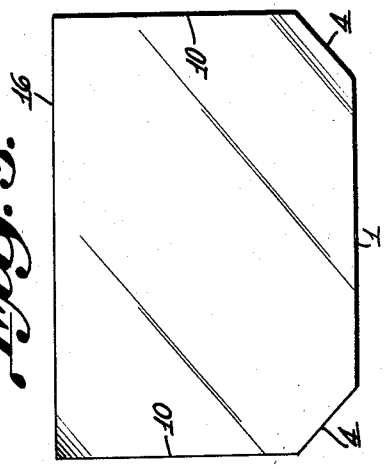
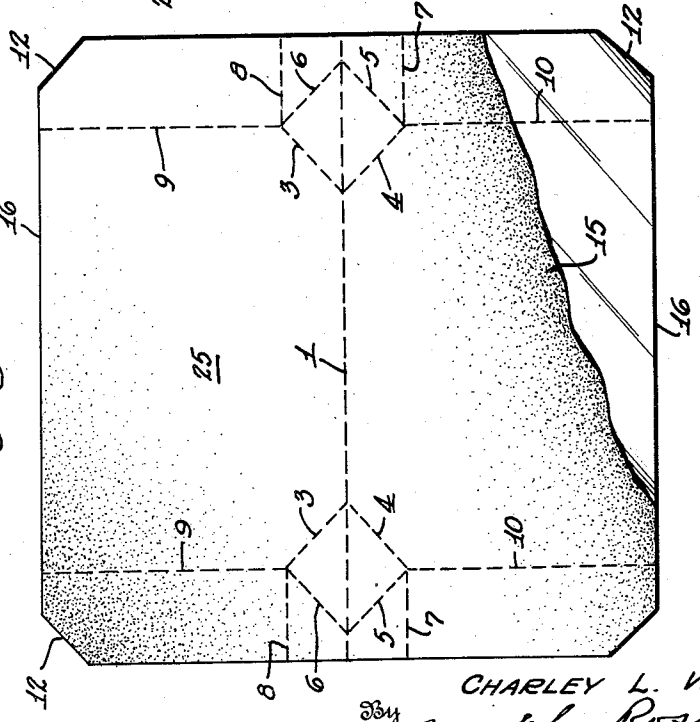


Fig. 1.



Inventor

CHARLEY L. WAGNER

By Joseph Rossman

Attorney

Jan. 18, 1944. C. L. WAGNER 2,339,305

PACKAGING METHOD

Filed April 16, 1942 2 Sheets-Sheet 2

Fig. 4.

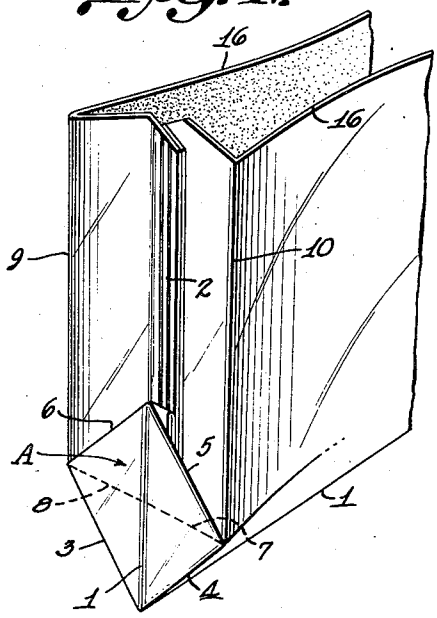


Fig. 5.

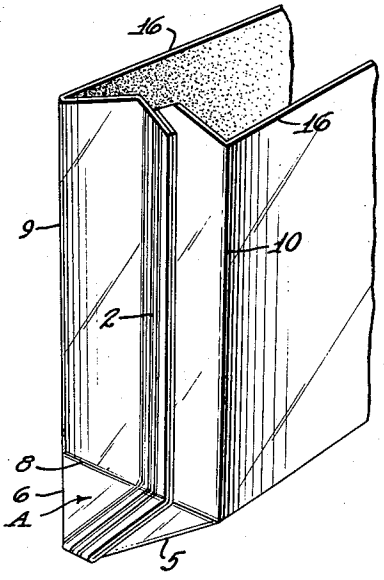


Fig. 6.

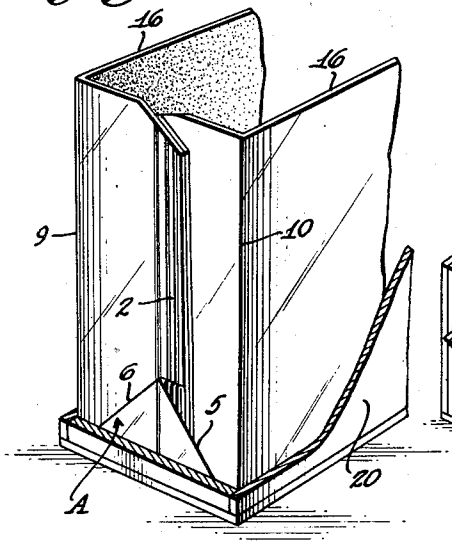
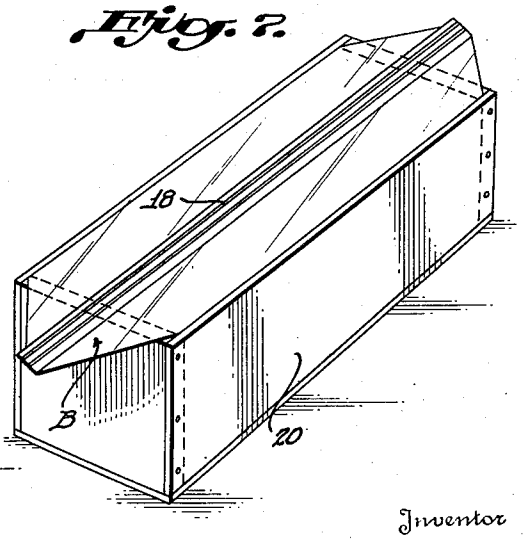


Fig. 7.



Inventor

CHARLEY L. WAGNER

By Joseph Rossman

Attorney

Patented Jan. 18, 1944 2,339,305

UNITED STATES PATENT OFFICE

2,339,305

PACKAGING METHOD

Charley L. Wagner, Menasha, Wis., assignor to Marathon Paper Mills Company, Rothschild, Wis., a corporation of Wisconsin

Application April 16, 1942, Serial No. 439,285

5 Claims. (Cl. 99—178)

This invention relates to improvements in packaging plastic foodstuffs such as cheese, jelled foods, and the like. More specifically the invention relates to a method of molding and wrapping a block of plastic foodstuffs by pouring same while in molten condition into a prefolded container formed from a single flexible sheet material having a thermoplastic heat-sealable coating thereon. After the foodstuff is poured into said receptacle in contact with said heat-sealable coating the marginal portions of the container are autogenously heat-sealed so as to provide a hermetically sealed package within which the foodstuff will be protected against loss of moisture and against contamination, mold growth, and other undesirable deterioration.

The type of package produced in accordance with this invention is similar to the one disclosed in patent to Palmer No. 2,274,344, February 24, 1942. The present method is designed to facilitate the production of this type of package by providing a prefolded container or wrapper so as to facilitate the manufacture of the package either manually or by automatic machinery.

Further details of the invention will be apparent from the accompanying drawings wherein

Figure 1 is a plan view of a blank from which the prefolded container is formed,

Figure 2 is a plan view illustrating the first step in forming the prefolded container,

Figure 3 is a plan view illustrating the final prefolded container,

Figure 4 is a fragmental perspective view showing the prefolded container in partially opened condition,

Figure 5 is a similar view showing the container in more fully opened condition,

Figure 6 is a fragmental perspective view showing the container fully opened up and retained within a receptacle, such as a wooden box, and

Figure 7 is a perspective view illustrating the completed package hermetically sealed.

Referring to the drawings, the prefolded container is formed from a suitable flexible sheet material 25, such as Cellophane (regenerated cellulose), Pliofilm (rubber hydrochloride) glassine, paper and the like, the sheet being coated on one side with a coating 15 of a thermoplastic heat-sealable or pressure-sealable moistureproof composition such as a wax-rubber composition as disclosed in Abrams Patent No. 2,054,113, September 15, 1936. Any other suitable type of pressure-sealable or heat-sealable composition may be utilized for the purpose of this invention. It is preferred to use a transparent sheet material as well as a transparent or translucent thermoplastic coating so that the goods packaged in the container will be visible in the final package. The blank 25 is cut to suitable size and shape and the corners are preferably cut off diagonally as indicated at 12.

In forming the container, the blank 25 is first folded along the transverse medial line 1, as illustrated in Figure 2, so that the thermoplastic coating 15 is the inside of the folded blank. Heat or pressure or both are then applied by any suitable means to the marginal portions 2 so as to provide autogenously heat-sealed seams 2. Inasmuch as the coating 15 at the margins is brought in face to face contact it will soften or sufficiently weld or coalesce to form an autogenously sealed strong and impervious seam, thereby forming a container having a closed bottom and an open top. The side portions of the container so formed are then folded inwardly along longitudinal lines 9 and 10 as well as along lines 4, 5, 6, and 7, so as to form a longitudinally extending re-entrant or gusset fold at each side of the container. As a result of such folding operation ear portions A will be formed as shown in Figure 4, which are adapted to be folded against the side portions of the container in the relation shown in Figure 4. If desired heat or pressure or both may be applied to the ear portion A so as to seal the entire area thereof.

The container so formed is preferably kept in flat folded condition as illustrated in Figure 3, until it is to be used for forming a package of plastic foodstuff. The final prefolded containers will have the appearance as illustrated in Figure 3, the gussets having a heat-sealed seam portions 2 folded inwardly as a portion of the re-entrant folds as previously described.

In forming a package by utilizing the folded container as described, an operator places one of the prefolded containers as illustrated in Figure 3, within a rigid receptacle 20 made of wood or other suitable material. The dimensions of the receptacle 20 are such that the prefolded container can be easily dropped inside the receptacle by having the width of the prefolded container slightly less than the width of the rigid receptacle. The insertion of the prefolded container may be performed manually or by any suitable equipment. The container is then opened up to fit the receptacle either

manually or by means of mechanical equipment so as to cause the container to assume the rectangular contour of the receptacle as illustrated in Figure 6, and to be in contact with the supporting wall portions of the receptacle. The container will, after such opening operation, be given a square-bottom contour and the tab portions A will assume the position as illustrated in Figure 6. Molten cheese, or any other desired plastic foodstuff is then poured into the open receptacle so as to bring the foodstuff into direct contact with the coating 15 throughout. The pressure of the contents on the sides of the container will serve to press the walls of the container against the rigid walls of the wooden receptacle so that as the contents become set or hardened the container will have a smooth square-walled rectangular contour complemental to that of the interior contour of the receptacle 20.

After the container has been filled, preferably about even or level with the top edges of the receptacle 20, the upper marginal portions 16—16 of the side walls of the container are folded inwardly toward each other over the top of the container contents. The marginal portions 16 are brought into face to face contact and heat or pressure or both are then applied thereto to form an autogenously sealed seam 18 as shown in Figure 7. During this operation, ear portions B will be formed which may also be sealed throughout their area by heat or pressure or both, and then folded upon the body of the package. A suitable cover may then be applied to the receptacle so as to complete same. During the formation of the upper seam as described, any air inside the package is expelled so that a hermetically sealed package is provided.

The method of packaging herein disclosed is a distinct and important improvement of the procedures in forming a package as described in the Palmer Patent No. 2,274,344, or in the Abrams Patent No. 2,077,301, April 13, 1937. By utilizing prefolded containers, the number of steps required by the operator in forming the package is reduced to a minimum so that production of the packages is increased in a surprising manner. The prefolded containers are formed by suitable automatic equipment, and are supplied in flat prefolded condition ready to use. They can be readily inserted in the receptacle with a minimum loss of time and a minimum required number of operations. The present packaging method therefore provides a distinct advance over the previous methods hitherto practiced.

It is obvious that changes and variations may be made in the packaging method herein described without departing from the spirit of the invention.

I claim:

1. The method of molding and wrapping a block of plastic cheese which comprises placing within a receptacle a prefolded container formed from a single flexible sheet having a heat-sealable coating thereon, said sheet being folded upon itself to form a container having a closed bottom and open top with the coating on the interior thereof, each of the lateral margins of said folded sheet being autogenously heat-sealed in face to face relation by said coating on said sheet, said margins being folded inwardly to form longitudinally extending folds at each side of the folded container, opening said container and conforming the sides and bottom thereof to the contour of said receptacle, filling said container with plastic cheese while supported in said receptacle, autogenously heat-sealing the margins at the open end of said container in face to face relation by means of the coating on said wrapper and folding the extending portions of the wrapper upon the body of the package so formed.

2. The method of molding and wrapping a block of plastic cheese which comprises placing within a receptacle a prefolded container formed from a single flexible sheet having a heat-sealable coating thereon, said sheet being folded upon itself to form a container having a closed bottom and open top with the coating on the interior thereof, each of the lateral margins of said folded sheet being autogenously heat-sealed in face to face relation by said coating on said sheet, said margins being folded inwardly to form longitudinally extending gusset folds at each side of the folded container, opening said container and conforming the sides and bottom thereof to the contour of said receptacle, filling said container with plastic cheese while supported in said receptacle, autogenously heat-sealing the margins at the open end of said container in face to face relation by means of the coating on said wrapper and folding the extending portions of the wrapper upon the body of the package so formed.

3. The method of molding and wrapping a block of plastic cheese which comprises placing within a receptacle a prefolded container formed from a single flexible transparent sheet having a heat-sealable coating thereon, said sheet being folded upon itself to form a container having a closed bottom and top with the coating on the interior thereof, each of the lateral margins of said folded sheet being autogenously heat-sealed in face to face relation by said coating on said sheet, said margins being folded inwardly to form longitudinally extending gusset folds at each side of the folded container, opening said container and conforming the sides and bottom thereof to the contour of said receptacle, filling said container with plastic cheese while supported in said receptacle, autogenously heat-sealing the margins at the open end of said container in face to face relation by means of the coating on said wrapper and folding the extending portions of the wrapper upon the body of the package so formed.

4. The method of molding and wrapping a block of plastic foodstuff which comprises placing within a receptacle a prefolded container formed from a single flexible sheet having a pressure- and heat-sealable coating thereon, said sheet being folded upon itself to form a container having a closed bottom and open top with the coating on the interior thereof, each of the lateral margins of said folded sheet being autogenously sealed in face to face relation by said coating on said sheet, said margins being folded inwardly to form longitudinally extending folds at each side of the folded container, opening said container and conforming the sides and bottom thereof to the contour of said receptacle, filling said container with plastic material while supported in said receptacle, autogenously sealing the margins at the open end of said container in face to face relation by means of the coating on said wrapper and folding the extending portions of the wrapper upon the body of the package so formed.

5. The method of molding and wrapping a block of plastic foodstuff which comprises plac-

ing within a receptacle a prefolded container formed from a single rectangular flexible sheet having a thermoplastic coating thereon, said sheet being folded upon itself to form a container having a closed bottom and open top with the coating on the interior thereof, each of the lateral margins of said folded sheet being autogenously heat-sealed in face to face relation by said coating on said sheet, said margins being folded inwardly to form gusset folds at each side of the folded container, opening said container and conforming the sides and bottom thereof to the contour of said receptacle, filling said container with plastic material while supported in said receptacle, autogenously heat-sealing the margins at the open end of said container in face to face relation by means of the coating on said wrapper, heat-sealing and folding the extending portions of the wrapper upon the body of the package so formed.

CHARLEY L. WAGNER.