April 3, 1934. L. A. BECKER 1,953,097

METHOD OF PACKAGING ARTICLES

Filed March 10, 1930

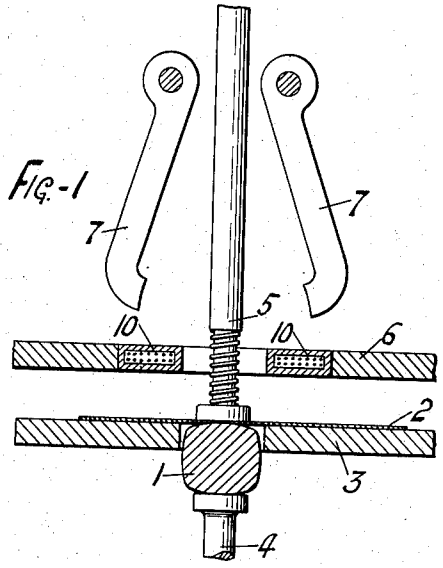


FIG.-1

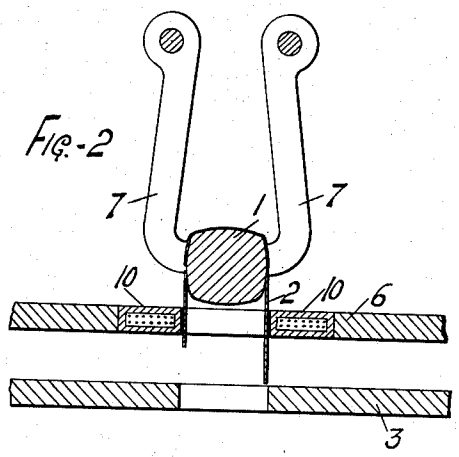


FIG.-2

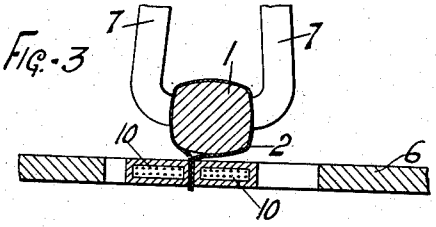


FIG.-3

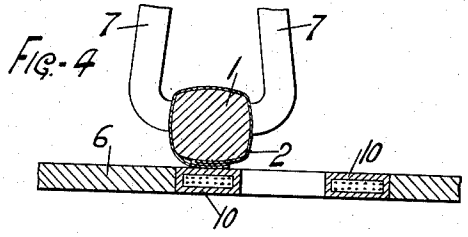


FIG.-4

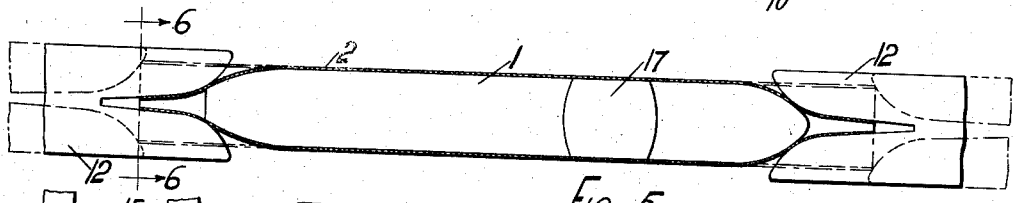


FIG.-5

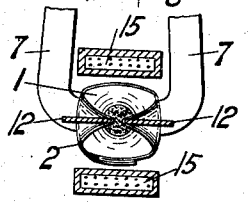


FIG.-6

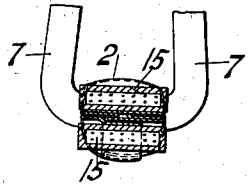


FIG.-8

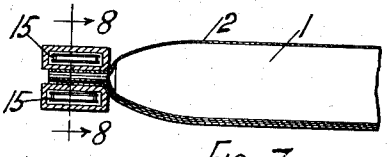


FIG.-7

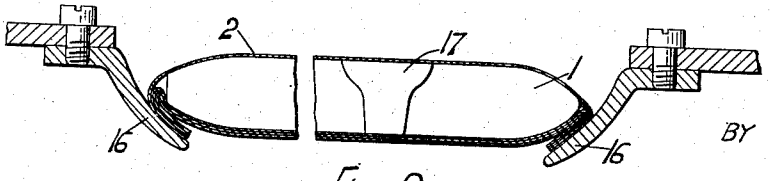


FIG.-9

INVENTOR
LOGAN A. BECKER

BY Ely & Barrow

ATTORNEYS

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METHOD OF PACKAGING ARTICLES

Logan A. Becker, Lakewood, Ohio, assignor, by mesne assignments, to Du Pont Cellophane Company, Inc., New York, N. Y., a corporation of Delaware

Application March 10, 1930, Serial No. 434,535

5 Claims. (Cl. 93—2)

The present invention relates to the packaging or wrapping of articles in transparent moisture-proof containers.

It is an object of the invention to provide a process whereby articles are rapidly and efficiently wrapped, without waste of the wrapping material or breakage of the article, in transparent air tight, moisture-proof, neat containers.

The material used is preferably transparent and moistureproof and comprises a sheet of film of regenerated cellulose coated with a thin coat of a fusible moisture proofing composition, so that overlapping or abutting portions of the sheet may be sealed together upon the application of heat and pressure by the fusion of the surface covering.

While the invention is particularly illustrated and will be described for the packaging of cigars, it is adapted and may be used for the packaging of a large variety of articles as will be understood.

In the drawing;

Figure 1 is a diagrammatic sectional view illustrating the first step of the method embodying the invention;

Figures 2, 3 and 4 are views similar to Figure 1 of succeeding steps in the operation;

Figure 5 is a horizontal sectional view illustrative of the next step of crimping or plicating the tube ends;

Figure 6 is a vertical section taken on line 6—6 of Figure 5;

Figure 7 is a longitudinal vertical section diagrammatically showing the heat sealing of the plicated tube ends;

Figure 8 is a transverse vertical section taken on line 8—8 of Figure 7; and

Figure 9 is a longitudinal vertical sectional view illustrative of the manner in which the sealed ends of the tube are turned back over the body portion.

The article to be packaged, which in the embodiment of the invention herein described is a cigar, is indicated in the drawing by the numeral 1 while the wrapping material is designated by the numeral 2. The material 2 is provided in sheet form and is placed over the article 1 in slightly off-center relation therewith as shown in Figure 1. The article is ordinarily carried in an indexing plate 3 from which means such as a pair of plungers 4 and 5 move it upwardly through a restricted opening in a table 6 which action partially folds the wrapper about the article. A pair of lateral supports 7 serve to replace the plungers 4 and 5 and hold the article with the wrapper partly folded thereabout in the position illustrated in Figure 2.

The table 6 is provided with a pair of heating elements 10 which may define the sides of the opening in the table 6. The heating elements are adapted to move together to fold and heat seal the wrapper laterally in tube form about the article. Relative movement of the table 6 with respect to the article supporting means 7 serves to fold the upstanding portion of the abutting heat sealed edges of the wrapper down against the body thereof in which position it is sealed by one of the heating elements 10.

The article with the wrapper in tube form thereabout is continuously carried by the lateral supports 7 throughout the remainder of the packaging operation.

In the next step the ends of the tubed wrapper preferably are plicated or creased by suitable means such as a pair of members 12 which are moved axially of the tube ends and as illustrated in Figures 5 and 6 to cause the tube ends to flatten without flaring. It will be observed that the innermost portions or bases of each fold preferably follow and conform to the tapered end of the cigars.

The flattened ends of the tube containing the article are now heat sealed together through the agency of suitable heating elements 15, after which they are bent over and against the body portion, as illustrated in Figure 9, by means of opposed wiping plates 16. If desired, the wiping plates 16 may be heated to heat seal the wiped over ends against the body.

The holding means 7 are now released and the wrapped article removed. In placing the individually wrapped articles in a box the side of the container body upon which the lapped over ends are folded is placed downward in the box to assist in keeping the ends in place and for appearances sake. Any identifying labels or bands 17 on the wrapped article will be placed so that the readable portion thereof is opposite to the folded over ends, as seen in Figure 9.

As many changes could be made in the method, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative only and not in a limiting sense. Accordingly, various modifications and applications of the invention, particularly as to the articles packaged, the exact wrapping material employed, the specific apparatus used, and the order and number of the steps, can be resorted to without departing from

the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. The method of packaging articles comprising placing a sheet wrapper having a fusible coating and of a size larger than the article to be wrapped in relation with the article to be packaged, moving said wrapper and article through a laterally restricted opening bordered on two opposite sides by heating elements to partially fold the wrapper about the article, moving the opposed heating elements together to complete the lateral folding of the wrapper about the article and to heat seal the abutting edges of the wrapper together in an upstanding joint by the fusion of the coatings thereon, moving the lateral wrapped article against and over one of the heating elements to bend the upstanding joint down against the wrapped body portion of the article and to seal it in place by fusion of the coatings, plicating the ends of the wrapper extending beyond the article, and heat sealing the plicated ends of the wrapper together by the fusion of the surface coatings.

2. The method of packaging articles comprising placing a sheet wrapper having a fusible coating thereon and of a size larger than the article to be wrapped in relation with the article to be packaged, moving said wrapper and article through a laterally restricted opening bordered on two opposite sides by heating elements to partially fold the wrapper about the article, moving the opposed heating elements together to complete the lateral folding of the wrapper about the article and to heat seal the abutting edges of the wrapper together in an upstanding joint by the fusion of the coatings thereon, moving the lateral wrapped article against and over one of the heating elements to bend the upstanding joint down against the wrapped body portion of the article and to seal it in place by fusion of the coatings, plicating the ends of the wrapper extending beyond the article, heat sealing the plicated ends of the wrapper together by the fusion of the surface coatings, and wiping said heat sealed ends back against the body portion of the wrapped article.

3. The method of packaging articles comprising placing a sheet wrapper of a size larger than the article to be wrapped in relation with the article to be packaged, moving said wrapper and article through a laterally restricted opening bordered on two opposite sides by heating elements to partially fold the wrapper about the article, moving the opposed heating elements together to complete the lateral folding of the wrapper about the article and to heat seal the abutting edges of the wrapper together in an upstanding joint, moving the lateral wrapped article against and over one of the heating elements to bend the upstanding joint down against the wrapped body portion of the article and to seal it in place, plicating the ends of the wrapper extending beyond the article, and heat sealing the plicated ends of the wrapper together by the fusion of the surface coatings.

4. The method of packaging articles comprising placing a sheet wrapper having a fusible coating and of a size larger than the article to be wrapped in relation with the article to be packaged, moving said wrapper and article through a laterally restricted opening bordered on two opposite sides by heating elements to partially fold the wrapper about the article, moving the opposed heating elements together to complete the lateral folding of the wrapper about the article and to heat seal the abutting edges of the wrapper together in an upstanding joint by the fusion of the coatings thereon, moving the lateral wrapped article against and over one of the heating elements to bend the upstanding joint down against the wrapped body portion of the article and to seal it in place by fusion of the coatings, plicating the ends of the wrapper extending beyond the article, heat sealing the ends of the wrapper together by the fusion of the surface coatings, and wiping said heat sealed ends back against the body portion of the wrapped article.

5. The method of packaging articles comprising placing a sheet wrapper having a fusible coating in relation with the article to be packaged, moving said wrapper and article through a restricted opening bounded on opposite sides by heating elements to partially fold the wrapper about the article, moving opposed heating elements together to complete the lateral folding of the wrapper about the article and to seal the edges of the wrapper together by the fusion of the coaings thereon, plicating and sealing the ends of the wrapper together by the fusion of the surface coatings, and wiping the sealed ends back against the body portion of the wrapped article.

LOGAN A. BECKER.