

June 16, 1942.

H. H. REPLOGLE

2,286,307

ARTICLE AND PROCESS OF MAKING THE SAME

Filed Aug. 26, 1939

Fig. 1.

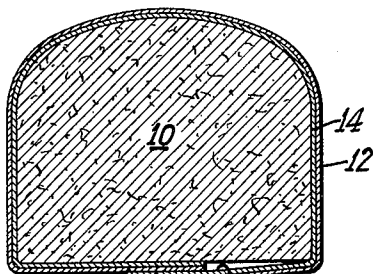


Fig. 2.

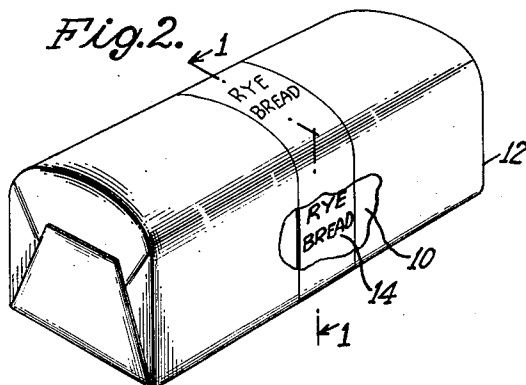


Fig. 3.

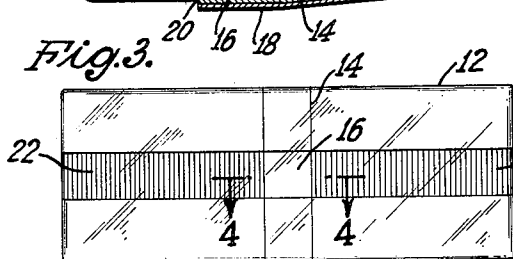


Fig. 4.

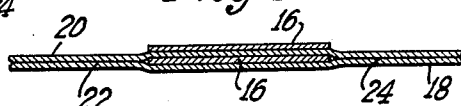


Fig. 6.

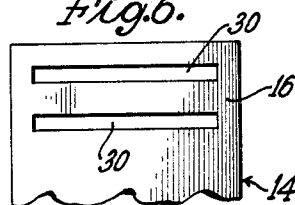


Fig. 5.

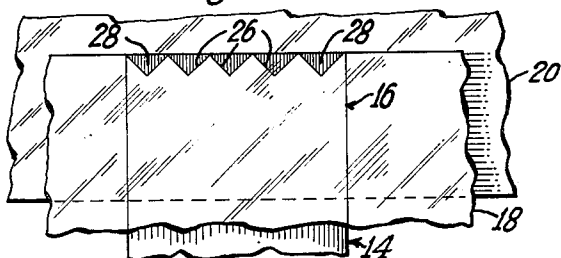


Fig. 7.

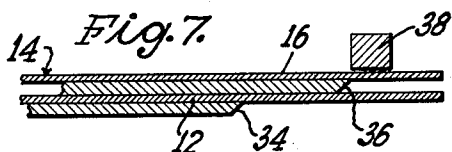


Fig. 8.

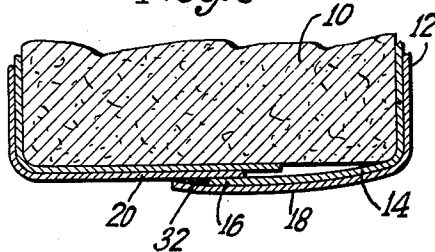


Fig. 9.

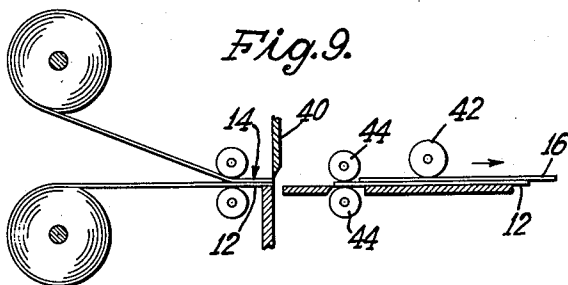
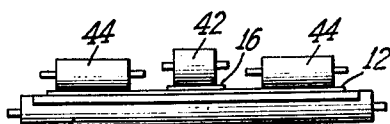


Fig. 10.



INVENTOR
HARRY H. REPLOGLE
BY John M. Leach
ATTORNEY

UNITED STATES PATENT OFFICE

2,286,307

ARTICLE AND PROCESS OF MAKING THE SAME

Harry H. Replogle, Scarsdale, N. Y., assignor to
Sylvania Industrial Corporation, Fredericks-
burg, Va., a corporation of Virginia

Application August 26, 1939, Serial No. 292,016

10 Claims. (Cl. 93—2)

The present invention relates to a method of wrapping and an article produced thereby. More particularly, it relates to a method of wrapping commodities such, for example, as foodstuffs of the type of bread, cake and the like, and the article of manufacture so produced.

In the wrapping of bread heretofore it has been customary to wrap a relatively narrow band bearing suitable advertising or other printed matter about each loaf of bread simultaneously with the application of the bread wrapper. The wrapper for the bread has usually been formed of moisture-proofed regenerated cellulose or waxed paper, and in order to retain the printed band in position and prevent its sliding on the bread so as to become unsightly and unreadable, it has been the practice to either introduce an adhesive between the wrapper and the band or to employ both a wrapper and a band of heat-sealable material so that the band would be sealed to the wrapper during the sealing of the overlapped edges of the wrapper. Both of these methods have occasioned considerable dissatisfaction since the use of an adhesive between the band and the wrapper has introduced undesirable odors within the bread wrapper which has frequently contaminated the bread and rendered it unsalable. When a heat-sealable coated material has been used for the band it has been difficult and expensive to apply the printed matter to the band and has frequently necessitated the printing of the band before the application of the heat-sealable coating thereto. The present invention makes it possible to avoid all of the above-mentioned undesirable features and to rapidly and economically wrap many different articles in an attractive and effective manner.

It is highly desirable to utilize a relatively narrow printed band directly beneath the translucent wrapper of the article since such a narrow band can be printed with a given amount of advertising, decorative or informative matter at much less cost than the same amount of printed matter can be applied to the larger wrapper. In addition, since many commodities which differ in characteristics have substantially the same shape, it is possible to utilize a standard form of wrapper for all of the articles and to merely add the band printed in accordance with the particular article to the standard wrapper as it is applied to the article. The necessity for carrying in stock a large number of wrappers bearing difficult printing is thereby eliminated.

It is a general object of the present invention to provide a process of wrapping articles in a rapid and effective manner.

It is another object of the present invention to provide a process of wrapping articles such as foodstuffs of the type of bakery products, in translucent wrappers with relatively narrow bands bearing suitable printed matter in position directly beneath the band so as to enable the printing to be read through the wrapper.

It is still another object of the present invention to provide a method of simultaneously applying a wrapper and a relatively narrow band bearing indicia to an article in such a manner that the indicia-bearing band is firmly anchored in position without the use of extraneous adhesive or without employing for the band a material which has a heat-sealable coating or is itself heat-sealable.

It is still a further object of the present invention to provide an improved article of manufacture in the form of a wrapped article having an indicia-bearing band interposed between the article and its wrapper and firmly anchored in position.

It is a still further object of the present invention to provide an improved article of manufacture of the type of a wrapped article having an uncoated band bearing printed matter and interposed and anchored between the article and its wrapper without the use of extraneous adhesives.

In accordance with the present invention, the article is enveloped in a wrapper formed of material bearing a heat-sealable coating and simultaneously is encircled with a band formed of uncoated material bearing suitable printed matter disposed between the article and the translucent wrapper. Two edges of the wrapper are overlapped along one side of the article and an end of the encircling band extends between and is interleaved with the overlapped edges in the seam. The overlapped edges of the wrapper are sealed when the wrapper is heat-sealable, for example, by the application of heat in any well known manner so that the overlapped edges forming the seam are sealed together substantially over the entire area of the seam except that portion which is covered by the interleaved end of the band. Since the band is firmly gripped at each longitudinal edge by the seam it is firmly anchored in place and fixed in position and prevented from displacement which might impair the attractiveness of the article and render the printed matter difficult to read.

If desired, the interleaved end of the band may be cut so that it does not extend entirely across the width of the seam, or it may be provided with suitable serrations or perforations so that the overlapped edges of the wrapper are heat sealed over the area of the same beyond the edge of the band or within the serrations or perforations and is thereby substantially hermetically sealed along the entire length of the seam.

The invention accordingly comprises the several steps and relation of one or more of such steps with respect to each of the others, and the product possessing the features, properties, and the relation of elements, which are exemplified in the following detailed disclosure, and the scope of the invention will be indicated in the claims.

In the accompanying drawing:

Fig. 1 is a vertical cross-sectional view taken substantially on the plane indicated by line 1—1 of Fig. 2 and looking in the direction of the arrows;

Fig. 2 is a perspective view of the wrapped article illustrated in Fig. 1;

Fig. 3 is a bottom plan view of the article illustrated in Fig. 1 revolved through 90 degrees;

Fig. 4 is a fragmentary cross-sectional view taken through the article illustrated in Fig. 3 substantially on the plane indicated by line 4—4 and looking in the direction of the arrows;

Fig. 5 is a fragmentary view showing another embodiment of the seal on the article of the invention;

Fig. 6 is a fragmentary view of an end of the band shaped in accordance with another modification of the invention;

Fig. 7 is a fragmentary view of mechanism which may be used to simultaneously cut the bands and wrappers from rolls of stock material;

Fig. 8 is a fragmentary cross sectional view of another modified form of the article of the invention;

Fig. 9 is a diagrammatic view of a machine for simultaneously severing the band and wrapper from rolls of stock material and feeding the same to the wrapping machine, and

Fig. 10 is an end view of the feeding mechanism illustrated in Fig. 9.

The material used for the wrapper of the present invention may be any of the translucent wrapping materials which are generally used at the present time. For example, the material may be waxed paper or other translucent papers provided with a potentially adhesive coating which can be rendered adhesive by the application of heat or a suitable solvent, or heat-sealable Cellophane regenerated from viscose or cuprammonium solutions of cellulose, and provided with a suitable heat-sealable coating such as that shown in United States Patents Nos. 1,989,683 and 2,121,023, or the wrapper may be formed of other non-fibrous organic plastic materials which are inherently heat-sealable, such for example, as cellulose derivatives, such as cellulose esters, cellulose ethers, synthetic resins, chlorinated rubber and the like.

In the specification and claims, the term "heat-sealable" when used with respect to the wrapper is intended to include both materials which are inherently sealable by heat and materials which have been rendered sealable by heat by having a heat-sealable coating applied on one or both sides, and it is to be understood that the seal may be made by heat alone, or with a solvent and/or pressure.

The band may be made of any of the foregoing materials with the exception that it need not be formed of a material which is potentially adhesive by being inherently heat-sealable or which is provided with a coating which is potentially adhesive, thereby making it possible to use a very inexpensive material for the band. In fact, it is characteristic of the present invention that an uncoated band of inexpensive material is used for carrying the printed matter. From certain aspects of the invention it is preferable to use heat-sealable Cellophane for the wrapper and non-heat sealable or plain or uncoated Cellophane for the band. This provides a combination of materials which form a wrapper presenting the maximum in attractiveness and mechanical protection for the wrapped articles, and, in addition, is inexpensive because the wrapper does not have to be printed and the uncoated band material takes printing very rapidly.

The wrapping process of the present invention is carried out on any of the conventional wrapping machines now in use and for this reason the details of the general wrapping operations form no part of the present invention and will not be described herein.

For the purpose of description, but not in the way of limitation, the wrapped article will be described as a loaf of bread. Referring to Fig. 1, the loaf of bread 10 is fed through a conventional wrapping machine in which an outer wrapper 12 of the type previously described and a relatively narrow band 14 are simultaneously placed around the loaf of bread and the extending ends of the wrapper are suitably folded and sealed to cause the wrapper to envelop the loaf of bread. The end 16 of the relatively narrow band is inserted during the wrapping operation between the overlapped edges 18 and 20 of the wrapper so as to be interleaved therewith. During the sealing operation heat is applied to the overlapped edges 18 and 20 of the wrapper and some suitable solvent or reagent may be applied between the overlapped edges and/or pressure applied to the overlapped edges, if desired. The seam formed by the overlapped edges is thus sealed over the areas 22 and 24 (see Figs. 3 and 4) close up against the edges of the end of the band 16 and substantially over the entire area of the seam except that portion covered by the end of the band 16. In this manner the end of the band 16 is firmly anchored in position and prevented from being displaced along the loaf of bread. The other end of the band is unsealed but is prevented from being substantially displaced by the fact that the sealed end of the band restrains it and the unsealed end is held in position by the wrapper. The band 16 is provided in any known manner with any desired indicia in the form of printed matter, legends, designs, etc., which may be of an advertising or other informative nature.

Since loaves of bread of different types are frequently of substantially the same shape and size, the present invention makes it possible to utilize a common size of a commercial grade of Cellophane for the outer wrapper for many different types of bread and thereby dispenses with the necessity for keeping many different printed forms of wrapper in stock. The relatively inexpensive bands on the other hand can be printed for the different kinds of bread and the proper band inserted during the wrapping of each loaf.

In cases where it is desirable to preserve a substantially hermetic seal over the entire bread

wrapper, it is desirable to form serrations 26 along the edge of the band end 16 and when the overlapped edges 18 and 20 of the wrapper are sealed, the spaces 28 formed by the serrations will permit the overlapped edges 18 and 20 to be sealed together substantially entirely along the end of the band 16.

In lieu of or in addition to the serrations 26, the end of the band 16 may be provided with suitable perforations 30 which may be of any desired shape and size. The overlapped edges 18 and 20 of the wrapper will then be heat-sealed over the spaces created by the perforations to thereby maintain the hermetic seal substantially across the width of the band.

In another modified form of the invention the band is cut so that the end 16 does not extend entirely across the width of the seam formed by the overlapped edges 18 and 20, as shown in Fig. 8. In this construction the overlapped edges 18 and 20 are sealed over the area 32 to thereby completely maintain the hermetic seal of the wrapper.

The band 14 may be cut so as to provide the construction illustrated in Fig. 8 by positioning the cutter strike-off 34 for the wrapper 12 and the cutter strike-off 36 for the band end 16 at spaced points. In this manner when the cutter bar 36 descends during the cutting operation the wrapper and superimposed band will be cut at different positions so that the band 14 will not extend entirely across the seam when the wrapper is caused to envelop the loaf of bread. Strike-offs 34 and 36 and the cutter bar 38 form known parts of well known types of cutting machines which form no part of the present invention so that a detailed description of the cutting machine has been omitted.

In place of the cutter of the type illustrated in Fig. 7, the cutter illustrated in Fig. 9 may be used with a differential speed feeding machine. In the cutting and feeding apparatus of Fig. 9, the cutter bar 40 severs the band 14 and the wrapper 12 at the same time, after which the severed band and wrapper are fed forwardly by rollers 42 and 44, respectively, to the wrapping machine. The speed of rotation of the roller 42 is made slightly greater than that of rollers 44 so that the band 14 is advanced to a slightly greater extent than the wrapper 12 with the result that after the wrapping has taken place the band 14 will not extend entirely across the seam formed by the overlapped edges 18 and 22 of the wrapper 12 as shown in Fig. 8.

The process of the present invention is capable of use for wrapping many different articles, among which may be mentioned soap, cheese, butter, frozen commodities and boxes and bags of various types as well as bakery products, such as bread, cake, rolls and the like.

The process of the present invention makes it possible to rapidly and economically wrap many different articles in an attractive package which serves to preserve the articles from atmospheric variations as well as mechanically protect the articles from abuse during handling prior to ultimate disposition. The wrapper of the present invention is economical since, although it is made of excellent qualities of materials, the printing desired on commodities of this type is applied to the band in a very inexpensive manner. The waxing or other coating of the band is dispensed with and ordinary inks can be used for printing the band since the ink does not have to resist

the coating operation necessitated in prior waxed printed bands.

Since certain changes in carrying out the above process, and certain modifications in the product which embody the invention may be made without departing from its scope, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

The invention having been described, what is claimed is:

1. An article of manufacture comprising a loaf of bread, a translucent wrapper having heat-sealing properties enveloping said loaf with a pair of adjacent edges of the wrapper forming an overlapped seam, a band of indicia-bearing material which does not have heat-sealing properties encircling said loaf with an end of said band interleaved with the edges of said wrapper in the seam and terminating within the seam, the said edges of said wrapper being heat sealed together substantially over the area of said seam except that portion which is covered by said end of the band, whereby said band is anchored in position.

2. An improved package comprising a wrapper of translucent material having potentially adhesive properties enveloping an article with a pair of adjacent edges of the wrapper forming an overlapped seam, a band of indicia-bearing material which is not potentially adhesive encircling said article with an end of said band interleaved with the edges of said wrapper in the seam and terminating within the seam, said edges of said wrapper being sealed together by the adhesive properties of the wrapper substantially over the area of said seam except that portion which is covered by the said end of the band, whereby said band is anchored in position.

3. An article of manufacture comprising a loaf of bread, a wrapper of translucent material having a potentially adhesive coating enveloping said loaf with a pair of adjacent edges of the wrapper forming an overlapped seam, a band of indicia-bearing material encircling said loaf and having a perforated end interleaved with the edges of said wrapper in the seam, the said edges of said wrapper being sealed together by the adhesive properties of the coating substantially over the area of said seam except that portion which is covered by the imperforate portion of the said end of the band, whereby said band is anchored in position.

4. An improved package comprising a wrapper of transparent non-fibrous material and having heat sealing properties enveloping an article with a pair of adjacent edges of the wrapper forming an overlapped seam, a band of indicia-bearing material encircling said article and having a perforated end interleaved with the edges of said wrapper in the seam, the said edges of said wrapper being heat sealed together substantially over the area of said seam except that part which is covered by the imperforate portion of the said end of the band, whereby said band is anchored in position.

5. An improved package comprising a wrapper of translucent material having potentially adhesive properties enveloping an article with a pair of adjacent edges of the wrapper forming an overlapped seam, a band of indicia-bearing material encircling said article with an end of said band interleaved with the edges of said wrapper in the seam, but not extending entirely across the seam, the said edges of said wrapper being

sealed together by the adhesive properties of the wrapper substantially over the area of said seam except that portion which is covered by the said end of the band, whereby said band is anchored in position.

6. The method of wrapping articles comprising enveloping an article in a translucent wrapper having potentially adhesive properties and overlapping a pair of adjacent edges of the wrapper to form a seam, simultaneously encircling the article with a band of indicia-bearing material which does not have potentially adhesive properties with an end of the band interleaved with the said edges in the seam and terminating within the seam, and activating the adhesive properties of the wrapper substantially over the area of the seam except that portion which is covered by the said end of the band, whereby the band is anchored in position.

7. The method of wrapping articles comprising wrapping an article in a sheet of cellulose hydrate having a heat-sealable coating and overlapping a pair of adjacent edges of the sheet to form a seam, simultaneously encircling the article with a band of indicia-bearing uncoated cellulose hydrate with an end of the band interleaved with the said edges in the seam and terminating within the seam, and heating the coating to produce adhesion of the overlapped edges over all of the said seam except that portion which is covered by the said end of the band, whereby the band is anchored in position.

8. The method of wrapping articles comprising enveloping an article in a sheet of translucent material having a potentially adhesive coating and overlapping a pair of adjacent edges of the sheet to form a seam, simultaneously therewith encircling the article with a band of indicia-

bearing material with an end of the band interleaved with the said edges in the seam, but not extending entirely across the seam, and activating the adhesive coating substantially over the area of the seam except that portion which is covered by the said end of the band, whereby the band is anchored in position.

9. The method of wrapping articles comprising enveloping an article in a sheet of translucent material having a potentially adhesive coating and overlapping a pair of adjacent edges of the sheet to form a seam, simultaneously encircling the article with a band of indicia-bearing material having a perforated end which is interleaved with the said edges in the seam, and activating the adhesive coating substantially over the area of the seam except that portion which is covered by the imperforate part of said end of the band, whereby the band is anchored in position.

10. An article of manufacture comprising a loaf of bread, a potentially adhesive wrapper of translucent material enveloping said loaf with a pair of adjacent edges of the wrapper forming an overlapped seam, a band of indicia-bearing material encircling said loaf with an end portion of said band interleaved with the edges of said wrapper in the seam, the said end portion of said band being smaller in area than the area of the portion of the overlapping edges of said wrapper which is included between the side edges of the wrapper and lines along the side edges of said band, the said edges of said wrapper forming the overlapped seam being sealed together by the adhesive properties of the wrapper substantially over the area of said seam except that portion which is covered by said end of the band, whereby said band is anchored and fixed in position.

HARRY H. REFLOGLE.