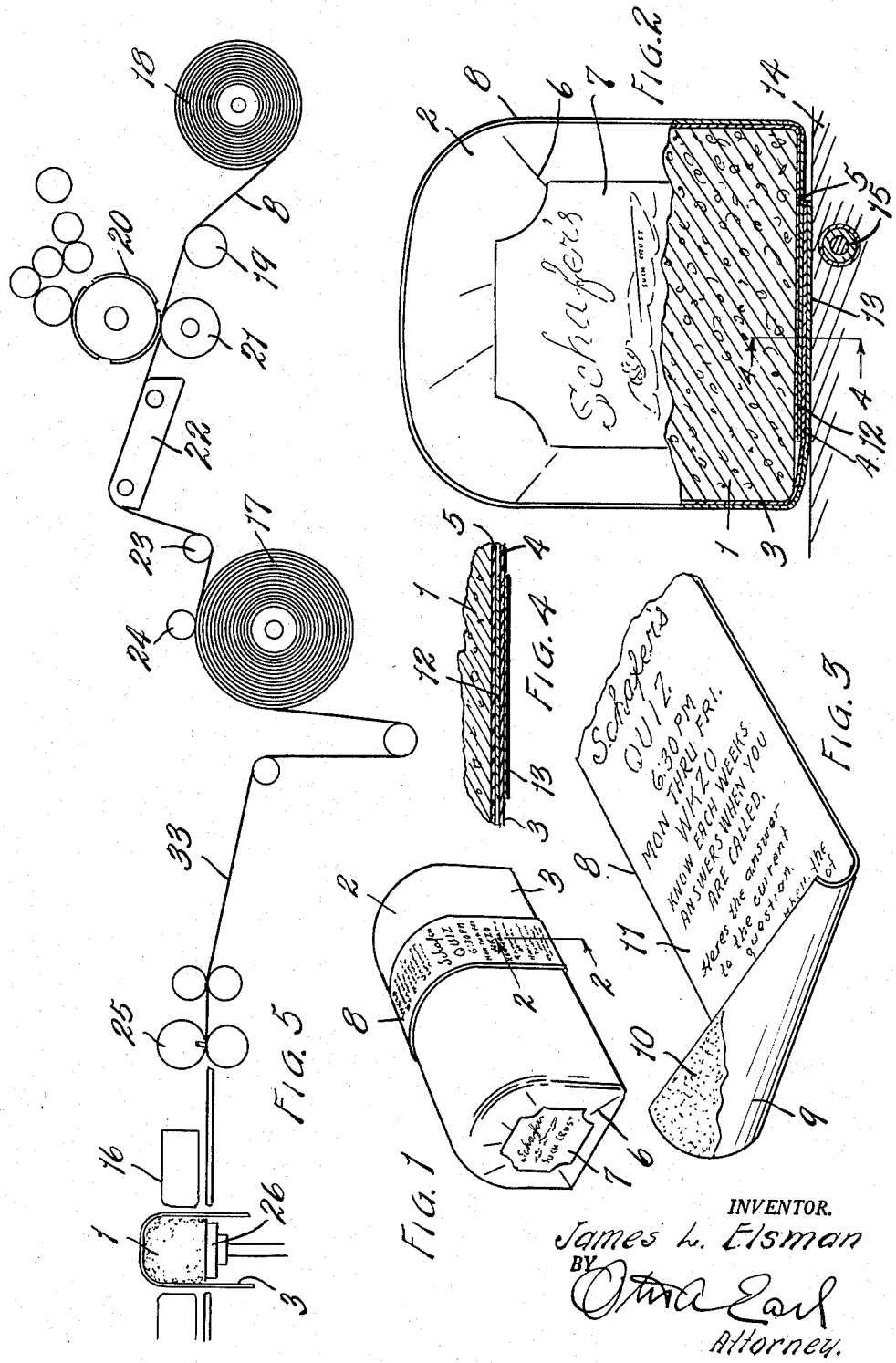
Oct. 26, 1954 J. L. ELSMAN 2,692,723

SEALED PACKAGE

Filed June 21, 1950 2 Sheets-Sheet 1



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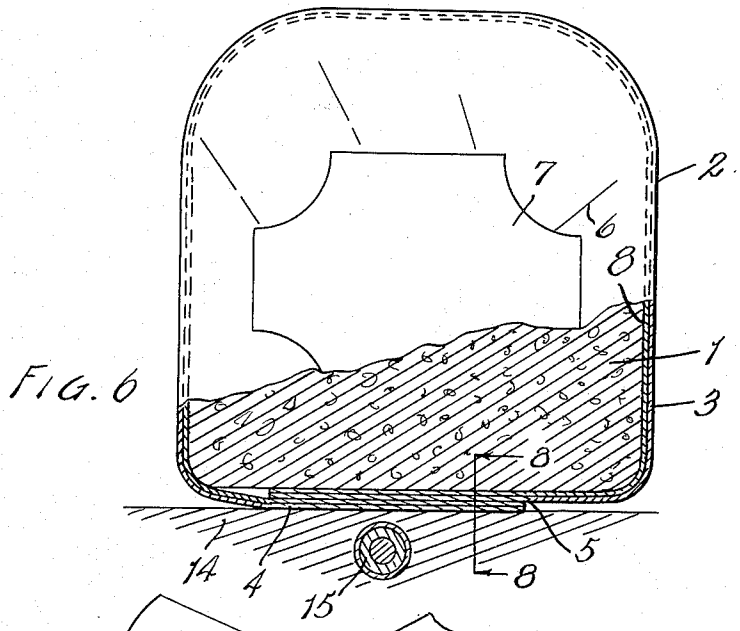


FIG. 6

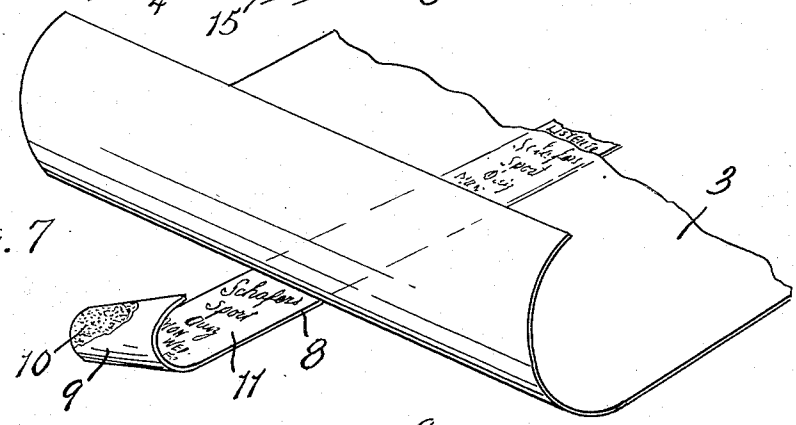


FIG. 7

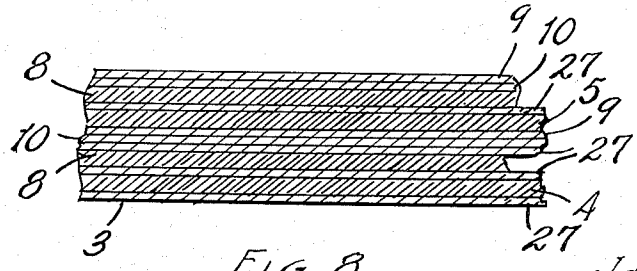


FIG. 8

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2,692,723

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SEALED PACKAGE

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Application June 21, 1949, Serial No. 101,431

6 Claims. (Cl. 229—87)

1

This invention relates to improvements in an improved sealed package.

The main objects of this invention are:

First, to provide a sealed and labeled package which may be formed or produced on a wrapping machine and having a label capable of receiving printing or writing at the time the package is formed.

Second, to provide a labeled package in which the label may be printed as a step in forming the wrapper thereby permitting labels to be readily changed for a particular product such, for example, as different kinds of bread produced in a bakery.

Third, to provide a package in which the label may be secured to the wrapper and becomes in effect an integral part thereof.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a package of my invention adapted to a loaf of bread.

Fig. 2 is an end elevation of a package embodying my invention partially in section on a line corresponding to line 2—2 of Fig. 1.

Fig. 3 is a fragmentary perspective view of a section of a labeled strip.

Fig. 4 is a fragmentary view in section on line 4—4 of Fig. 2.

Fig. 5 is a diagrammatic view illustrating certain steps of the method of forming the package of my invention.

Fig. 6 is an end elevation of a package embodying a modified form of my invention partially in section and in general corresponding to Fig. 2.

Fig. 7 is a fragmentary outside perspective view, the transparent wrapper showing the relation of the label strip thereto when the label strip is arranged on the inside of the wrapper.

Fig. 8 is a greatly enlarged fragmentary view in section on a line corresponding to line 8—8 of Fig. 6, the bonding of the heat fusible material through the superimposed portions of the wrapper and label being indicated by section lines through these several portions.

The apparatus diagrammatically illustrated in Fig. 5 is in general that shown in my application for Letters Patent, filed December 30, 1948, Serial No. 68,156, now Patent No. 2,590,239, in which application claims are directed to the method of

2

printing and applying a label to a web of wrapping paper and an apparatus for practicing the method.

In the accompanying drawing I illustrate my invention as embodied in a wrapped loaf of bread, the loaf being indicated at 1 in Fig. 2. The completed package is designated by the numeral 2. The package of my invention comprises a wrapping sheet 3 of paraffin coated paper or other heat sealable sheet material of such dimensions as to be wrapped around the loaf with its end edges 4 and 5 in substantial overlapping relation on the under side of the wrapped loaf or article as is shown in Fig. 2.

The end edges of the wrapper project beyond the ends of the article to be wrapped, as is conventional, and are folded thereon and heat sealed together as is indicated at 6, an end label 7 being applied over end folds.

Referring particularly to the embodiment of my invention shown in Figs. 1 to 4 the label strip 8 is of a length corresponding to the length of the wrapper and is secured thereto throughout its length by means of a thermoplastic heat fusible bonding coating 9 which is applied to the inner side of the label strip, the label strip being desirably provided with a barrier 10 resisting the penetration of the label strip by the thermoplastic coating 9. The outer side 11 of the label strip is without a coating or such treatment as would prevent printing or writing thereon.

It will be noted that with the label strip of the same length as the wrapper and secured on the outer side of the wrapper one end of the label strip is interposed between the outer overlapping portion of the wrapper and the inner overlapping portion as at 12 while the outer end of the label strip designated 13 is on the outer side of the outer overlapping portion of the wrapper. These overlapping portions are heat sealably or fusibly bonded together, the thermoplastic coating 9 of the label strip coacting with the heat sealable wrapper in securing an effective bond in these overlapping portions.

I have not illustrated details of the wrapping machine as they form no part of my invention except that after the wrapper is wrapped around the article to be wrapped, the interlapping parts of the label and wrapper are heat sealably fused by passing the wrapped article over a heat sealing plate 14 provided with heating elements as indicated at 15. The end folding and sealing mechanism is as stated conventional. It is sometimes desirable to arrange the label strip on the inner side of the wrapper particularly where a

heat sealable wrapper, such as cellophane or Pliofilm is used. As such materials are widely used as wrapping material I am employing the same reference numerals in these figures.

When the label is arranged on the inside with its printing receptive surface 11 facing outwardly its inner end is disposed on the inner side of the overlapping inner portion of the wrapper as is shown in Figs. 6 and 8. Its other end is interposed between the inner end of the overlapping end portions of the wrapper and the outer overlapping portion thereof, all of these parts being in superimposed relation with the outer overlapping end of the wrapper on the outside with one end of the label strip interposed between the overlapping portions of the wrapper and the other end of the label on the inner side. With the parts thus arranged they are subjected to the heat sealing plate 14 as is the case in the preferred embodiment in which the label strip is on the outer side.

In Fig. 8 the heat sealable wrapper is indicated as having coatings 27 on both sides thereof; however, it should be understood that the wrapper may be of the inherent heat sealable type as distinguished from wax coated wrappers. It is believed that Fig. 8 will aid in the disclosure of my invention. When the wrapped article with the interposed portions of the wrapper and label as described are subjected to the heating plate the fusible coating or heat sealing materials of these parts become fused and penetrate the superimposed parts, as described, with the result that a substantially homogeneous bond for the interposed parts results thus very securely retaining the label in position. The label strip of Figs. 6, 7 and 8 may be printed and advanced with the wrapper as is indicated in Fig. 5. By thus arranging the parts the label is effectively secured to the outer side of the wrapper and the overlapping parts are effectively bonded, this resulting in a very effective sealing, the label being adapted to receive printing or writing thereon.

The use of labels which may be printed as used avoids the necessity of carrying stocks of several preprinted labels and only such labels are printed as are necessary for the particular run of the wrapped packages. For example, in many bakeries different kinds of loaves are produced and my method of packaging permits the preparation of labels for the particular run of packages with particular information desired on the label.

In Fig. 5 I have diagrammatically illustrated an apparatus of the general type illustrated in my aforesaid application for Letters Patent. In this figure, 16 generally indicates a wrapping machine and 3 a wrapper sheet draped over a loaf of bread 1 as a preliminary wrapping step or operation. I have not illustrated the other folding mechanisms as suitable wrapping machines are known in the industry.

17 represents a roll of wrapping paper and 18 a roll of label strip material 8 which as stated has a thermoplastic heat sealable bonding coating 9 on the inner side thereof. The label strip is passed over a guide roller 19 and between a printing cylinder 20 and pressure or contact roller 21. From the printing cylinder the printed label strip is passed over a heating unit 22 which fuses the thermoplastic coating 9 and at the same time dries the printing. From this heating unit the web passes under the guide roller 23 and under the pressure roller 24 while the thermoplastic is still in plastic condition by which the label strip is urged against the wrapper web 33 from which the wrappers 3 are severed by means of the cutter 25. Individual wrappers are fed across the path of the elevator 26 so that on the upstroke of the elevator carrying an article to be wrapped the wrapper is draped over the top and sides thereof as shown in Fig. 5. The face of the label strip is capable of receiving the printing, as stated, or it may be written on to convey desired information; for example, the address of a customer or a particular store or retailer to which the wrapped loaf is to be delivered.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe various embodiments and adaptations which are contemplated in the adaptation of my invention to different products as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

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

1. A sealed package comprising the wrapped article, a paraffin coated wrapper wrapped around the article with its ends in substantial overlapping relation on the under side of the article, a strip-like label of a length corresponding to the length of the wrapper and having a thermoplastic coating on the inner side thereof which is heat seal bonded to the outer side of the wrapper intermediate the ends of the wrapped article, the outer side of the label being without a coating preventing printing or writing thereon, said label having a barrier layer between its surface and said thermoplastic coating resisting penetration of said strip by said coating one end of the label being disposed between the said overlapping portions of the wrapper, the other end being on the outer side of the outer of the said overlapping portions of the wrapper with its thermoplastic coated inner side inward, the said overlapping parts of the wrapper and label being fused and bonded by the combined coatings of the wrapper and label, said thermoplastic coating being driven through said barrier in said overlapping parts and coacting in bonding and fusing both sides of said strip to adjacent portions of said sheet the overlapping portions of the wrapper on the under side of the article at each side of said label being heat sealed together, the end edge portions of the wrapper being folded into overlapping relation upon the ends of the article and heat bonded together.

2. A sealed package comprising the wrapped article, a paraffin coated wrapper wrapped around the article with its ends in substantial overlapping relation on the under side of the article, a strip-like label of a length corresponding to the length of the wrapper and having a thermoplastic coating on the inner side thereof which is heat seal bonded to the outer side of the wrapper intermediate the ends of the wrapped article, the outer side of the label being without a coating preventing printing or writing thereon, said label having a barrier layer between its surface and said thermoplastic coating resisting penetration of said strip by said coating one end of the label being disposed between the said overlapping portions of the wrapper, the other end being on the outer side of the outer of the said overlapping portions of the wrapper with

its thermoplastic coated inner side inward, the said overlapping parts of the wrapper and label being fused and bonded by the combined coatings of the wrapper and label, said thermoplastic coating being driven through said barrier in said overlapping parts and coacting in bonding and fusing both sides of said strip to adjacent portions of said sheet.

3. A package comprising an article to be wrapped, a heat sealable wrapper wrapped around the article with the end edges of the wrapper in overlapping superimposed relation and with side edge portions of the wrapper projecting beyond the article and folded upon the ends of the article, a label strip having a heat sealable coating on its inner side fusibly adhered to the outer side of the wrapper, the outer side of the label being receptive of printing or writing, said strip having a barrier layer between its surface and said heat sealable coating resisting penetration of said strip by said coating intermediate of the ends of the strip said label strip being disposed lengthwise of the wrapper and intermediate the end fold portions thereof to encircle the article, one end of the label strip being disposed between the overlapping end portions of the wrapper, the other end of the label strip being disposed on the outer side of the outer overlapping portion of the wrapper and in superimposed relation relative to the first mentioned end of the label strip, the said overlapping and superimposed portions of the wrapper and label strip being heat sealably bonded together, with said heat sealable coating being driven through said barrier and said strip and coacting in sealing said strip to adjacent portions of said wrapper.

4. A package comprising an article to be wrapped, a sealable wrapper wrapped around the article with the end edges of the wrapper in overlapping relation, a label strip having a heat sealable coating on its inner side and an uncoated print receptive outer side, said strip having a barrier layer between its surface and said heat sealable coating resisting penetration of said strip by said coating intermediate of the ends of the strip said label strip being disposed lengthwise of the wrapper and encircling the article in lapped relation to the wrapper, one end of the label strip being disposed between the overlapping end portions of the wrapper, the other end of the label strip being disposed in lapped relation to the overlapping portion of the wrapper and the first mentioned end of the label strip, the said overlapping portions of the wrapper and label strip being heat sealably bonded together, with said heat sealable coating being driven through said barrier and said strip and coacting in sealing said strip to adjacent portions of said wrapper.

5. A package comprising an article to be wrapped, a transparent wrapper having a coating of heat sealable material on both sides thereof wrapped around the article with the end

edges of the wrapper in overlapping relation, a label strip of a length corresponding to the length of the wrapper and having a heat sealable coating on its inner side, the outer side of the label being without coating preventing printing or writing thereon, said strip having a barrier layer between its surface and said heat sealable coating resisting penetration of said strip by said coating, said label strip being disposed on the inner side and lengthwise of the wrapper and encircling the article, one end of the label being interposed between the overlapping portions of the wrapper and the other end thereof being disposed within the inner overlapping portion of the wrapper in superimposed relation to the end of the wrapper interposed between the lapping portions of the wrapper, the said superimposed portions of the wrapper and the label strip being bonded together by the fused heat sealable coatings thereof, the heat sealable coating of the interlapping portions of the label strip penetrating said barrier and coacting in bonding such portions together with the coatings in fused bonded relation.

6. A package comprising an article to be wrapped, a heat sealable transparent wrapper wrapped around the article with the end edges of the wrapper in overlapping relation, a label strip having a heat sealable coating on its inner side, the outer side of the label being receptive of printing or writing, said strip having a barrier layer between its surface and said heat sealable coating resisting penetration of said strip by said coating, said label strip being disposed on the inner side and lengthwise of the wrapper and encircling the article, one end of the label strip being interposed between the overlapping portions of the wrapper and the other end thereof being disposed within the inner overlapping portion of the wrapper in opposed relation to the end of the label strip interposed between the lapping portions of the wrapper, the said superimposed portions of the wrapper and label strip being heat sealably bonded together, the heat sealable material carried by the interlapping portions of the label strip penetrating said barrier and coacting with said heat sealable wrapper bonding such portions together in a substantially homogeneous bond.

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