Jan. 2, 1940. W. N. MacDONALD ET AL 2,185,470

SELF-SEALING BREAD WRAPPER

Filed Sept. 15, 1937 2 Sheets-Sheet 1

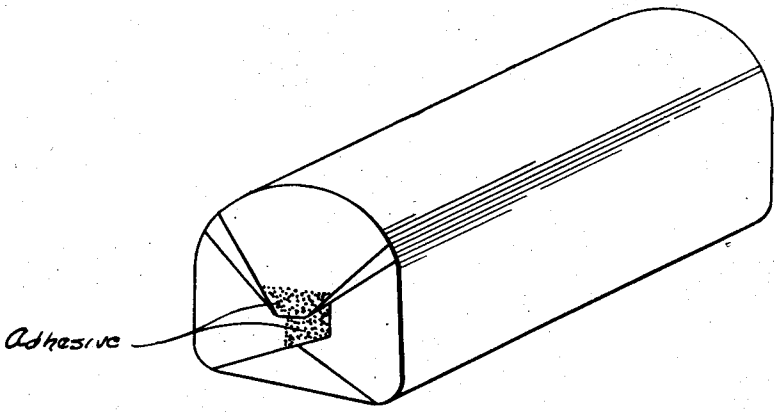


Fig. 1

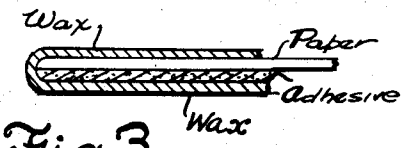


Fig. 3

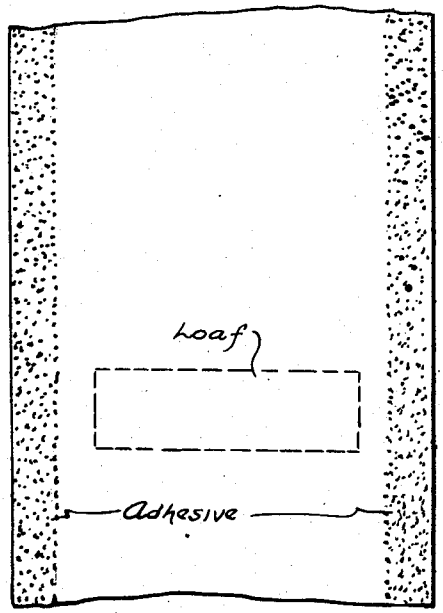


Fig. 2

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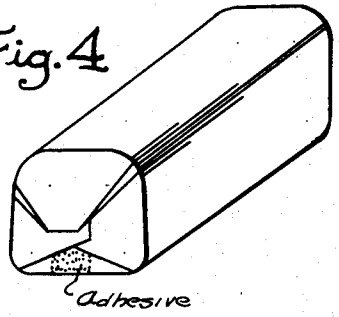
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SELF-SEALING BREAD WRAPPER

Filed Sept. 15, 1937 2 Sheets-Sheet 2

Fig. 4



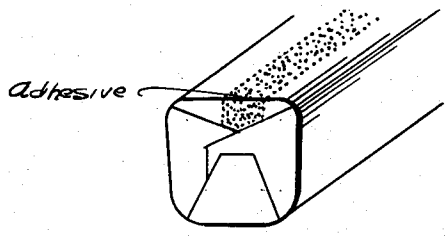


Fig. 5

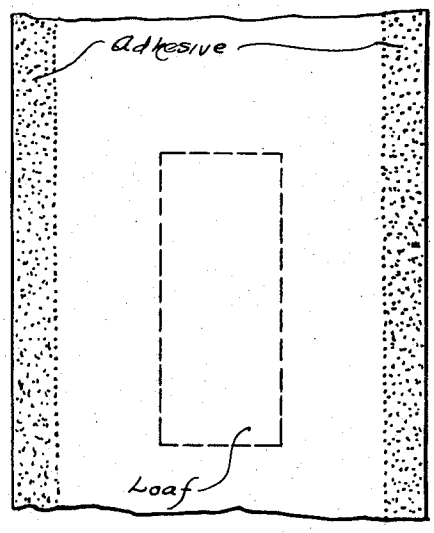


Fig. 6

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2,185,470

SELF-SEALING BREAD WRAPPER

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Application September 15, 1937, Serial No. 163,880

6 Claims. (Cl. 229—87)

This application relates to self-sealing wrappers of waxed paper or the like.

A self-sealing wrapper, as commonly known, comprises a sheet of waxed paper, namely, a sheet of paper having surface coatings of wax, folded over the object to be wrapped, such as a loaf of bread, so that the edges of the wrapper are lapped, and the surface of one lap is intended to be sealed to the engaged surface of the adjacent lap to form a sealed wrapper.

For various reasons which need not here be enumerated, objections have been found to wrappers commonly claimed to be self-sealing wrappers, principally on the grounds that it is difficult to produce wrappers which can be relied upon to seal themselves in every instance when run through automatic high speed wrapping machinery, such as Hayssen, Standard, or Battle Creek machines.

It is observed here that unless such reliance can be had, the use of so-called self-sealing wrappers in automatic high speed wrapping machinery is not encouraged, for the reason that the wrappers around objects coming out of the wrapping machine will not in every case be sealed satisfactorily.

By my invention I have provided a self-sealing wrapper which can be produced easily and with well-known methods of producing waxed paper in sheets and rolls suitable for use in automatic wrapping machinery, with the paper being so constructed that the user thereof may rest assured that every wrapped object coming out of the wrapping machine will be wrapped in a sealed wrapper, all without the necessity for changing in any way the operations of wrapping or the functions of the wrapping machines.

For an understanding of my invention reference should be had to the appended drawings disclosing embodiments of the same. In these drawings,

Fig. 1 shows a loaf of bread wrapped in a "Standard" or "Battle Creek" wrapping machine with the wrapper comprising a self-sealing wrapper of the invention;

Figs. 2 and 6 show fragments of the strips as they go into "Standard" or "Battle Creek" or "Hayssen" wrapping machines and indicate the structural details that make my wrapper a self-sealing wrapper;

Fig. 3 shows in cross-section and to greatly enlarged scale strips of self-sealing wrapper stock;

Fig. 4 shows a loaf of bread wrapped in a "Hayssen" wrapping machine with the wrapper comprising a self-sealing wrapper of the invention;

Fig. 5 shows the wrapped loaf of Fig. 4 in the obverse position, the lapped sealed edge of the wrapper being visible.

The wrapper of my invention comprises little more than a sheet of waxed paper similar in quality, type, and size to those now used. These wrappers are generally formed in rolled sheets which are fed into automatic wrapping machines such as Standard, Battle Creek, or Hayssen machines, where they are cut off into unit lengths and the cut lengths are then folded and wrapped about the object to be wrapped, such as the loaf of bread herein shown, and in wrapping the sheet about the loaf the edges of the sheet are lapped over each other to form a lap seal.

In the use of self-sealing wrappers, both those presently known and those of my invention, the lapping edges of the strip are heated during the wrapping operation with the intention of having these lapping edges seal to one another and thus form a self-sealed wrapper. For various reasons this practice does not always produce a self-sealed wrapper in the case of wrappers now known. After an intensive and prolonged study I have discovered that a very simple way to produce a self-sealing wrapper is to provide in the lapping edges quantums of suitable adhesives, and these quantums of adhesive when heated in the wrapping machine perform the function of sealing lapping edges to one another whereby a seal is automatically produced.

A suitable adhesive, found satisfactory, is a terpene resin, sold commercially under the name "Petrex" and whose formula is 6 isopropyl 3 methyl 3-6 endoethylene Δ4 tetrahydro-phthalic anhydride.

This adhesive may be applied to the edge portions of the outer or printed surface of the wrapper before the wrapper is waxed. It may be applied under heat in a liquid or molten state and dried before the wrapper is waxed; or it may be emulsified with water applied at ordinary temperatures; in the latter case the wrapper, after the adhesive is applied, is run through the wax bath so that the wax will seal the water into the sheet to make the edges of the sheet more flexible and less apt to spring open after the wrapping-sealing operation has been performed.

The wrapper need not be run through the wax bath immediately after the adhesive is applied. It may be allowed to stand for a while before waxing so that the water or moisture will spread out.

On a 17 inch strip of wrapper the adhesive has been applied in widths of 1 to 2 inches; and on a sheet of .002 inch thickness an adhesive coating of .0001 inch thickness and a wax coating of .0005 inch thickness have been used satisfactorily.

It has been found that the wrapper is better used in machines other than those producing "Hayssen" wraps.

Now having described the self-sealing wrapper shown herein in its various modifications, reference will be had to the claims which follow for a determination of the protection sought by this application.

We claim:

1. A continuous strip adapted to be cut during a wrapping operation to form individual self-sealing bread loaf wrappers comprising a continuous strip of waxed paper or the like having an edge portion of one of its surfaces coated with a non-wax adhesive which is non-adhesive at ordinary temperatures but which becomes adhesive under heat and pressure, the adhesive being sealed within the wax coating of the strip.

2. A continuous strip adapted to be cut during a wrapping operation to form individual self-sealing bread loaf wrappers comprising a continuous strip of waxed paper or the like having an edge portion of one of its surfaces coated with a non-wax adhesive which is non-adhesive at ordinary temperatures but which becomes adhesive under heat and pressure, the adhesive being sealed within the wax coating of the strip, and including water.

3. A continuous strip adapted to be cut during a wrapping operation to form individual self-sealing bread loaf wrappers comprising a continuous strip of waxed paper or the like having an edge portion of one of its surfaces coated with a non-wax adhesive which is non-adhesive at ordinary temperatures but which becomes adhesive under heat and pressure, the adhesive being in the nature of a terpene resin whose formula is 6 isopropyl 3 methyl 3-6-endoethylene Δ tetrahydrophthalic anhydride, the adhesive being sealed within the wax coating of the strip.

4. A continuous strip adapted to be cut during a wrapping operation to form individual self-sealing bread loaf wrappers comprising a continuous strip of waxed paper or the like having an edge portion of one of its surfaces coated with a non-wax adhesive which is non-adhesive at ordinary temperatures but which becomes adhesive under heat and pressure, the adhesive being in the nature of a terpene resin whose formula is 6 isopropyl 3 methyl 3-6 endoethylene Δ tetrahydrophthalic anhydride, the adhesive being sealed within the wax coating of the strip, and including water.

5. A continuous strip adapted to be cut during a wrapping operation to form individual self-sealing bread loaf wrappers comprising a continuous strip of waxed paper or the like having opposite edge portions of one of its surfaces coated with a non-wax adhesive which is non-adhesive at ordinary temperatures but which becomes adhesive under heat and pressure, the adhesive being sealed within the wax coating of the strip.

6. A continuous strip adapted to be cut during a wrapping operation to form individual self-sealing bread loaf wrappers comprising a continuous strip of waxed paper or the like having opposite edge portions of one of its surfaces coated with a non-wax adhesive which is non-adhesive at ordinary temperatures but which becomes adhesive under heat and pressure, the adhesive being sealed within the wax coating of the strip, and including water.

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