April 15, 1930. E. L. SMITH 1,754,839

PACKAGE AND METHOD OF FORMING THE SAME

Filed Feb. 18, 1927

Fig. 1.

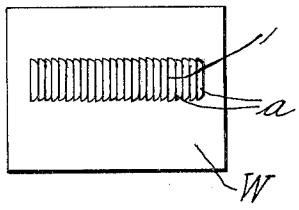


Fig. 2.

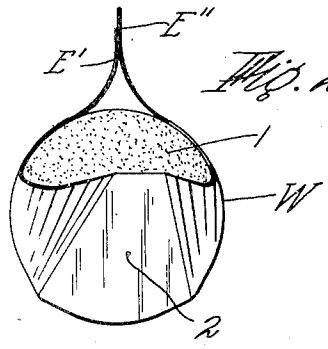


Fig. 3.

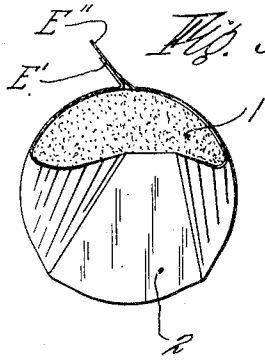


Fig. 4.

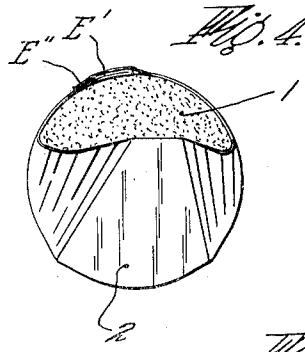


Fig. 5.

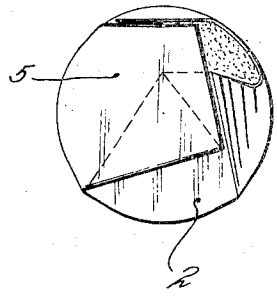


Fig. 6.

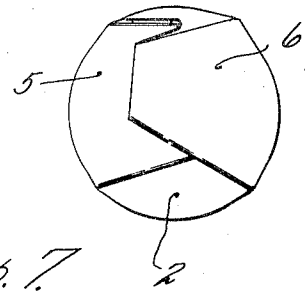


Fig. 7.

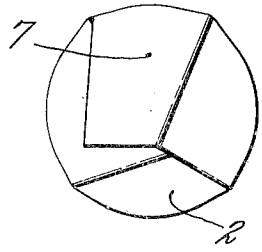
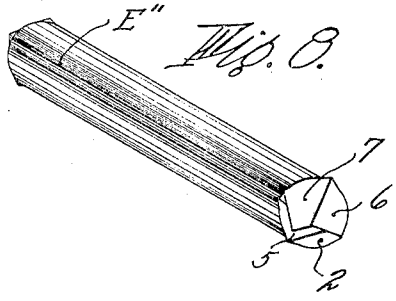


Fig. 8.



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UNITED STATES PATENT OFFICE

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PACKAGE AND METHOD OF FORMING THE SAME

Application filed February 18, 1927. Serial No. 169,321.

This invention relates to improvements in the method of wrapping articles and the product thereof and is directed more particularly to the novel arrangement of the overlapping portions of the wrapper.

It is highly important at the present time to wrap and seal food stuffs in moisture and dust proof wrappers and in wrapping such articles it is the usual practice to bring the opposite ends of the wrapper into overlapping relation at a side of the article being wrapped, and to secure the overlapping portions together by gumming, heat sealing or the like, in an attempt to seal the wrapper so as to provide the desired moisture and dust proof joint or seam. These overlapped portions of the wrapper are pressed against a side of the article which in the case of a carton is yieldable so that it is practically impossible to make a non-leakable, moisture and dust proof joint throughout the length of the seam and when the article has an uneven surface like a loaf of bread or the like, the pressing action is necessarily uneven so that leaks through the joint develop. In the case of wrapping a stack or group of articles such as cookies or crackers with varying diameters, it will be appreciated that a very uneven surface is provided for backing up the pressing action for the overlapping wrapper ends so that it is extremely difficult in such a case, if not impossible, to provide a non-leakable, dust and moisture proof seam as is highly desirable in the wrapping of food stuffs.

According to the novel features of my invention, I provide a method of wrapping an article whereby the overlapping ends of the wrapper may be thoroughly and securely sealed together regardless of the condition of the surface of the article or articles being wrapped. I accomplish this by folding the wrapper in such a way that for the pressing action I do not depend upon the article entirely to back up the wrapper, whereby the seam or joint is made tight even on an article having an uneven or yieldable surface.

The invention is adapted for broad application wherever it is desired to wrap an article or articles so that the overlapping portions of the wrapper are thoroughly sealed. The invention is also applicable for use in connection with wrappers of various materials, such as wrapping paper sealed by gum or the like, or waxed paper sealed by the application of heat thereto. The means or apparatus for performing the steps comprising the novel steps of the method may be varied within wide limits for performing the folding operations in accordance with the invention.

While I do not limit myself to the wrapping of a stack of circular articles, such as cookies, with waxed paper, I will describe the inventon in connection therewith in order to facilitate a clear understanding thereof.

In the drawings:

Fig. 1 is a small scale plan view of a stack of articles such as cookies superposed on a wrapper; and

Figs. 2 to 8 show various steps of the method to be described.

Referring to the drawings in detail, 1 represents a stack of circular shaped articles, such as cookies or crackers which it is desired to enclose in stacked formation in a wrapper W.

The wrapper W is preferably, for the purposes of description, paper impregnated with wax which as is well known, may be melted by heat and will readily set or solidify so that when overlapping portions of the wrapper are heated by any suitable means they are easily secured together by the hardening of the wax, in their overlapped or folded relation.

The width of the wrapper is preferably in excess of the perimeter of the articles so as to provide overlapping end portions and is of a length longer than the stack of articles to provide end extensions or tabs for folding

against the ends of the stack, all as will later be described.

The wrapper W is brought up around the stack as shown in Fig. 2 so that the inner faces or surfaces of the wrapper ends E′ and E″ abut one another. It will be noted that the end E″ is made to extend beyond the end E′ for the purpose to be later described. If waxed wrapping material is used, heat may be applied to the overlapped ends as shown in Fig. 2 if it is desired to secure them together at this time, but if desired, the heat may be applied as a subsequent step as will later be explained. The wrapper being wider than the length of the stack, it provides tube like extensions at the ends thereof and a tuck or fold 2 is made in the extension at the lower side of the stack which is laid up against the ends of the stack. This tucking operation may be performed simultaneously with the bringing together of the wrapper ends if desired and various mechanisms may be employed for the purpose. It is largely a matter of choice as to when this fold will be made and will depend somewhat on the arrangement of such apparatus as may be used to perform this step of the method.

The next step is to lay the wrapper ends against the side of the article and is done by making such a fold as will lay the end E′ back on itself with the end E″ overlying it and extending beyond the end E′ onto the body of the wrapper as shown in Figs. 3 and 4.

Heat may be applied to the overlapping portions E′ and E″ when thus laid down and will serve to soften the wax of the wrapper so as to stick them together to form a tight moisture and dust proof seal or joint throughout the length of the fold.

If other material than waxed paper is used, such as wrapping paper, gum or the like may be applied to the wrapper ends in any of the well known ways to stick the overlying portions together to accomplish substantially the same results as with waxed paper and the application of heat.

It will be noted that the wrapper end E″ which extends beyond the other end E′ lies against the body of the wrapper at a point outside or beyond the other or shorter end E′. This is advantageous in that the wrapper end E″ thus secured to the body of the wrapper provides a seal with the body of the wrapper and the end E′ is held down thereby so as to not become loosened from the underlying portion of the wrapper.

As will be noted, there are at least three thicknesses of wrapping material at the upper side of the package which has a distinct advantage in that when the heat sealing pressure is applied thereto the material is slightly resilient or yieldable so as to lie against the sealing implement the full length of the seam and further being somewhat yieldable any irregularities of the surface of the articles will not affect the pressing together of the plies of material.

With the longitudinal seam thus sealed, the wrapper extensions at the ends of the stack are tucked or folded at the sides of the stack as at 5 and 6 and laid against the end of the article. Finally the upper end extensions 7 of the wrapper are brought downwardly to overlap the tucks or folds 2, 5 and 6 previously made and heat is applied to the ends of the package to stick the overlapped folded end tucks together.

It will be obvious that instead of using waxed wrapping material as described, the invention may be practiced by employing any desired material and securing the overlapping portions together by gum or any other adhesive material.

From the foregoing it will be observed that I am able to seal the overlapping portions of the wrapper together so as to provide a tight, moisture and dust proof joint and I do not depend, for the pressing action, entirely upon the character of the surface of the article because the arrangement of the folds of the wrapper provide a sufficient amount of resiliency to make up for any ordinary unevenness or yieldability of the side of the article.

I am aware that the invention may be practiced by the employment of various materials and in connection with the wrapping of various articles. I prefer therefore not to be limited to the description of the invention but rather, if at all, by the appended claims.

What I claim is:

1. A package comprising an article and a wrapper enclosing the article, the marginal edges of the wrapper being overlapped along one face of the article, one of said edges being doubled back so as to lie against the main body of the wrapper, and the other of said edges overlying the first-named edge and extending beyond it onto the main body of the wrapper, said marginal edges being adhesively secured to each other and to the main body of the wrapper.

2. A package comprising an article and a wax-impregnated wrapper enclosing the article, the marginal edges of the wrapper being overlapped along one face of the article, one of said edges being doubled back so as to lie against the main body of the wrapper, and the other of said edges overlying the first-named edge and extending beyond it onto the main body of the wrapper, said marginal edges being secured to each other and to the main body of the wrapper by fusion of the wax carried by the wrapper.

3. A package comprising an article of irregular surface and a wax-impregnated wrapper enclosing the article, the marginal edges of the wrapper being overlapped along one face of the article, one of said edges be-

ing doubled back so as to lie against the main body of the wrapper, and the other of said edges overlying the first-named edge and extending beyond it onto the main body of the wrapper, thus forming a three-ply sealing portion and a two-ply portion extending therefrom, the plies of each of said portions being secured to each other by fusion of the wax carried by the wrapper.

In testimony whereof I have affixed my signature.

ELMER L. SMITH.