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METHOD OF MAKING WAXED PAPER BAGS

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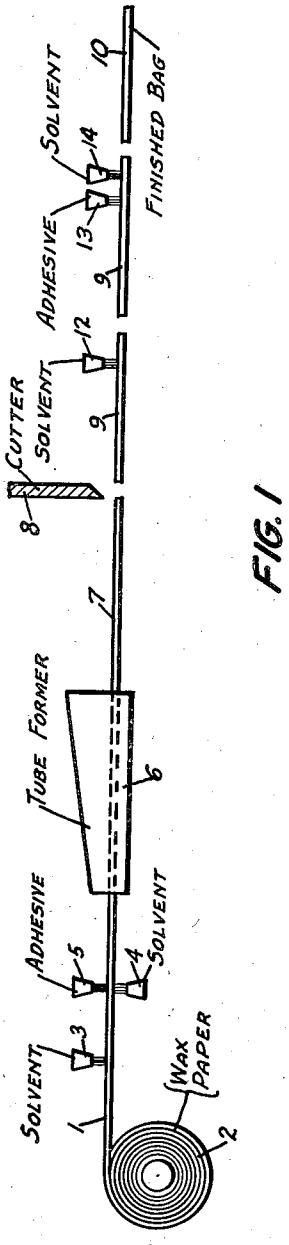


FIG. 1

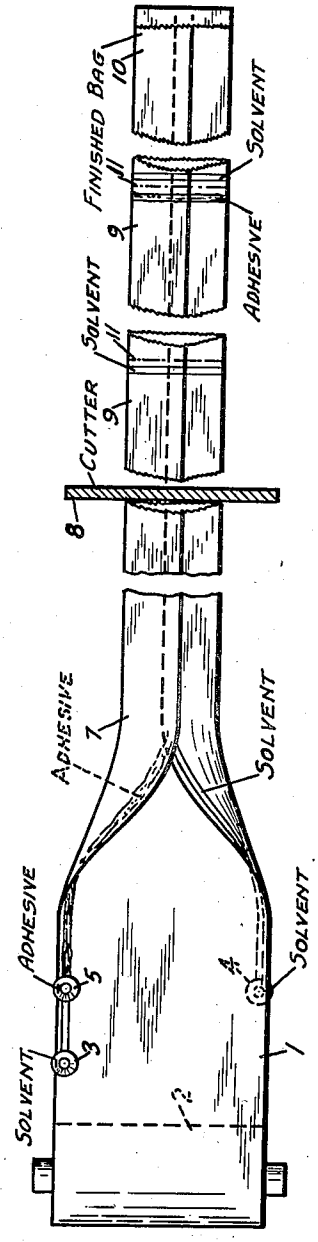


FIG. 2

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METHOD OF MAKING WAXED PAPER BAGS

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4 Claims. (Cl. 93—35)

This invention relates to new and useful improvements in paper bags and particularly to that type of bag which is resistant to moisture, grease, oil and fat and is therefore suitable for the packaging of food stuffs such as nuts, potato chips, etc. Such bags are ordinarily made of a paper which had been previously treated with paraffin wax.

Paper bags are ordinarily made by coating one marginal edge surface of a sheet of paper with an adhesive such as glue, folding the opposite side portion of the sheet inwardly to produce a tubular structure, uniting the overlapping edges of said sheet by means of said adhesive, applying adhesive along a line near one end of said tube and folding the end of the tube over said line of adhesive and on to the body of the tube. This general method is inapplicable to paper which had previously been treated with wax to render it moisture, grease, oil and fat proof. The reason is that thus far no adhesive has been developed which will penetrate a waxed surface or cause wax surfaces to adhere.

In Patent No. 1,782,884, dated November 25, 1930, it has been suggested that in the preparation of the waxed paper, the wax coating be omitted from the surfaces of the edges to be joined so that a suitable glue might thereafter be applied to the untreated surfaces to produce a satisfactory joint in the completed bag. This process has disadvantages which precludes it from coming into general use.

The primary object of the present invention is to provide a method for making a bag out of waxed paper without the use of special adhesives or glues and without resort to complicated procedures or apparatuses.

Another object is to provide such a method which may be carried out as a continuous operation by means of automatic machinery differing in minor details from the conventional machinery now used in manufacturing ordinary bags.

Still another object is to produce a bag made entirely of waxed paper.

The essence of the invention which renders the foregoing objects possible of attainment resides in the application to the surfaces to be joined prior to the application of glue or other adhesive of a solvent for wax to render the surfaces receptive of the glue.

Any solvent for paraffin may be used in my process, provided it is inexpensive and does not have too disagreeable an odor. Among the suitable solvents may be mentioned benzol, carbon disulphide, carbon tetrachloride (Carbona), chloroform, dichlorethylene (dieline), ethylene dichloride, hexachlorethane (perchlorethane) the "Ketols", pentachlorethane (pentaline) tetrachlorethane (tetraline), tetrachlorethylene (etaline), trichlorethylene (trieline) and turpentine. Other suitable solvents will readily suggest themselves to those skilled in the art.

Referring to the drawing:

Figure 1 is a diagrammatic representation in side elevation of a continuous process embodying the inventive concept of the present application, and

Figure 2 is a diagrammatic representation in plan of the same mechanical embodiment of the invention.

Referring in greater detail to the drawing, the reference numeral 1 denotes a continuous web of waxed paper drawn in any suitable or well known manner from the source of supply 2. The web 1 passes below the solvent applying means 3 which applies a line of solvent on the upper surface of one of the marginal edges of the web and over the solvent applying means 4 which applies a line of solvent on the lower opposite marginal surface of the web. Either or both of the devices for applying the solvent may be of any desired type such as spraying devices, transfer rolls, etc. The two devices may be disposed on the same transverse line or as shown in the drawing. The web 1 then passes under the adhesive applying device 5 which applies a line of adhesive on one of the lines of solvent. I have shown the adhesive being applied on the upper marginal surface, but clearly it may be applied to the lower opposite marginal surface. The treated web then passes through the tube former 6 which brings the two treated marginal surfaces into overlapping relation thus forming a continuous tube 7. Suitable devices (not shown) may be provided to cause the overlapping edges to adhere permanently. The cutter 8 then cuts the tube into individual blanks 9.

The individual blanks 9 are finally made into bags 10. The only departure from conventional procedure consists in applying a solvent on both sides of the line of fold 11 so that the adhesive will penetrate the waxed surfaces and cause them to adhere firmly. In the drawing, I have indicated applying solvent from a spray or other applying means 12 on one side of the line of fold 11, then applying adhesive on the same line from a source of supply 13 and applying solvent from a source of supply 14 on the other side of the line of fold. However, I am not precluded from applying the solvent to both sides of the line of fold

11 simultaneously in any manner well known to the art. Finally, the end of the tube is bent back on to the body of the bag and caused to permanently adhere by means of the applied solvent.

My method has been described and illustrated in connection with the tubular type of bag, i. e. a bag made by forming a web of waxed paper into a tube and sealing the overlapping edges, but it may be applied to the manufacture of other types. Thus, for instance, it lends itself readily to the manufacture of the type of bag disclosed by Gurwick in Patent No. 1,714,265, i. e. a bag made by uniting two superposed sheets of paper of proper size along three of their edges.

Furthermore, I have illustrated my process as being carried out in a continuous and progressive series of steps so that it can be performed by means of automatic machinery of the type now in general use in the industry. In fact, only minor changes are necessary in conventional machinery to adapt it for carrying out the herein described process. However, I am not precluded from carrying out my process by hand or by means of special types of machinery.

The foregoing constitutes the essential and distinctive thought of my new process, but it will be understood, of course, that the same may be combined with various other steps and details without effecting the peculiar results obtained.

I claim:

1. In a method of making a bag from a sheet of waxed paper, the steps of applying a wax solvent on the upper surface of one marginal edge of said sheet and on the lower surface of the opposite marginal edge, applying adhesive to the surface of one of said marginal edges and forming the sheet into a tube with the treated surfaces in overlapping relation.

2. In a method of making a bag from a tube of waxed paper, the steps of applying a wax solvent along two lines near one end of said tube, applying adhesive along one of said lines and folding said end over on a line intermediate said treated lines.

3. In a method of making bags from a web of waxed paper, the steps of continuously applying a wax solvent along the upper surface of one edge of said web and along the lower surface of the opposite edge, continuously applying an adhesive along one of said treated surfaces, forming the web progressively into a tube with the trated surfaces in overlapped relation, and severing the tube into individual blanks.

4. In a method as defined in claim 3, wherein a wax solvent is applied along two lines near one end of the tube, an adhesive is then applied along one of said lines and the said end is folded on a line intermediate the said two treated lines.

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