METHOD OF MAKING A CONTAINER FOR PERSHABLE COMMODITIES

Frederick David Linacre, Elwood, Melbourne, Victoria, and Ronald Lloyd Berriman, Essendon, Melbourne, Victoria, Australia, assignors to McFarlane and Burns Proprietary Limited, Richmond, Melbourne, Victoria, Australia

Filed Aug. 14, 1962, Ser. No. 216,622
Claims priority, application Australia, Aug. 18, 1961, 8,276
1 Claim. (Cl. 93—35)

This invention relates to containers of the kind which are pliable and pouch-like in form. Such containers are termed "pouches" herein.

Pouches made of plastic sheet material are frequently used to hold manufactured tobacco and similar perishable goods which require to be packaged in a way which provides ready access to the goods but which prevents the goods from drying out.

It is customary to print upon the sheet material from which the pouch is made either by way of advertising or to identify the product packaged in the pouch or its manufacturer. Generally, the ink is applied so that the printing appears on the outer surface of the finished pouch. Because of this the printing may become abraded or soiled or otherwise defaced while the pouch is in use. This objectionable feature has been overcome by applying the ink so that the printing appears in reverse form on the inner surface of the pouch, so as to be seen correctly when viewed through the wall of the pouch. This last mentioned expedient has been objectionable because the ink is exposed to the product packed within the pouch and thus may contaminate that product.

In some instances a moisture proofing or other barrier coating may be applied to the sheet material before or after the manufacture of the pouch and the foregoing comments with regard to printing inks also apply to such coatings.

The present invention has been devised primarily to provide a simple and inexpensive method of making a pouch wherein the applied matter (be it printing ink or a coating material or both) is untouchable, that is to say is not exposed to contact either from the outside or the inside of the pouch that method comprising simple folding and heat sealing steps.

By way of an example of the invention, the manufacture of a tobacco pouch is described hereinafter with reference to the accompanying drawings.

In one of its aspects the invention consists in a pouch bearing applied matter and made of pliable thermo-plastic material, characterised in that at least the portion of the pouch bearing the applied matter comprises a double layer comprising two pliable sheets of thermo-plastic material super-imposed one upon the other, and in that the said matter is applied to the unexposed surface of one of the sheets of the double layer so as to be untouchable.

Where the shape of the pouch, and the extent of the applied matter thereon, permit it is preferred that the two sheets of the double layer be zones of a single larger sheet folded upon itself.

In another of its aspects the invention consists in a method of making pouches bearing applied matter according to the first mentioned aspect of the invention comprising the steps of applying said matter to one side of the first sheet of pliable thermo-plastic material superimposing a second sheet of pliable thermo-plastic material upon the first sheet so as to cover the matter thereon and form a double layer, folding said double layer upon itself and heat sealing the edges of the folded over double layer to form an open mouthed pouch wherein the applied matter is untouchable.

It will be appreciated that while the method of the second mentioned aspect of the invention is the preferred way of making a pouch according to the first mentioned aspect of the invention it is by no means the only way in which pouches according to the invention may be made. For example, the outer sheet of the double layer may be applied to an otherwise completed pouch made in any conventional manner. Thus, the invention embraces pouches according to the first mentioned aspect irrespective of the manner in which they are made.

By way of an example of both aspects of this invention the making of a tobacco pouch is described hereinafter with reference to the accompanying drawings.

FIG. 1 is a perspective view of a sheet of pliable thermo-plastic material.

FIG. 2 is a perspective view of the sheet of FIG. 1 at an early stage of a preferred method according to the invention.

FIG. 3 is a view similar to FIG. 2 at a later stage of the said preferred method.

FIG. 4 is a view similar to FIG. 2 at a still later stage of the said preferred method.

FIG. 5 is a perspective view of three pouches according to the invention and made according to the preferred method.

FIG. 6 is a view of one of the pouches of FIG. 5 in its closed condition and drawn to a larger scale.

FIG. 7 is a sectional view of the pouch of FIG. 6 taken on line 7—7 of that figure and drawn to a larger scale.

In the drawings applied matter on the sheet is indicated by cross-hatching and the following convention has been observed.

The cross-hatching lines are shown as full lines when the applied matter indicated thereby is directly exposed to the eye of the observer. The cross-hatching lines are broken when the applied matter is seen through the sheet to which it is applied and the cross-hatching is omitted whenever a portion of the sheet to which no matter has been applied is interposed between such matter and the eye of the observer.

Referring to the drawings, FIG. 1 illustrates a sheet 8 of substantially transparent pliable thermo-plastic material such as for example a polyethylene film. The sheet 8 is divided into three zones, 9, 10 and 11, respectively. Zone 9 has printed matter applied to it by a conventional reverse printing process, that is to say, the words or other indicia appear in the correct or desired arrangement when viewed through the sheet 8 (from below as the sheet is drawn in FIG. 1).

FIG. 2 shows the sheet of FIG. 1 with the zone 10, referred to as the "lip edge zone" hereinafter, almost completely folded over so as to contact and cover the applied matter on the support zone 9.

FIG. 3 shows the completion of the folding over of the cover zone 10 so that zones 9 and 10 together now form a double layer of which zones 9 and 10 are the respective sheets. The applied matter is thus sandwiched between the portion of the sheet 8 (zone 9) to which the matter is applied and the portion of the sheet 8 forming the cover zone 10.

FIG. 3 also shows zone 11, referred to as the "lip edge zone" hereinafter, folded down on to zone 10. Zone 11 ultimately functions as a sealing lip for the pouch as will become readily understood from what follows.

FIG. 4 shows one third of the double layer of FIG. 3 being folded upon the remainder of the double layer so that the folded over portion comes into a position in which it will ultimately form the front wall of the pocket of the pouch, and it will be noticed that the applied matter
on zone 9 is now visible through the sheet. The pocket so formed is at one edge of a cover flap having the lip 11 at its opposite edge.

In the illustrated example of the invention, the sheet 8 was initially as long as three finished pouches arranged end to end and the final step in the production of the three pouches is to sever the folded sheet of FIG. 4 into three as shown in FIG. 5 and at the same time or subsequently, to fuse together or heat seal the side edges 12 and 13 of the pouches so as to unite the various layers of the sheet 8 permanently to each other at the pouch edges.

The pouches illustrated in FIG. 5 are in a finished condition and after they have been filled the holding pocket of each pouch may be folded upwardly about its top edge, and its bottom edge may then be tucked under the lip 11 so closing the pouch and sealing its contents from the atmosphere.

The structure of the finished pouch may be readily understood with reference to FIGS. 6 and 7 in which the various sheet portions bear the same reference numerals as they do in FIGS. 1 and 5.

It will be appreciated that the method of the invention may be carried out as a continuous process in which a large reel of plastics strip of appropriate width may be travelled through a conventional continuous printing press and then through guide fixtures adapted to curl the strip edges over to produce the requisite folding there-