Dec. 11, 1928. 1,694,455

W. L. TAYLOR.

MULTIPLEX BAG AND THE METHOD OF MAKING IT

Filed Oct. 26, 1925 2 Sheets-Sheet 1

Fig. 1.

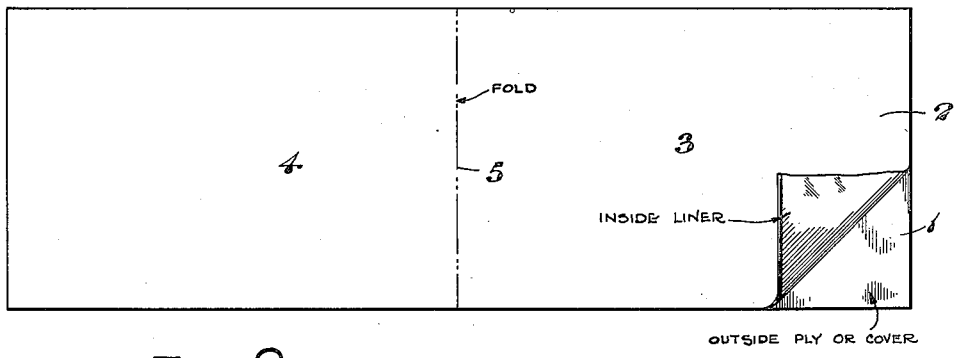


Fig. 2.

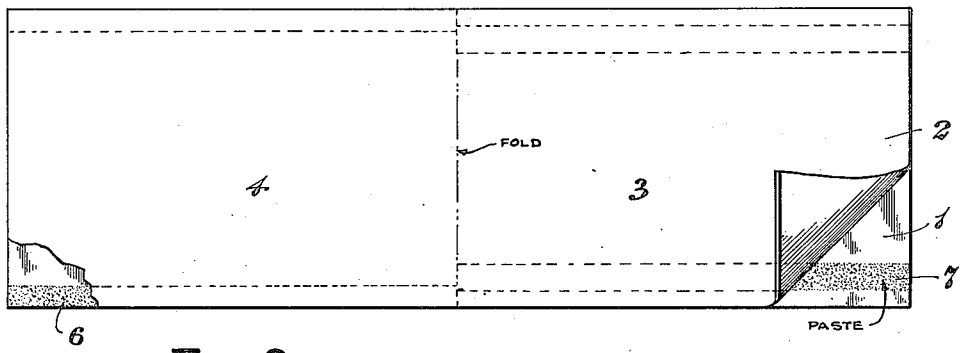
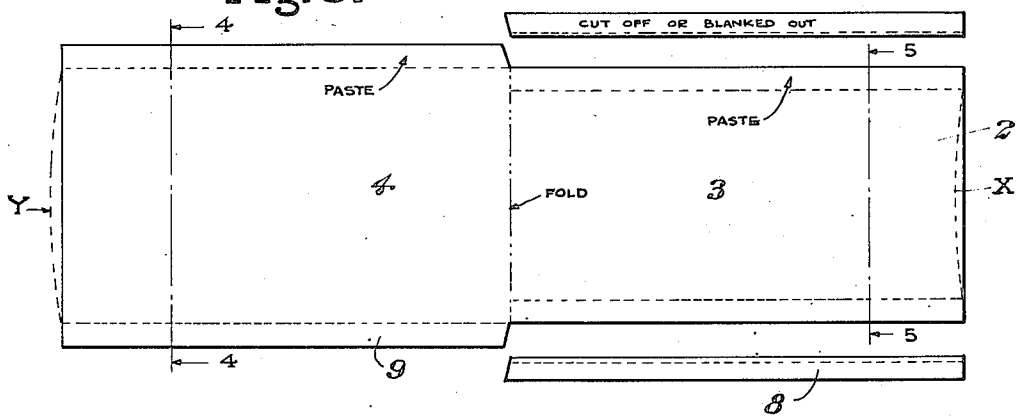


Fig. 3.



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Fig. 4.

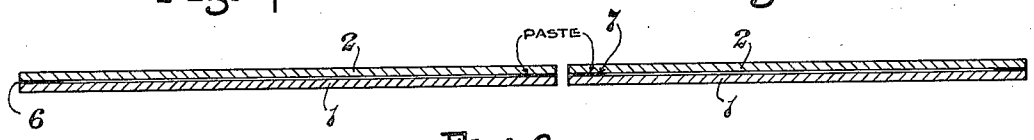


Fig. 5.

Fig. 6.

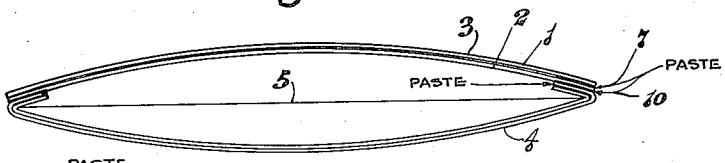


Fig. 7.

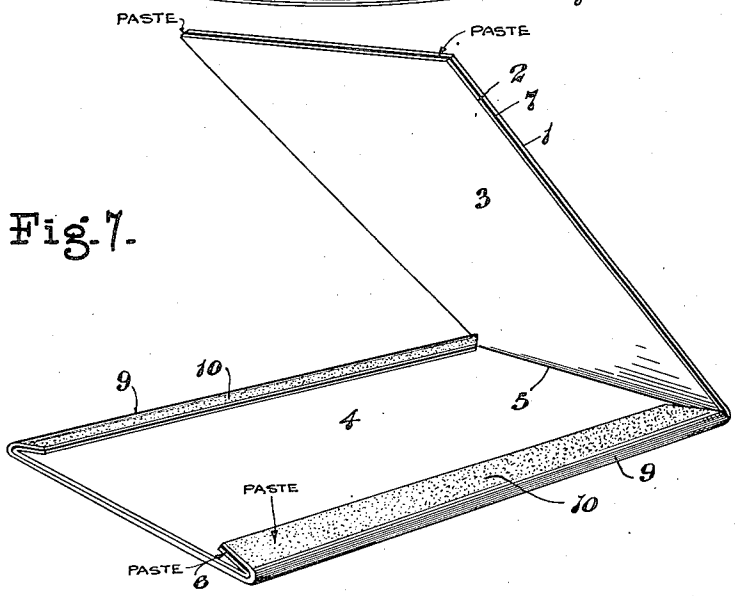


Fig. 8.

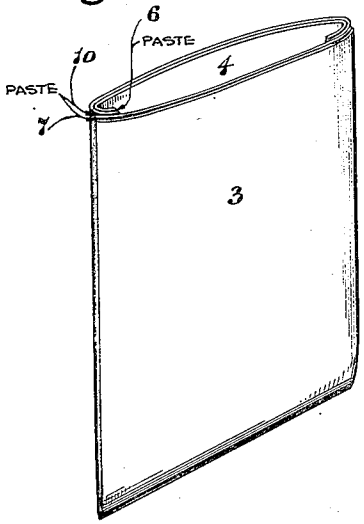
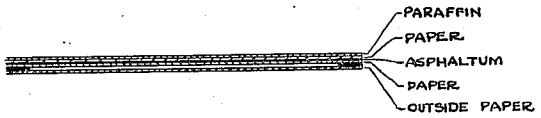


Fig. 9.



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Patented Dec. 11, 1928. 1,694,455

UNITED STATES PATENT OFFICE.

WILLIAM L. TAYLOR, OF CINCINNATI, OHIO.

MULTIPLEX BAG AND THE METHOD OF MAKING IT.

Application filed October 26, 1925. Serial No. 64,862.

The objects of my invention are to provide a multiplex bag of substantial construction in a simple and convenient manner and to effect a great saving in material and cost of construction, as well as one in which the parts are secured together more uniformly and efficiently than otherwise; to construct a multiplex bag which can be produced on simple and less complicated machinery than otherwise; to so form and construct the multiplex bag as to apply the glue between the outer and inner plies at one stage of the operation and to apply the glue between the bag sides when folded transversely at a subsequent operation; and to provide a construction in which the inturned longitudinal flaps which have been previously glued together form multi-ply flaps and, therefore, flaps of stronger construction.

Another object of the invention is that by gluing the plies together before dieing out and cutting off to the required length it permits the making of a multiplex bag with inturned concealed glue flaps instead of being folded over the outside and thereby effecting a neater and better construction.

Still another object of the invention is that I am enabled to glue the respective sides of the bag together along different longitudinal areas whereby a minimum of glue is used and greater flexibility of the bag is secured so that the final step of folding the bag into closed position is rendered easier and a neater and more finished closure of the bag may thereby be effected.

My invention consists in the novel method of constructing a multiplex bag comprising first gluing together superposed strips or plies of paper alternately along and near their longitudinal edges, then dieing out from said multi-ply sheet a series of bag blanks with one side of each bag blank narrower than the other side, then folding the wider longitudinal edges inwardly on a line with the longitudinal edges of the narrower side to form securing flaps, then applying glue to the exposed surface of each outer flap, then cutting off or nearly severing the bag blank from the sheet, then folding the adhesively connected bag blanks transversely at the middle and securing the folded sides together along the longitudinal edges thereof to form the completed bag.

My invention also consists in the combination and arrangement of parts, the details of construction and in the bag as an article of manufacture.

In the drawings, which serve to illustrate the preferred construction and method of producing the bag:

Fig. 1 is a view of two sheets or strips of paper of the same dimension, with the inner ply or liner folded back at one corner to show the outer or cover ply;

Fig. 2 is a view of the same after the glue has been applied along the longitudinal edges between the plies of one bag side and folded back at the other corner to show the plies of the other bag side secured together by glue near their longitudinal edges;

Fig. 3 is a view of the same after the longitudinal edges of one portion have been died or blanked out or cut off;

Fig. 4 is a transverse section on the line 4—4 of Fig. 3;

Fig. 5 is a transverse section on the line 5—5 of Fig. 3;

Fig. 6 is a plan view of the completed bag;

Fig. 7 is an isometric view showing the plies pasted together and partly folded transversely at the center with the longitudinal flaps inturned and the outer flaps coated with paste on their exposed surfaces ready to receive the opposing side thereon to form the completed bag;

Fig. 8 is a isometric view of the completed bag; and

Fig. 9 is a section through the lining comprising paraffin, paper, water-proofing material and paper, respectively, and through a cover sheet of manila paper adhesively secured to the lining.

The embodiment of my invention, as illustrated, shows the preferred construction. The multiplex bag is formed of an outer covering 1 and inner lining 2, each consisting of a blank having its sides 3 and 4 of equal area, as shown in Fig. 1, adapted to be folded on central transverse line 5 when forming the bag. The method of making the bag is substantially as follows:

A plurality of plies of paper are drawn in registry with each other from rolls by any suitable means. Narrow layers of glue or paste 6 and 7 are applied at and near the respective longitudinal edges of each adjacent ply of paper. The plies of paper are then pressed together upon said layers of paste, whereby they are permanently attached together in accurate registry with

each other, as shown in Fig. 2. The next step of the operation consists in dieing out or cutting off the longitudinal strips 8 from sides 3 of the respective adjacent plies. The edges of sides 4 are then folded inwardly to form inturned securing flaps 9. A coat or layer of glue-paste 10 is then applied to the exposed surface of each outer flap 9. The individual bag blank is then cut off or nearly severed from the sheet. The sides 3 and 4 of the bag blank are then folded transversely on central line 5 and the longitudinal edges of side 3 of the bag are then pressed down upon the glue-paste 10, whereby the bag is completed, as shown in Figs. 6 and 8.

The inside ply or liner is permanently fastened to the outer ply by this method of construction to prevent shifting or withdrawal thereof, which is a decided advantage, particularly on account of the easy and simple manner in which it is mechanically accomplished. The plies being glued together at the first step of the operation are held in absolute and accurate registry with each other during the subsequent operations, thereby preventing any shifting of the plies relative to each other, as is the case where the plies are glued together after the dieing out operation.

Two or more complete rolls of paper can be glued together on a separate machine before making it up into bags ready for printing and this can be done on a very simple combining and rewinding machine. In other words, the plies of paper can be unwound from separate rolls and glued together at the necessary points and then rewound upon a single roll for manufacture into bags on simple bag making machinery, such as is used for making bags of single ply material. In doing this all that is required is to mark on or cut into the paper an identifying mark to show the register point for the dieing-out knives on the bag making machine. In this way, if desired, the gluing together of the sheets could be done by one organization or factory and the dieing-out and completing of the bag could be done by another organization or factory so that if the sheets are glued together the material can be handled as if it were a single sheet of paper instead of a plurality of sheets of paper. This is a decided advantage in the construction of the bags since it enables the bag to be constructed more readily and economically by the use of simple, instead of complicated, machinery.

The inturned flaps of the inner and outer plies being glued together form a stronger and more substantial construction than otherwise.

An advantage of my invention in forming a multiplex bag is that the paper may be simultaneously drawn from rolls and pasted together by intermittent strips of paste at the edges of the sheet and away from the edges thereof, respectively, to form the individual bag blanks, then carried on and died out to make one side of each bag blank wider than the other side. The edges of the wider side of each bag blank are then folded inwardly to form securing flaps and to make each side of the bag of substantially the same width. The bag blank is then cut off or nearly severed and the two sides of the bag are then secured together by glue or otherwise between the longitudinal edges of the sides, whereby the completed bag is formed, as previously stated.

My construction of bag is particularly adapted for use in the manufacture of multiplex bags in which the lining is preferably formed of two plies of newsprint paper with intervening water-proof material, such as asphalt, and having its inner surface coated with a thin layer of paraffin. The outer ply of the bag is preferably constructed of manila paper or equivalent material upon which printed matter may be placed.

While I have specified paper as the preferred material to be used, it is understood that in the specification and claim, I desire to have the term "paper" defined as embracing any other suitable material which may be used in the construction of bags, such, for instance, as cloth, or other textile material.

While I have set forth a particular construction and method it will be understood that this is merely by way of illustration and that the invention is capable of modification without material departure from its scope or spirit as defined in the claim, as, for instance, side 3 may be undercut, as shown by dotted line X in Fig. 3 and side 4 may have its end extended as shown by dotted line Y whereby one side of the open end of the bag is slightly longer than the other side for convenience in packing operations.

What I claim as new and desire to secure by Letters Patent is:

The herein described method which consists in first gluing together superposed plies of paper partly along their longitudinal edges and partly away from their longitudinal edges to form blanks for a multiplex bag then dieing out the blank to form a bag of the required dimensions with one side thereof narrower than the other side, then folding the longitudinal edges of the wider side inwardly to form securing flaps, then coating the exposed surface of the outer flaps with adhesive substance, then folding the plies transversely whereby the two sides are brought together and the longitudinal edges of the narrower side are pressed upon said adhesive substance to form the completed bag.

WILLIAM L. TAYLOR.