United States Patent

Schmedding

[15] **3,690,221**

[45] **Sept. 12, 1972**

[54] **METHOD OF MANUFACTURING A BLOCK BOTTOM BAG**

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[73] Assignee: **Urndmoller & Holscher**, Lengerich of Westphalia, Germany

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[21] Appl. No.: **51,893**

[30] **Foreign Application Priority Data**

July 8, 1969 Germany.....P 19 34 642.0

[52] **U.S. Cl.**.....**93/35 RB**, 229/55

[51] **Int. Cl.**.....**B31b 49/04**

[58] **Field of Search**..93/35 R, 35 RB, 35 PT; 229/55

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Primary Examiner—Bernard Stickney

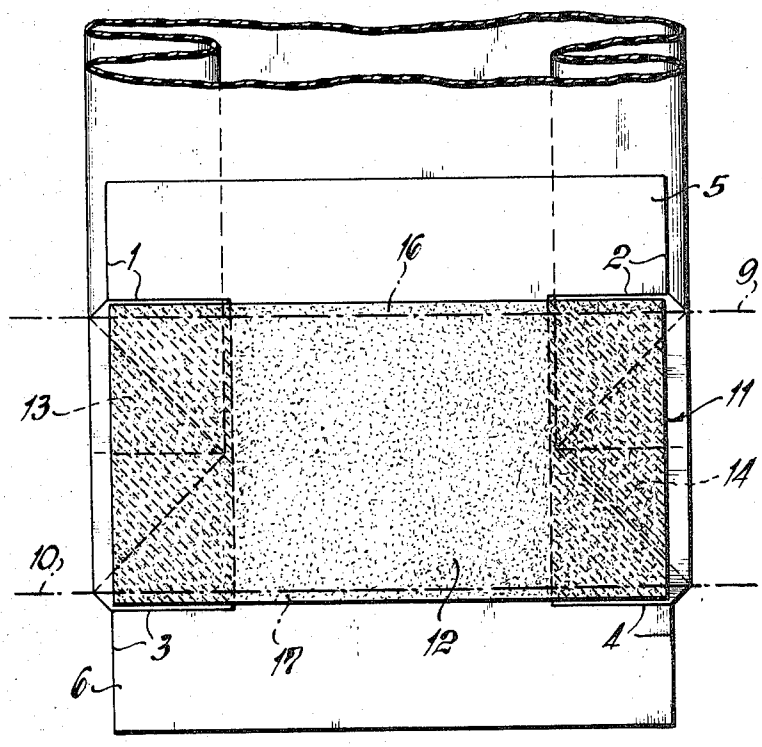
Attorney—Fleit, Gipple & Jacobson

[57] **ABSTRACT**

According to a method of manufacturing a cross bottom or block bottom bag or sack with a stuck bottom, a cross bottom or block bottom which is free of adhesive is folded on a tube portion, the side flaps of which bottom are not wider or are only a little wider than half the width of the bottom. A bottom sheet is fitted which extends with its end portions over the corner tucks and which, before fitting, is provided over the entire area of its side which is to be stuck to the bottom side flaps with an adhesive coating. This adhesive coating still has a moistening capacity sufficient to moisten the cooperating surfaces when the bottom sheet is fitted. Then the bottom side flaps and the bottom sheet are pressed against each other.

In a cross bottom or block bottom bag or sack with a bottom sheet and bottom side flaps which do not overlap or only overlap over a narrow region, the bottom sheet is arranged within the bottom. Said bottom sheet is stuck with its end portions to the outside of the corner tucks and extends at least from one bottom flap fold to the other and has an adhesive coating which was applied before insertion of the bottom sheet. The adhesive coating is transferred by moistening from the bottom sheet to the outside of the corner tucks and the insides of the bottom side flaps.

6 Claims, 21 Drawing Figures



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SHEET 1 OF 8

FIG. 1

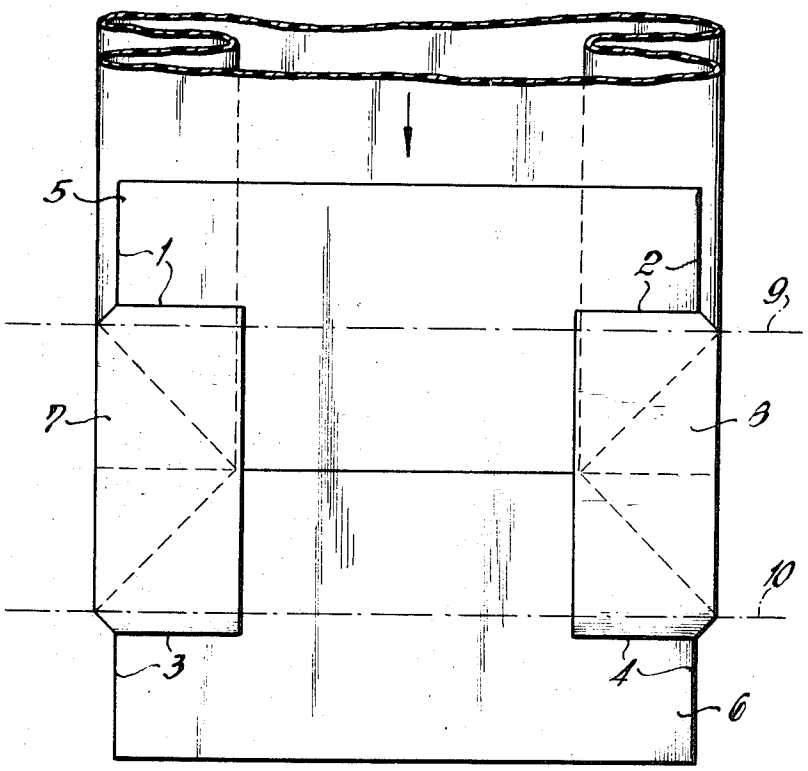


FIG. 2

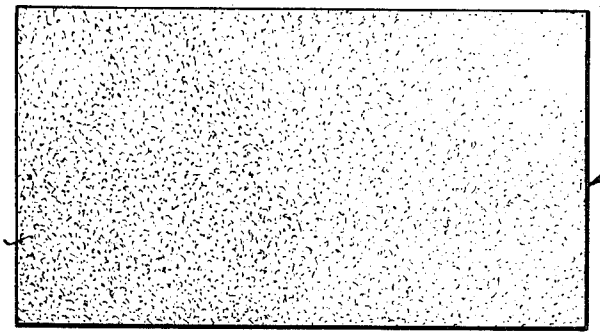
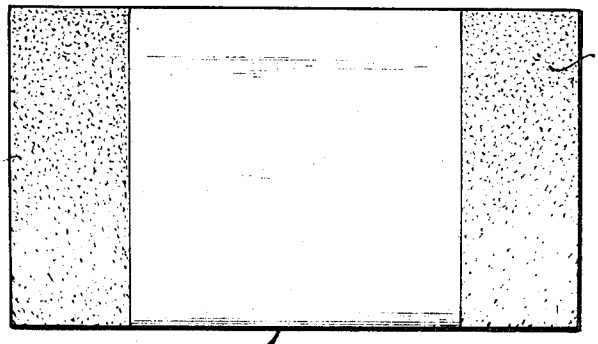


FIG. 3



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FIG. 4

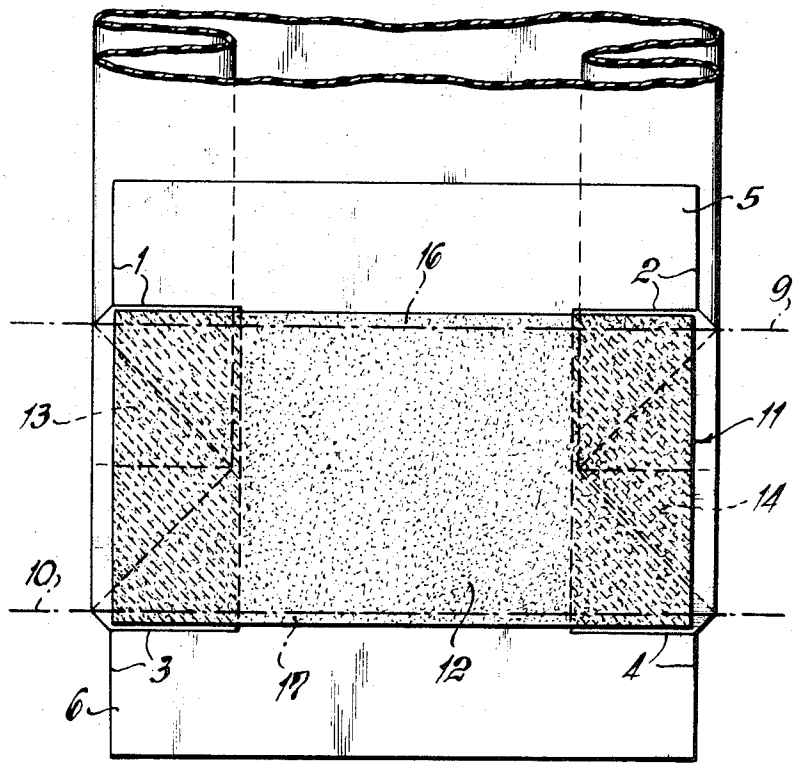
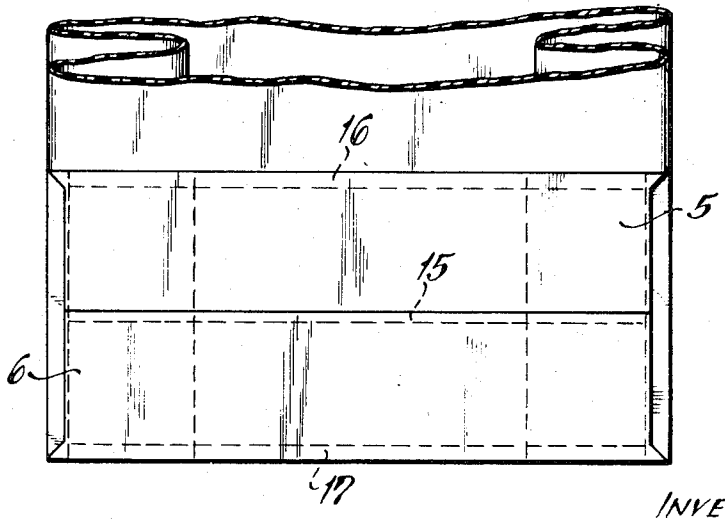


FIG. 5



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FIG. 6

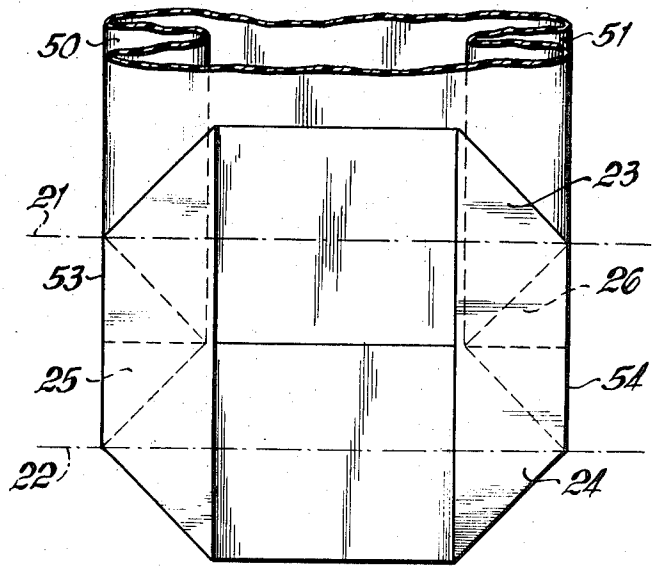


FIG. 7

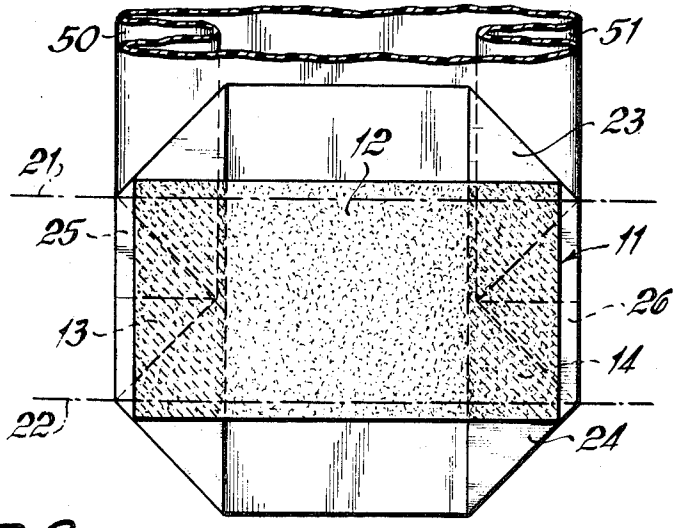
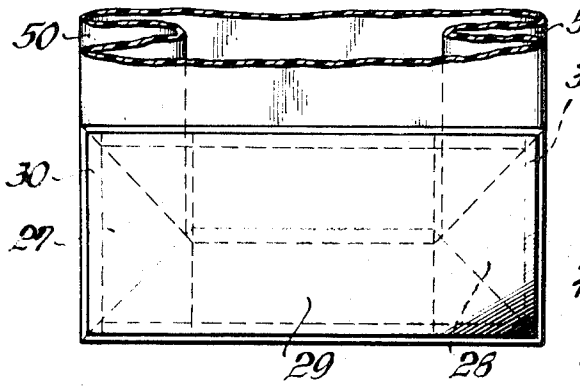


FIG. 8



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FIG. 9

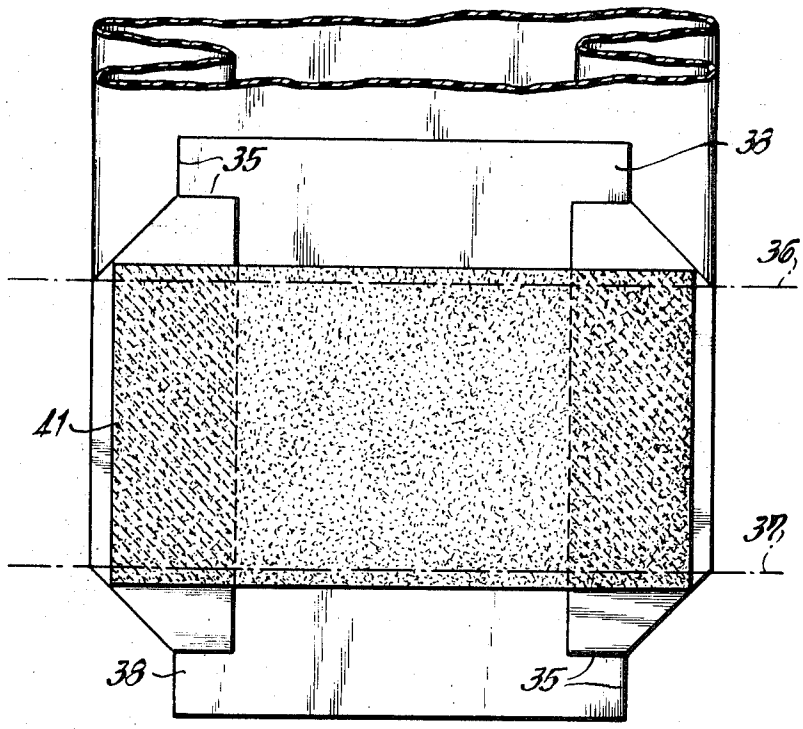
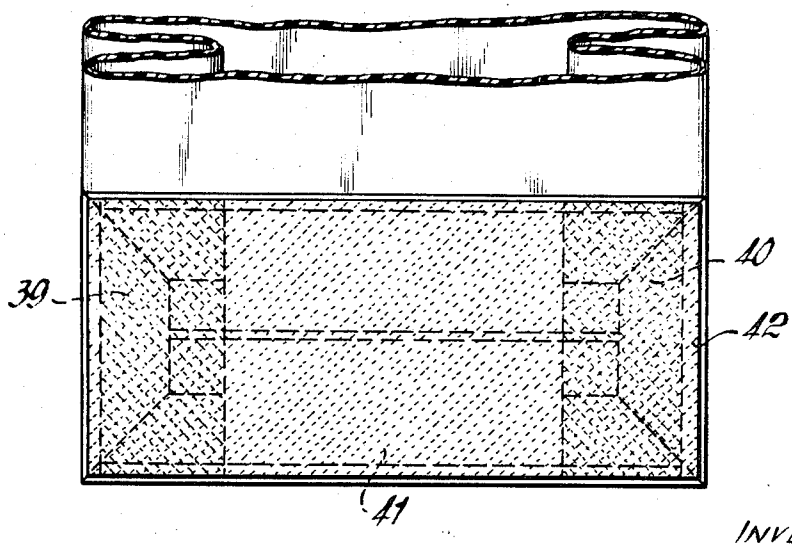


FIG. 10



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FIG. 11

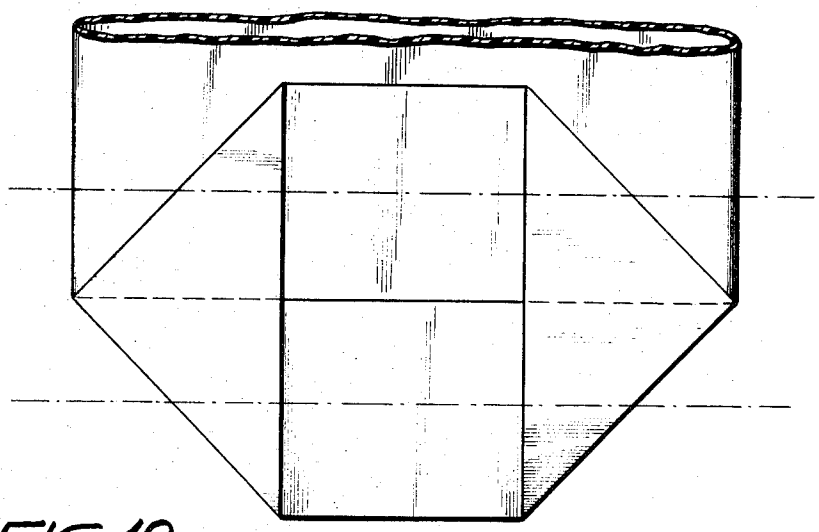


FIG. 12

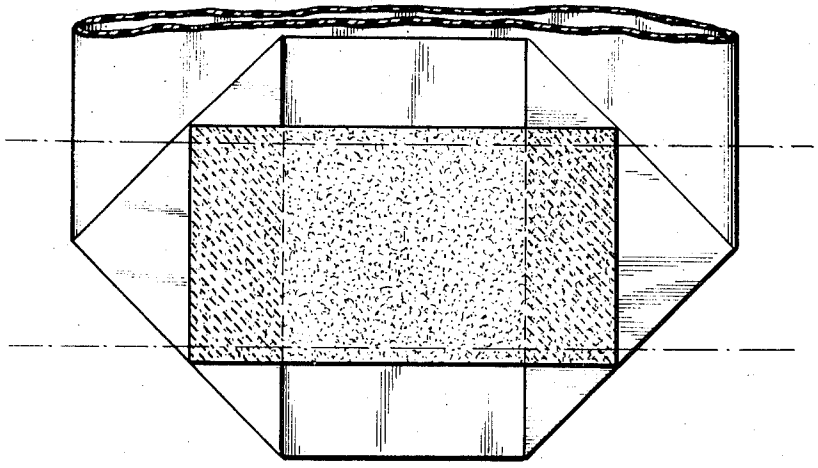
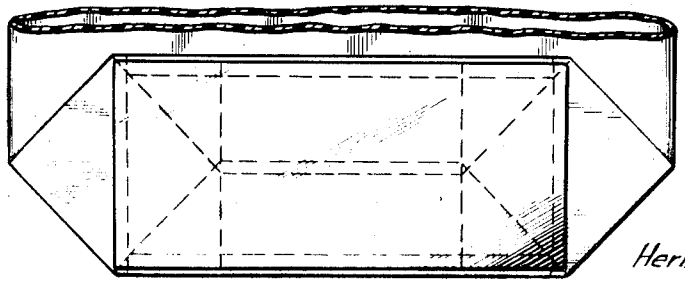


FIG. 13



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FIG. 14

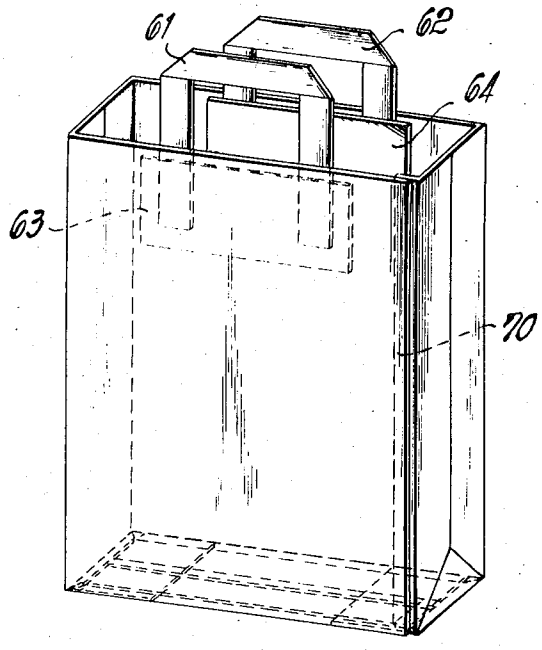
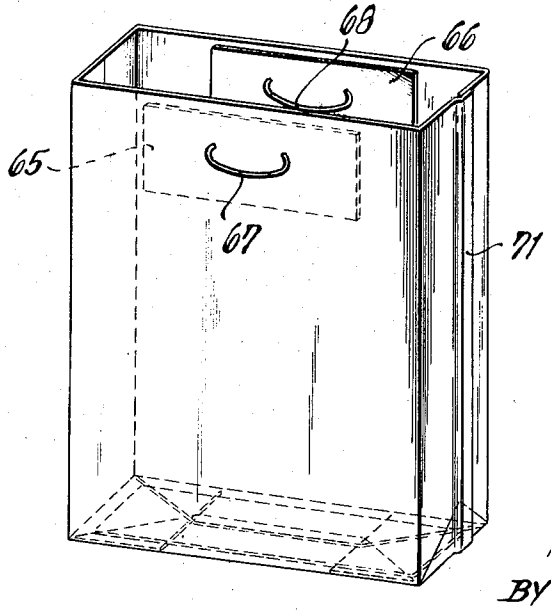


FIG. 15



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FIG. 16

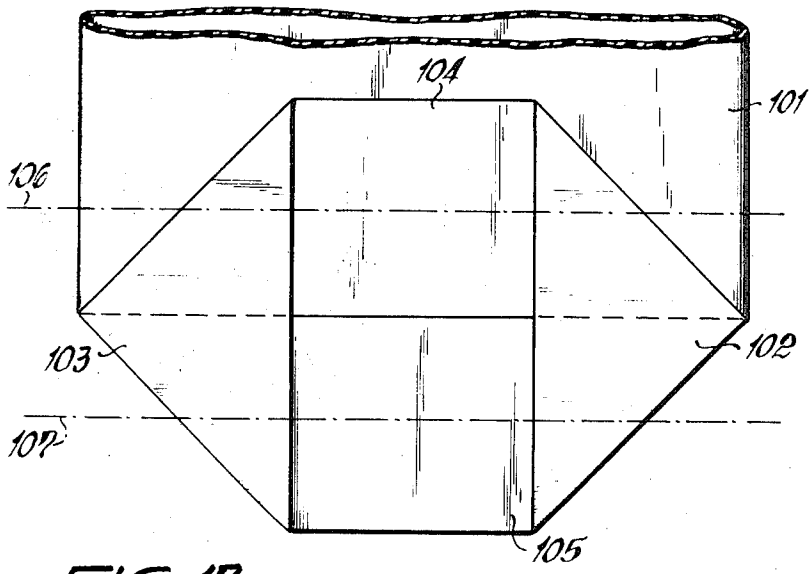


FIG. 17

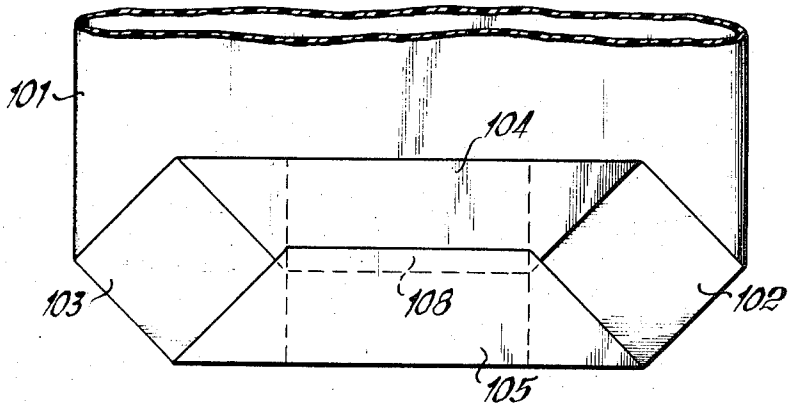
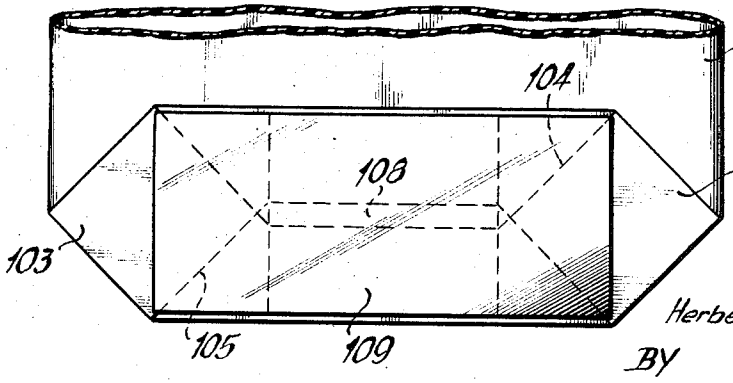


FIG. 18



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FIG. 19

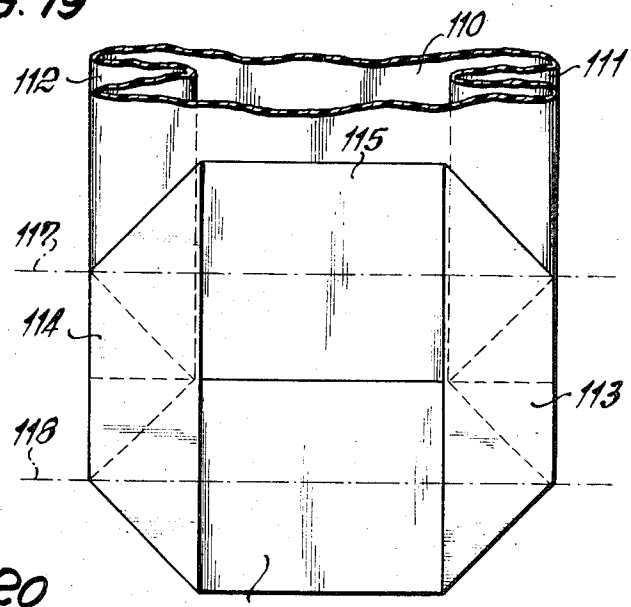


FIG. 20

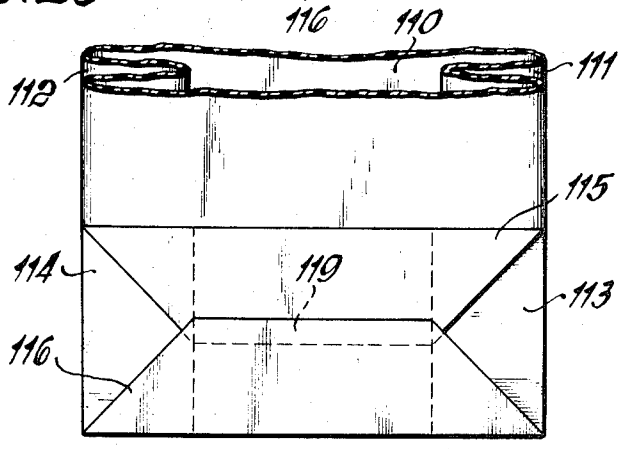
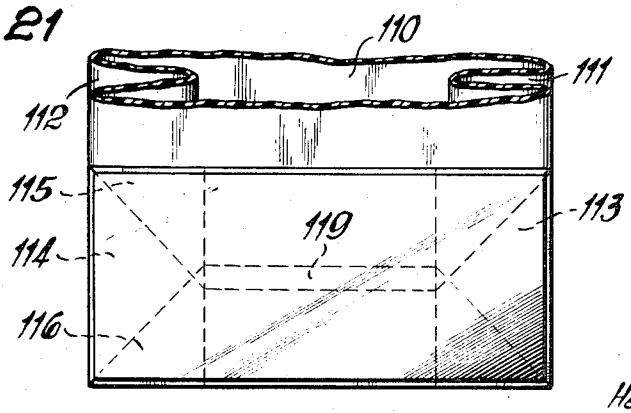


FIG. 21



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METHOD OF MANUFACTURING A BLOCK BOTTOM BAG

This invention relates to cross bottom or block bottom bags or sacks and methods for the manufacture thereof.

More particularly the invention relates to such bags or sacks which are closed by adhesive, and preferably comprise those materials, for example plastics films, which cannot be stuck in the manner and with the adhesives known in regard to paper, as they are impervious to the solvents in the adhesives, so that only adhesives which remain active or can be reactivated after removal of the solvent can be used.

The problem of the invention is to provide a method for the manufacture of bags or sacks with cross bottoms or block bottoms and cross bottom bags or sacks to be manufactured in accordance with this method, in which, irrespective of the direction of conveyance of the tube portions during the bottom folding operation, no difficulties can be encountered when applying the adhesive, and in particular when manufacturing the bags or sacks with a longitudinal conveyor method, interruptions in the application of adhesive and thus 'threading' or spattering of the adhesives are avoided.

According to one aspect of the present invention there is provided a method of manufacturing a cross bottom or block bottom bag or sack with a stuck bottom, wherein a cross bottom or block bottom which is free of adhesive is folded on a tube portion, the side flaps of which bottom are not wider or are only a little wider than half the width of the bottom, and a bottom sheet is fitted which extends with its end portions over the corner tucks and which, before fitting, is provided over the entire area of its side which is to be stuck to the bottom side flaps with an adhesive coating which, when the bottom sheet is fitted, still has a moistening capacity sufficient to moisten the co-operating surfaces, and the bottom side flaps and the bottom sheet are then pressed against each other.

The coating of adhesive over the entire area of the bottom sheet can also be formed by individual adhesive strips but they must then be distributed substantially uniformly over the entire bottom sheet.

As the application of adhesive is completely separate from the bottom folding operation and only affects the bottom sheet, it is no longer necessary to apply any adhesive coatings to the surfaces forming the bottom tucks. The manufacture of the bags or sacks according to the invention is therefore possible without interposed adhesive application and drying stations as the adhesive is only applied to the web of bottom sheet material from which, possibly after the adhesive has dried sufficiently, the individual bottom sheets are separated, then being laid on the folded bottom with the adhesive coating still in a moist condition. Protective sheets for masking adhesive coatings, and likewise adhesive coatings which are discontinuous in the direction of movement of the material, with all the disadvantageous consequences thereof, are therefore eliminated.

The method according to the invention can be used with particular advantage for the manufacture of bags made of plastics film, but it may also advantageously be used for the manufacture of paper bags as it eliminates the operation of spraying adhesive when gluing the bottom, which represents a serious problem at higher

operating speeds. As the application of glue to the web of bottom sheet material, the width of which substantially corresponds to the length of the bottom, is effected continuously, there is no danger of spattering of the adhesive as such spattering is caused in the known methods by the interruptions in the application of adhesive.

In a first embodiment of the method according to the invention, the bottom sheet is at least as wide as the bottom and is laid on the open bottom before the side flaps are folded over and, before being laid on the bottom, besides its side which is provided over its entire area with adhesive, it is also provided on its other side with adhesive only at the end portions intended to come into contact with the corner tucks. The side of the bottom sheet facing into the sack or bag is therefore stuck to the corner tucks, while the other side is stuck to the side flaps of the bottom.

In another embodiment, the cross bottom or block bottom bag which is free of adhesive is first closed and only then is the bottom sheet fitted, the bottom sheet in this case being at most of the same width as the bottom and having an adhesive coating over the entire area of its side to be brought into contact with the bottom and being free of adhesive on its other side.

In a particularly advantageous further aspect of the invention, plastics films are stuck by a plastics adhesive of which the solvent is removed before fitting of the bottom sheet but which has the moistening capacity necessary to moisten the co-operating surface. To carry out the method according to the invention, the per se known adhesive must be of a nature such that, after removal of the solvent, it is still of sufficient stickiness that, when applied to a surface, it is still just capable of moistening the adhesive-free surface, thus producing a strong adhesive joint upon the subsequent curing of the adhesive between the two surfaces. This adhesive has substantially shorter molecular chains than a plastics adhesive known from French Pat. specification No. 1395552, which, after removal of the solvent, can only be stuck by applying a pressure.

It is also possible in the solution to the problem of the invention however to use commercial contact adhesives which do not cure. In this embodiment of the invention idea, the contact adhesive can be applied out of solution or a dispersion or out of a molten mass. In the application of the method according to the invention to the manufacture of paper bags, the conventional paper adhesives can be used.

In accordance with a further inventive idea, in the manufacture of plastics bags or sacks from polyolefin or similar plastics films with poor adhesive properties, the web of plastics film serving for the manufacture of the tube portions is subjected to a surface activating preliminary treatment, preferably by corona discharge, the treatment being carried out on the inside and the outside in the case of the first embodiment of the method according to the invention as the adhesive of the bottom sheet is to be stuck to the inward surface of the side flaps of the bottom, but only on the outside in the second embodiment as in this case only the original outside surfaces of the plastics tube portion are to be stuck.

A cross bottom or block bottom bag or sack in accordance with the invention and manufactured using

the first embodiment of the method and having bottom side flaps which do not overlap or overlap only in a narrow region, and a bottom sheet, is characterized in accordance with the invention in that the bottom sheet, which is arranged within the bottom, is stuck with its end portions to the outside of the corner tucks, extends at least from one bottom flap fold to the other and has an adhesive coating which was applied before the insertion of the bottom sheet and which is transferred by moistening from the bottom sheet to the outside of the corner tucks and the inside of the bottom side flaps.

In a further aspect of the invention, the inner bottom sheet can project somewhat beyond the bottom fold lines so that the projecting strips are folded over together with the bottom side flaps when the bottom is closed. This renders precise manufacture and insertion of the bottom sheet unnecessary and in addition provides for an improvement in sealing at the bottom fold lines. Preferably the bottom is made with bottom side flaps which are rectangular by virtue of incisions in the corner tucks, so that the bottom side flaps completely cover the bottom sheet. This avoids surfaces of the bottom sheet which are coated with adhesive being exposed, which would result in the bags or sacks being inadmissibly stuck together in a stack.

If the incisions for forming rectangular bottom side flaps are to be omitted, the bottom can also be covered with an outer cover sheet which is provided on its side towards the bottom with a continuous or strip-like continuous, corresponding adhesive coating, so that the bottom is simultaneously further strengthened and stiffened.

The inner bottom sheet can desirably be made from a different, in particular a stronger and stiffer material, than the remainder of the bag or sack. In accordance with the invention, with rectangular bottom side flaps, it is also possible to use an inner and an outer bottom sheet, in which case the bottom side flaps desirably lie at the narrow sides of the bottom so that the outer bottom sheet can be stuck to the corner tucks over a sufficient distance.

In a cross bottom or block bottom bag or sack produced in accordance with the second mode of operation of the method, the bottom sheet is arranged on the outside of the bottom and the adhesive coating is transferred by moistening from the bottom sheet to the outside of the side flaps and to the portions of the corner tucks which are not covered by the side flaps. In this embodiment, incisions in the corner tucks to make rectangular bottom side flaps are to be avoided as that would result in the adhesion of the bottom sheet to the corner tucks, which adhesion is restricted to the triangular portions of the corner tucks which are left exposed by the bottom side flaps, being reduced or prevented by portions which were folded out.

The bottom construction according to the invention is to be used irrespective of whether the bottom is of the cross bottom or block bottom type as in both types of bottom the bottom proper of the bag or sack is the same. Cross bottom bags or block bottom bags only differ in respect of the side folds which are tucked inwardly in the case of block bottom bags. Any block bottom bag may be converted into a cross bottom bag by pulling out the side folds.

The materials which can be used for the bags or sacks according to the invention include all plastics films such as for example high pressure or low pressure polyethylene, but also a woven fabric of strips or threads of such plastics materials, and compacted fiber fleeces of organic natural, organic-synthetic or mineral fibers such as for example asbestos fibers.

The manufacture of the block bottom or cross bottom bags or sacks according to the invention can be effected on normal machines, in particular as in the development of plastics packagings, the favorable processing properties of paper are more and more bestowed upon such packagings.

When operating with an open web, the longitudinal seam of the tube can be closed by means of the same adhesive as is used to stick the bottom or by means of a thermoplastic adhesive. As already mentioned, in the first mode of operation of the method, when using the above described plastics adhesive the open web is to be subjected on both sides to a surface activating preliminary treatment.

When a seamlessly extruded tube is used to produce the tube portions, in this mode of operation the outside and inside of this tube are to be given a preliminary surface activating treatment, in accordance with a prior proposal made by the applicants.

A preferred field of application of the invention is in carrier bags, for which purpose the open ends of the sacks or bags are possibly provided with carrier handle holes or separate carrier handle loops, before or after the reinforcing sheets or strips have been stuck on. It has been found that a contact adhesive is sufficient to secure the above mentioned reinforcing sheets in the handle region. In accordance with the invention therefore, plastics carrier bags can be made with the advantageous, sturdy block bottom or cross bottom, whereas hitherto plastics carrier bags generally do not have folded and thereby strengthened bottoms.

The conveyance of sheets provided with adhesive coatings which are still slightly sticky can be effected by means of rollers and guide devices which are coated with polytetrafluoroethylene.

A number of embodiments will now be described by way of example with reference to the accompanying drawings, in which:

FIG. 1 shows an open block bottom with rectangular side flaps formed by incisions,

FIG. 2 shows a bottom sheet to be used in accordance with the invention,

FIG. 3 shows the other side of the bottom sheet shown in FIG. 2,

FIG. 4 shows the open block bottom shown in FIG. 1 with inserted bottom sheet as shown in FIGS. 2 and 3,

FIG. 5 shows the block bottom shown in FIG. 4 in the closed condition,

FIG. 6 shows an open block bottom without incision-bearing corner tucks,

FIG. 7 shows the open block bottom of FIG. 6 with inserted bottom sheet as shown in FIGS. 2 and 3,

FIG. 8 shows the block bottom as shown in FIG. 7 in the closed condition,

FIG. 9 shows a further open block bottom with inserted bottom sheet as shown in FIGS. 2 and 3 and with corner tuck incisions of a different kind,

FIG. 10 shows the block bottom of FIG. 9 in the closed condition with an additional bottom cover sheet,

FIG. 11 shows an open cross bottom,

FIG. 12 shows the open cross bottom of FIG. 11 with inserted bottom sheet as shown in FIGS. 2 and 3,

FIG. 13 shows the cross bottom of FIG. 12 in the closed condition with an additional bottom cover sheet,

FIG. 14 shows a carrier bag provided with carrier loops and with a longitudinal seam on one side edge and a block bottom as shown in FIG. 5,

FIG. 15 shows a carrier bag with handle openings and a longitudinal seam in one side fold and a block bottom as shown in FIG. 8 or a cross bottom as shown in FIG. 13,

FIG. 16 shows a plan view of one end of a tube portion with a cross bottom which is still in the open position, in the manufacture of a further alternative embodiment of a bag according to the invention,

FIG. 17 shows the end of the tube portion as shown in FIG. 16, after folding over the bottom side flaps.

FIG. 18 shows the end of the tube portion after sticking the bottom sheet,

FIG. 19 shows a side fold tube portion with open block bottom,

FIG. 20 shows the end of the tube portion as shown in FIG. 19 after folding over the side flaps, and

FIG. 21 shows the end of the tube portion shown in FIGS. 19 and 20 after sticking the bottom sheet.

The open block bottom shown in FIG. 1 with rectangular bottom side flaps 5 and 6 formed in known manner by longitudinal incisions 1 to 4, and corner tucks 7 and 8, and the later bottom fold lines 9 and 10 (shown in broken lines) does not receive any adhesive coating. A bottom sheet 11 (FIGS. 2 and 3) is provided on one side over its entire surface area with an adhesive coating 12 and on the other side with two lateral continuous adhesive coatings 13 and 14 which correspond in size to the corner tucks 7 and 8. The bottom sheet 11 is then laid with the adhesive coatings 13 and 14 downwardly on to the open block bottom shown in FIG. 1, as seen in FIG. 4. The adhesive coatings 12, 13 and 14, which are still sticky and from which, when using a curing plastics adhesive, the solvent for applying the adhesive has already been removed in a drying process, moisten the corner tucks 7 and 8. Also, after folding over the bottom side flaps to close the bottom (FIG. 5), the adhesive coating 12 moistens the bottom side flaps, with a suitable pressure being applied so that after subsequent curing of the adhesive, a firm bottom adhesive joint is produced.

When contact adhesives are used, this bottom adhesive joint is produced without the necessity of curing. Ideally the bottom side flaps would be of such a size that they abut against each other without an overlap. As this would give rise to difficulties in practice however, and gaping of a seam would lead to undesired parts of the bottom being stuck together, the bottom side flaps 5 and 6 are of such a size that they overlap over a narrow safety strip 15 (FIG. 5). It would suffice for the bottom sheet 11 to extend precisely to the fold lines 9 and 10. As however this presupposes very precise manufacture of the bottom sheet 11, the bottom sheet 11 is of such a size that it projects beyond the fold lines 9 and 10 by the lateral portions 16 and 17 so that these portions 16 and 17 are also folded over, which at the same time contributes to sealing the fold lines. The lateral portions 16 and 17 can also be of such a size, although this is not shown, that they project beyond the corner tucks 7 and 8, thus providing that the corner tucks 7 and 8 are prevented from being displaced on the side flaps 5 and 6.

The direction of conveyance in manufacture of the bags corresponds to the arrow indicated in FIG. 1 so that the adhesive coatings 12, 13 and 14 can be produced in the form of coatings which are applied without interruption in the direction of movement to the web from which the bottom sheets 11 are severed.

FIGS. 6 to 8 show another embodiment with bottom side flaps 23 and 24 which are not made in a rectangular shape by incisions but are delimited by the bottom fold lines 21 and 22, and the corner tucks 25 and 26. FIG. 7 shows the block bottom of FIG. 6 with the inserted bottom sheet which, as in FIGS. 2 and 3, has been given the adhesive coatings 12, 13 14 and which again projects beyond the bottom fold lines 21 and 22. As when the bottom is closed (FIG. 8), the adhesive coating 12 is not covered by the non-rectangular bottom side flaps 23 and 24 over the triangular surfaces 27 and 28, the bottom in this embodiment must have an outer bottom cover sheet 29 stuck over it. For safety, the cover sheet 29 has projecting portions 30 and 31 which extend laterally beyond the inner bottom sheet. The same plastics adhesive can be used for the outer bottom sheet 29 as for the inner bottom sheet, but a contact adhesive is again possibly sufficient.

The embodiment shown in FIGS. 6 to 8 has no incisions and produces an absolutely dust-tight bottom closure. With rectangular side flaps a small opening remains at the base of the incisions made to form the side flaps, which fine opening cannot always be closed even by the inner bottom sheet, as the bottom sheet must be somewhat smaller than the side flaps so that it is entirely covered by the side flaps.

The embodiment shown in FIGS. 9 and 10 represents a compromise between the two above described embodiments, in which the longitudinal incisions 35 are arranged at a greater distance from the bottom fold lines 36 and 37, thus resulting in an absolutely dust-tight construction and at the same time ensuring that the rectangular portion 38 of the side flaps is well stuck to the bottom sheet. In fact, this embodiment also requires a larger outer bottom sheet 42 to cover the exposed portions 39 and 40 of the outer coating of adhesive on the inner bottom sheet 41. The outer bottom sheet 42 may, in any case, be desirable for a number of different reasons such as that of regular printability, covering the overlap of the bottom side flaps, neat appearance and strengthening action.

FIG. 11 shows an open cross bottom which precisely corresponds to the block bottom shown in FIG. 6 if the side folds 50 and 51 are pushed outwardly, or were not pushed inwardly to start with. FIGS. 12 and 13 precisely correspond in that respect to FIGS. 7 and 8. It is easier and more dependable to form an open cross bottom than to form a block bottom, as it is not necessary to fold in the side folds (see the fold lines 52 in FIG. 6). The cross bottom can also be made with bottom side flaps which are of a rectangular configuration by virtue of incisions. Obviously, when it is opened, the block bottom takes up a more precise rectangular form, due to the longitudinally extending bag and bottom edges 53 and 54 which have already been pre-broken in the case of the block bottom bag when forming the bottom on a side fold tube portion.

FIGS. 14 and 15 show uses of the bottom according to the invention in carrier bags which hitherto could not be produced in this desirable rectangular form known from paper, with ready-made flap bottom. The starting web of material can be provided on the outside or the inside in per se known manner with carrier loops 61 and 62 which are held in position by reinforcing sheets 63 and 64 which are stuck to the body of the bag, or with handle slots 67 and 68 which are arranged in the region of reinforcing sheets 65 and 66 which are stuck to the body of the bag (FIG. 15); the starting web of material then being made into the form of a flat or side-fold tube. In the embodiment shown in FIG. 14, an overlap longitudinal seam 70 is formed on one edge of the side-fold tube.

The embodiment shown in FIG. 15 has a longitudinal seam 71 which is formed by laying the edges of the web of material against each other; the longitudinal seam 71 is formed at the open side of the web which is folded together to form a semi-tubular web and possibly reaches the inner fold line of the side fold in the subsequent operation of forming the side folds. The embodiment shown in FIG. 14 has a block bottom as shown in FIG. 5, while the embodiment shown in FIG. 15 has a cross bottom as shown in FIG. 13 or a block bottom as shown in FIG. 8. It can no longer be seen from the carrier bag when opened into a rectangular form whether it was produced in the form of a block bottom or a cross bottom bag, unless the material of the bag is a material which still reveals the bottom and side fold which is formed in the manufacture of the block bottom bag.

FIG. 16 shows an end 101 of a tube portion which has been subjected only on its outside to a surface activating treatment, for example by corona discharge, before being severed from the web. In the position shown in FIG. 16, an open cross bottom has been formed with corner tucks 102 and 103.

The end 101 of the tube portion also does not have any adhesive coating. The bottom side flaps 104 and 105 are then folded about the bottom fold lines 106 and 107, giving the position shown in FIG. 17. It is apparent from FIG. 17 in which the covered edges of the corner tucks 102 and 103 (FIG. 16) and side flaps are indicated in broken lines, that the overlap region 108 of the bottom side flaps 104 and 105 is only very narrow.

The bottom sheet 109 indicated in FIG. 18 is then stuck on the outside to the closed but as yet unstuck cross bottom. The bottom sheet 109 is provided on its side towards the bottom of the bag with an adhesive coating which covers the entire area of that side of the bottom sheet 109, or which comprises strips distributed over the entire length of the bottom sheet 109. Just as in the preceding embodiments, the tube portion is preferably a plastics material and the bottom sheet 109 also comprises a plastics film which can be of thicker gauge than the other film used to make the bag or sack, in order to strengthen the bag bottom. In this case a plastics adhesive is desirably used which is still sufficiently sticky after removal of the solvent to moisten the co-operating surfaces, that is to say, the outsides of the bottom side flaps 104 and 105 and the exposed portions of the corner tucks 102 and 103, which form the bag bottom proper. The bottom sheet 109 is then pressed against the bottom by pressure rollers and the adhesive is cured.

FIG. 19 shows the end of a side-fold tube portion 110 in which are formed side folds 111 and 112. FIG. 19 shows the extended bottom which is still open, with corner tucks 113 and 114. The side flaps 115 and 116 are then folded about the bottom fold lines 117 and 118 without adhesive having been applied to the tube portion 110 which has previously been subjected to a surface activating preliminary treatment on the outside. The cross bottom now takes up the form shown in FIG. 20, there again being a very narrow overlap region 119 between the two side flaps 115 and 116. As shown in FIG. 21, the bottom sheet 120 is then stuck in position, the bottom sheet 120 having the adhesive coating on its side towards the bottom and transferring the adhesive to the exposed portions of the corner tucks 113 and 114 and the side flaps 115 and 116 (FIG. 19).

The invention is not restricted in use to tube portions which are conveyed longitudinally. The manufacture of cross bottom valve-carrying bags which are produced using a cross conveyor method may be carried out insofar as the web of bottom sheet is fed forward in the direction of the longitudinal axis of the bag, as in the longitudinal conveyor method, and is provided with the coatings of adhesive, but that the bottom sheets which are severed from the web are subjected to a change in direction before being inserted into the open cross bottoms. Known direction-changing devices which operate without coming to a standstill are available to change the direction of movement of the sheets.

The above described plastics adhesives are commercially available, for example from the following companies: Henkel, Bayer and Dr Herberts, of West Germany, and are used for example for the dry lining of composite films. The contact adhesives which may also be used are also commercially available and are produced for example by the companies Sichel and Henkel, of West Germany.

What is claimed is:

1. A method of manufacturing a block bottom bag with a stuck bottom, comprising:

a. folding on one end of a tube portion an open block bottom having two opposing cornertucks and two opposing side flaps which are left free from adhesive and in which the flaps are at most only a little wider than half the width of the bottom;

b. providing a bottom sheet which is approximately as wide and as long as the bottom and which has a first adhesive coating covering the entire side of the bottom sheet which is to be stuck to the bottom side flaps and a second adhesive coating on the other side of the bottom sheet only at the end portions which are intended to face the corner tucks;

c. placing the bottom sheet with its said other side face down on the open block bottom and with its end portions having said second adhesive coating facing the corner tucks of the open bottom while said second adhesive coating still has a moistening capacity sufficient to moisten the cooperating surfaces of the open block bottom; and

d. folding over the block bottom side flaps onto the side of the bottom sheet having said first adhesive coating and pressing them against each other.

2. A method of manufacturing a block bottom bag with a stuck bottom, comprising:

a. folding on one end of a tube portion an open block bottom having two opposing corner tucks and two opposing side flaps which are left free from adhesive and in which the side flaps are at most only a little wider than half the width of the bottom;

b. providing a bottom sheet being at most the same width and the same length as the closed block bottom and having an adhesive coating covering the entire side of the bottom sheet which is to be stuck to the block bottom and being left free from adhesive on its other side;

c. folding over the block bottom side flaps so as to close the open block bottom; and

d. placing the bottom sheet with its side having the adhesive coating face down on the closed block bottom while said adhesive coating still has a moistening capacity sufficient to moisten the cooperating surfaces of the closed block bottom and pressing the bottom sheet against the closed block bottom.

3. A method according to claim 1, wherein the tube portion is made of plastics film, and wherein a plastics adhesive of which the solvent is removed before fitting of the bottom sheet, but which has the moistening capacity necessary to moisten the co-operating surface is used.

4. A method according to claim 1 wherein the tube portion is made of polyolefin or similar plastics film with poor adhesive properties, wherein the web of plastics film serving to manufacture the tube portion is subjected to a surface activating preliminary treatment, preferably by corona discharge, in the regions which are later to be stuck.

5. A method according to claim 2 wherein the tube portion is made of plastics film, and wherein a plastics adhesive of which the solvent is removed before fitting of the bottom sheet, but which has the moistening capacity necessary to moisten the cooperating surface is used.

6. A method according to claim 2 wherein the tube portion is made of polyolefin or similar plastics film with poor adhesive properties, wherein the web of plastics film serving to manufacture the tube portion is subjected to a surface activating preliminary treatment, preferably by corona discharge, in the regions which are later to be stuck.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,690,221 Dated September 21, 1972

Inventor(s) HERBERT SCHMEDDING

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On the title page, change "Urndmoller & Holscher" to -- Windmoller & Holscher --

Signed and sealed this 23rd day of January 1973.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents

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