Oct. 21, 1941. L. C. KIMPLE 2,260,225

APPARATUS FOR MANUFACTURING DUPLEX BAGS

Filed May 5, 1939 3 Sheets-Sheet 1

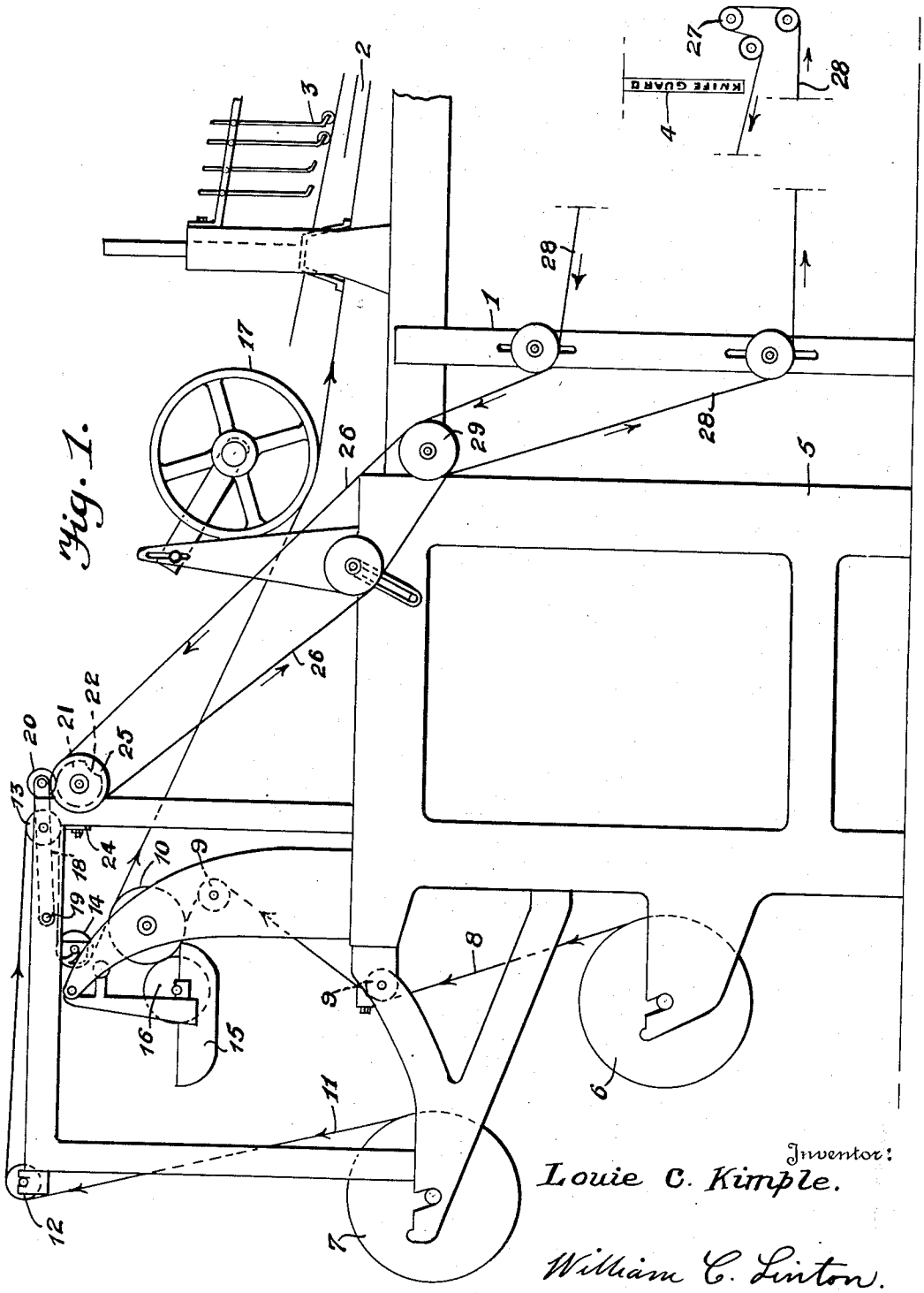


Fig. 1.

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Filed May 5, 1939 3 Sheets-Sheet 2

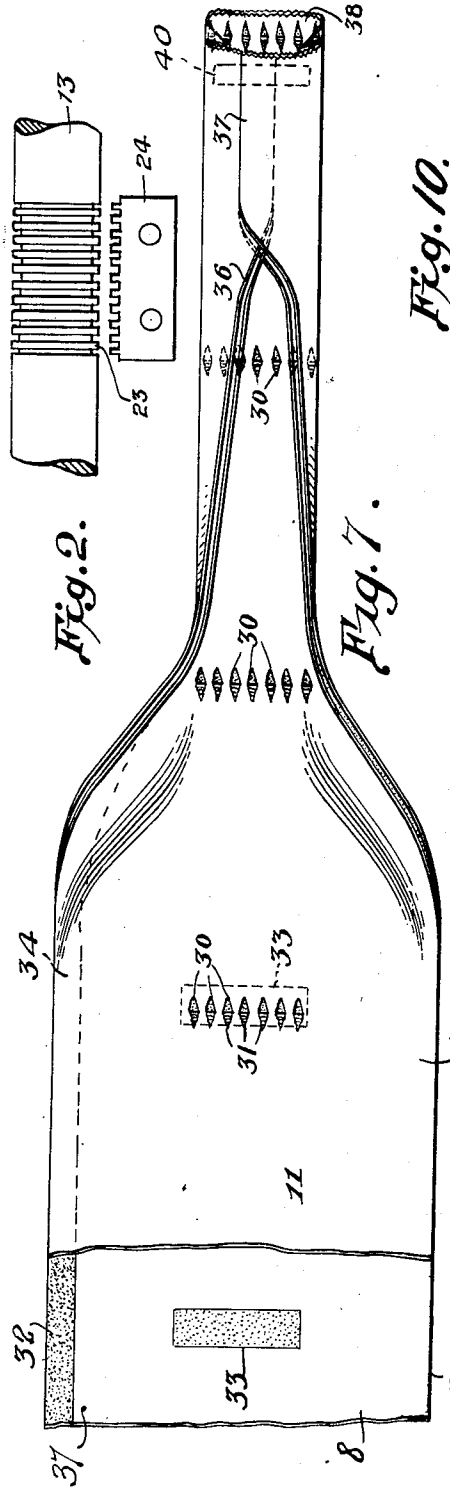


Fig. 2.

Fig. 7.

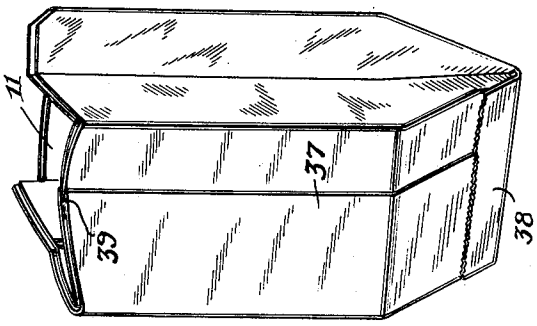


Fig. 10.

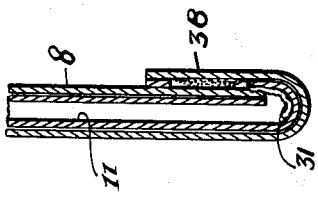


Fig. 9.

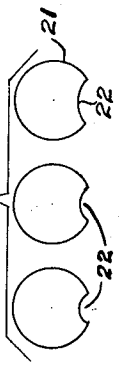


Fig. 5.

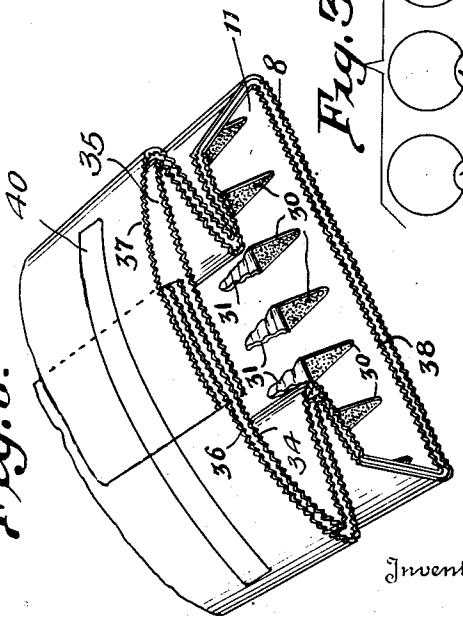


Fig. 8.

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APPARATUS FOR MANUFACTURING DUPLEX BAGS

Filed May 5, 1939 3 Sheets-Sheet 3

Fig. 4.

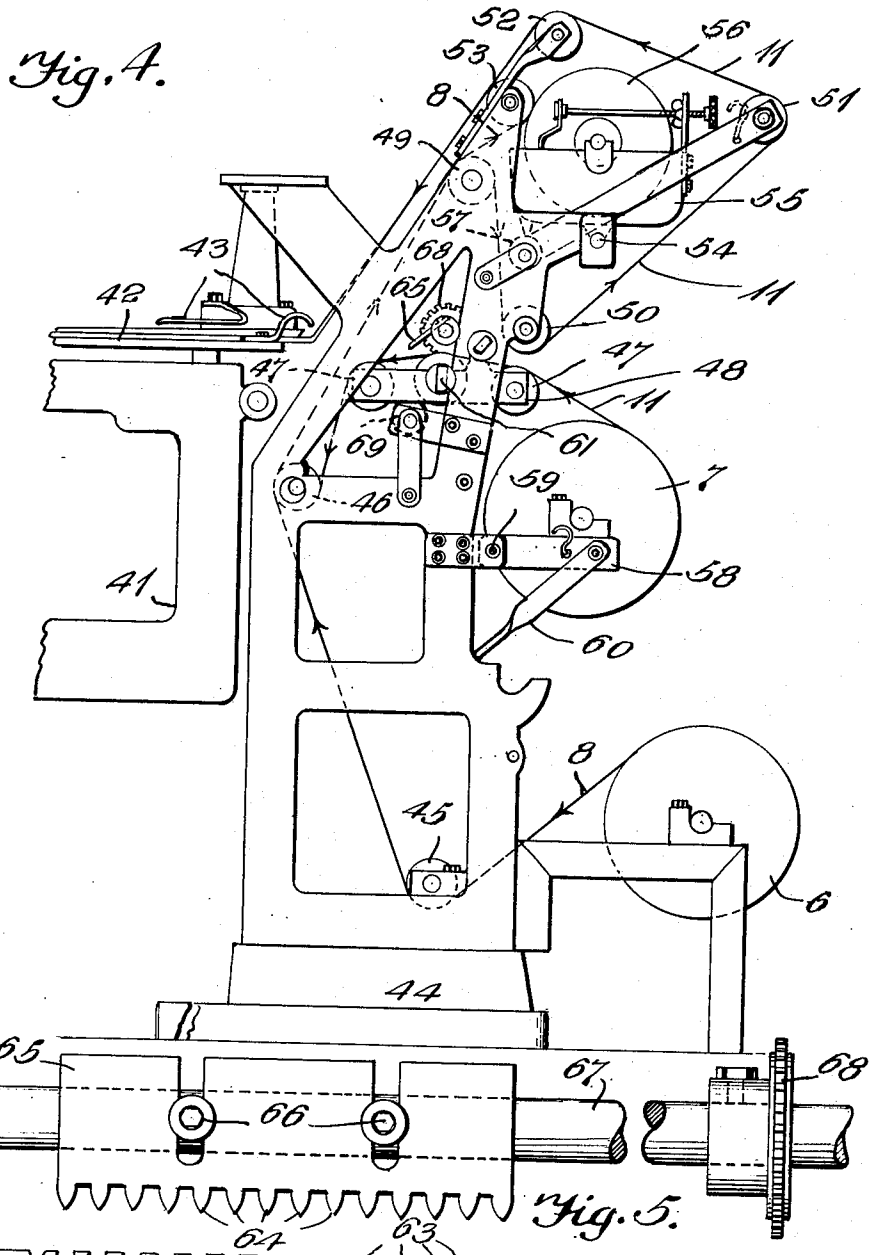


Fig. 5.

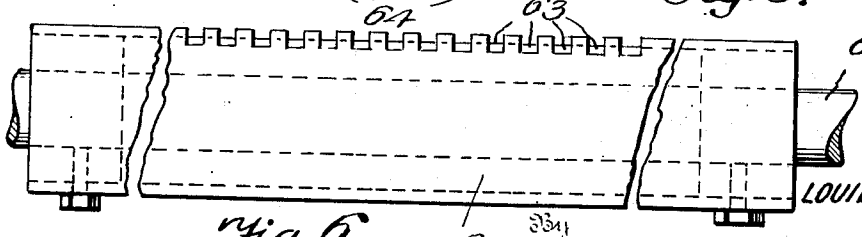


Fig. 6.

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Patented Oct. 21, 1941

2,260,225

UNITED STATES PATENT OFFICE

2,260,225

APPARATUS FOR MANUFACTURING DUPLEX BAGS

Louie C. Kimple, Dallas, Tex., assignor to Dixie Wax Paper Company, Dallas, Tex., a corporation of Texas

Application May 5, 1939, Serial No. 272,002

11 Claims. (Cl. 93—8)

The present invention relates to the manufacture of paper bags and more particularly, duplex bags formed from sheets of glassine or other fragile material.

Duplex bags usually consist of two or more layers of material formed into an outer and a corresponding inner tube, both of which are closed at one end to form the bottom of the bag and these tubes may be of the same material or of different materials, as condition or preference may dictate. However, when desiring to increase the moisture-vapor-proofness of bags made from wax coated papers, the bags are doubled, thereby having a two-fold thickness of the same wax coated material, but in producing such duplex bags, their usefulness has heretobefore been greatly decreased by failing to effect the proper seal at the bottoms of the bags so formed and, therefore, it is an object of the present invention to provide a duplex bag in which the sections thereof are separately formed having a single sealing line at the bottom thereof for jointly connecting the sections together, thereby greatly improving the moisture-vapor-proofness of the formed bag and further perfecting a permanent and economical seal at the bottom of the bag.

Another object of the present invention is to provide a simple method of forming duplex bags upon most any conventional bag-making or forming machine in rapid succession from sheets of material and in a continuous manner.

A further object of the present invention is to provide an attachment for conventional bag-making machines which will automatically and efficiently prepare sheets of material prior to entering the bag machine where such sheets of material may be formed into duplex bags, without in any manner altering the construction of the bag-forming machine or interfering with the normal operation thereof.

A further object of the present invention is to provide an attachment of the above character which when once applied to a bag-forming machine may, through a simple adjustment of certain parts of the attachment, permit different sized bags to be formed, as required.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by persons skilled in the art, I have in the accompanying drawings and in the detailed following description based thereupon, set out an embodiment of the same.

In the drawings:

Fig. 1 is a side elevation of the attachment embodying the present invention as connected to a conventional type of bag-forming machine known as a "Matador" machine and the latter being fragmentarily and diagrammatically illustrated.

Fig. 2 is a detail side elevation of the notching or perforating device of this attachment.

Fig. 3 illustrates diagrammatically in end elevation the several types of cams employed for intermittently actuating the notching or perforating device.

Fig. 4 illustrates in side elevation a slightly modified form of the attachment for preparing the webs from which duplex bags are formed as connected to another conventional type of bag-forming machine known as the "Potdevin" machine and the latter being fragmentarily illustrated.

Fig. 5 is a detail side elevation of the rotary cutting or notching blade and driven shaft therefor.

Fig. 6 is a side elevation of the stationary notched cylinder which cooperates with the rotary cutting blade as illustrated in Fig. 5.

Fig. 7 illustrates diagrammatically in top plan elevation two superimposed sheets of paper after they have been prepared by the attachment and illustrating the course of travel of these sheets from the time they leave the attachment until they are formed into tubes by the bag-making machine.

Fig. 8 is a detail perspective view of one end of a bag length severed from the formed tube, which when sealed provides a bottom end of the bag

Fig. 9 is a detail transverse section through the bottom or tail end of a formed bag, and

Fig. 10 is a perspective view of a formed duplex bag when in an open position.

The attachment embodying the present invention, as illustrated in Figs. 1, 2 and 3 of the drawings, may be connected to a bag-making or forming machine known to the trade as a "Matador" machine, which latter comprises a frame 1 having supported thereupon the usual former 2 and the dividers 3. In the manufacture of duplex bags, two or more composite sheets of paper are drawn through the machine where the marginal edges of the sheets are first separated from each other by means of the dividers 3 and then folded or formed into tubes by means of the former 2. Before entering the bag-forming machine, paste is applied to the sheets and after the tubes are formed, the marginal edges

of the sheets are united and sealed together in the usual manner upon the bag machine, thereby establishing the usual back or longitudinal seam of the bag. The so formed tubes are then cut into predetermined bag lengths by a rotary cutting blade which travels through the knife guard 4. At each end of the severed tubes a flap is formed and one of these flaps is used for closing the bottom of the bag. It is to this latter type of bag-forming or making machine my attachment is applied, whereby the sheets of paper are supported and prepared prior to their delivery to the bag-forming machine, in order that the latter may produce from such sheets duplex bags in a more efficient and economical manner.

The attachment consists of a supporting frame 5 having removably mounted thereupon a storage roll of paper 6 from which the outer tube or section of the bag is formed and, also, a second roll of paper 7 is supported by the frame 5 from which the inner or liner tube or section of the bag is formed. The web or sheet of paper 8, as it leaves the roll 6, first passes over the guide rolls 9 to a roller 10. The liner sheet or web 11 from the roll 7 passes over the guide roll 12 and a platen cylinder 13 and from this platen cylinder 13 over a guide roller 14 where this sheet of paper 11 meets with the sheet 8 as the latter leaves the roller 10.

Supported by the frame 5 is a paste pot 15 having an adhesive applying roller 16 mounted therein for transferring the paste or other adhesive within the pot 15 to one face of the paper web 8 as the same passes over the roller 10 and as the webs or sheets of paper 8 and 11 are brought into direct contact with one another as they leave the roller 10, a portion of the paste so applied to one face of the sheet 8 will be transferred by adhesion to the opposed face of the sheet 11. The two sheets or webs of paper, while travelling in direct contact with one another, pass below a guide pulley 17 where the two sheets of paper are forced into direct contact with one another and from this guide pulley 17, the sheets or webs of paper are delivered to the bag-forming machine. As the sheets leave the roller 10, they travel as a single sheet in superimposed relation, where a part of the adhesive is transferred to the lower side of the liner sheet. On approaching the former 2, the marginal edges of the sheets are separated by the dividing fingers 3. The opposite edges of both the outer sheet and the liner sheet are tucked between the adhesive coated edges, thus giving a glued seam to both the inner and outer tube of the bag. These two tubes are not connected together by these glued seams but are telescopically arranged one within the other.

The platen cylinder 13 is journalled within suitable bearings carried by a floating frame 18, which latter has one end pivotally connected as at 19 to the frame 5 of the attachment, whereas, the opposite or free end of this frame 18 has journalled within suitable bearings mounted thereupon a roller 20. Also journalled in suitable bearings carried by the frame 5 is a shaft having keyed thereto a cam 21 and as this cam rotates, the roller 20 rides upon the outer periphery thereof, whereby, due to the depression 22 formed within this cam, the floating frame 18 may swing upon its pivoted connection 19 with the frame 5.

The platen cylinder 13 has a plurality of grooves 23 formed adjacent its medial portion capable of receiving the teeth or notches of a blade 24. This blade 24 is removably connected to the frame 5 of the attachment in order that blades of different lengths may be substituted therefor, corresponding to the width of the paper bag being formed. The liner sheet or web of paper 11 may freely pass over the cylinder 13 but as the roller 20 registers with the depression 22 of the cam, the cylinder 13 will cause the liner sheet to engage the teeth or notches of the blade 24, whereby a row of perforations or notches is formed in the liner sheet.

The shaft upon which is mounted the cam 21 is driven by means of a sprocket wheel 25 over which passes a sprocket chain 26. The breaker mechanism of the bag-making machine which actuates the rotary cutting blade and which latter passes through the knife guard 4, comprises a driven shaft 27, and over a sprocket wheel connected to this shaft 27 passes a sprocket chain 28. This sprocket chain 28 also passes over a sprocket wheel 29 and to the latter is operatively connected the sprocket chain 26, whereby upon each revolution of the shaft 27, the cam 21 will be caused to make a complete revolution. The rotary cutting blade upon each revolution of the shaft 27 severs the paper tubes into bag lengths and as the row of perforations formed by the cutting blade 24 should register with the tail flap of the bag, a row of these perforations is formed within the liner sheet at the proper spaced points therein. From the foregoing it is quite obvious that a continuous drive is effected between the breaker or cutting mechanism that forms the tubes into bag lengths and the cam 21 in order that the sheets or webs of paper may pass in a continuous manner through the bag-forming machine. In Fig. 3 of the drawings, I have illustrated diagrammatically the lengths of the depression within several types of cams employed for producing bags of different lengths. When producing bags of a short length, a large depression is formed within the cam but as the length of the bags is increased, these depressions are diminished in size, in order that the perforations formed within the liner sheet may be of the proper size for all bag lengths.

The liner sheet 11 as it travels over the revolving cylinder is, at certain predetermined intervals or when the roller 20 registers with a depression 22, formed within the cam 21 brought into engagement with the stator knife or blade 24 where the latter tears or perforates the sheet with a row of elongated slots 30. However, the sheet 11 is brought into engagement with the blade only for a period of time sufficient to effect a slot or tear in proper relation to the bottom or tail flap of the bag and in the proper longitudinal proportion thereto. The length of these slots 30 is regulated by means of the cams 21 and the deeper the engagement of the notches of the blade 24 with the grooves 23 of the cylinder 13, the longer the slot or tear will be in the liner sheet. The rotation of the cam 21 is timed with the breaker arm or cutting blade that cuts the web into bag lengths so that no change in gearing is required. The length of the bag is governed by a variable speed mechanism that drives the conventional type of pull-in roller, the adjustment of said variable speed mechanism causing the pull-in roller to pull more or less paper in proportion to the bag breaker arm or cutting blade of the bag-forming machine. Therefore, the only change necessary to properly proportion the length of the slots or tears within

the liner sheet, when changing the length of bag formed, is to vary the depth of the penetration of the blade 24 into the liner sheet which causes the slots to assume proper longitudinal proportions to the length of the bag. The severed or torn portions 31 of the liner sheet are folded back thereupon by the notches formed with the blade 24 as the sheet leaves the same. The number or spacing of these slots 30 is governed by means of the notches formed with the blade 24, but preferably, these slots should be arranged in rows which extend throughout the width of the bag.

The paste or other adhesive is applied to one face of the outer sheet or web 8 along one of its marginal edges as at 32 and the paste may also be applied by the same applicator 16 in a strip along its medial portion as at 33. As the sheets are brought into direct contact between the roller 10 and the guide pulley 17, a portion of the paste as applied to the web 8 is transferred by adherence to one face of the liner sheet 11 in strips along one of its marginal edges as at 32 and transversely thereof as at 33 where the paste is permitted to exude through the slots 30. Therefore, it is quite obvious that only one paste stream is required for applying paste to both webs or sheets 8 and 11.

As the sheets enter the bag-forming machine, they are telescopically formed into two separate and unattached tubes. In the forming of the separate tubes, the marginal edges 34 and 35 of the liner sheet 11 are folded over and tucked under the outer web 8 and causing the paste applied to the underside of the edge 34 of the liner sheet to be brought into contact with the opposite edge 35 thereof. The marginal edge 36 of the outer web 8 is folded over and tucked under the marginal edge 37 having the strip 32 of adhesive applied thereto and through the conventional heat sealing means of the bag machine, the marginal edges of each web of paper are sealed or united by localized interfusion of the adhesive, without the latter coming in direct contact with the heat-applying rolls or other adapters, thereby forming two unattached telescopic tubes.

These tubes are then drawn to the breaker arm or cutting blade of the bag machine where they are cut into bag lengths, forming flaps at the opposite ends of each bag length. The tail flap 38, as is formed at one end of each bag length, forms the bottom of the bag by folding the same in the manner as shown in Fig. 10 of the drawings. As a row of slots 30 registers with each tail flap 38, the adhesive that has been squeezed or exuded through these slots 30 may be brought into direct contact with the outer face of the web 8 and be sealed or united thereto in the usual manner by localized interfusion of the adhesive. In this manner, the two formed tubes are connected together and the bottom of the bag formed. The flap 39 formed at the opposite or opened end of each bag length does not have slots in the liner sheet thereof registering therewith unless it is desired to have a sealable flap, but these flaps 39 facilitate the opening of the formed bags.

The attachment as illustrated in Figs. 4, 5 and 6 of the drawings may be applied to a bag machine known to the trade as a "Potdevin" machine, which comprises a frame 41 having supported thereon a former 42 and the wire dividing fingers 43. This attachment consists of a supporting frame 44 having removably mounted thereupon the roll of paper 6, from which the outer tube or section of the bag is formed and also the second roll of paper 7, from which the inner or liner tube or section of the bag is formed. The web or sheet of paper 8, as it leaves the roll 6, first passes over a guide roll 45 supported by the frame 44 and then to a guide roll 46. The liner sheet or web 11 from the roll 7 passes over the guide rolls 47 mounted at each end and supported by a floating frame 48 and from the guide rollers carried by this floating frame, the web 11 passes over the guide roll, 46 whereat it meets with the outer sheet or web of paper 8. The two sheets or webs of paper 8 and 11 then travel in unison from the guide roller 46 to a guide roller 49 and from this guide roller 49, the two sheets or webs are separated from one another. The liner sheet 11, after leaving the guide roller 49, passes over the guide rollers 50, 51 and 52, whereas, the outer web 8 travels over a guide roller 53 where it again meets and contacts with the liner web, and from there the two webs travel to the bag-forming machine. Before the two contacting webs 8 and 11 enter the bag-forming machine, their marginal edges are retained in spaced relation or separated by means of the wire dividing fingers 43 and from here, the two webs are jointly formed into separate tubes.

Pivotally supported as at 54 upon the frame of the attachment is a paste pot 55 having a roller or disc 56 mounted therein for supplying the paste or other adhesive used from the paste pot 55 to one face of the outer web 8. An adjustable cam 57 is provided for raising and lowering the paste pot 55 whereby the paste applying disc 56 may be moved in and out of contact with the web 8 as the latter passes over the roller 53. As the face of the web 8 having the paste applied thereto comes in contact with one face of the web 11, a portion of the paste is transferred to one face of the web 11 as the two webs pass from the roller 53 until they are separated by the wire dividing fingers 43, whereupon, each web will have paste applied along one marginal edge of each sheet or web so that during the formation of the bag structure, the edges of each web may be sealed or united together and also paste may be applied transversely of the webs at points where the ends of the formed tubes are to be connected together when forming the bag bottoms.

When forming a single ply or walled bag, the liner web 11 may be dispensed with and in doing so, the roll of paper 7, as well as its carriage, may be folded back against the framework of the attachment. The carriage for the liner roll 7 consists of a frame 58 pivotally supported at one end as at 59 to the frame 44 of the attachment and the outer end of this frame 58 is supported by the movable leg or bar 60. By removing this bar 60 from contact with the frame 44 of the attachment, the carriage may be permitted to drop and fold back against the frame 44.

Supported within the floating frame 48 is a stationary shaft 61 having detachably connected thereto a cylinder 62 and in the upper face of this cylinder there is formed a plurality of transversely extending slots 63. This cylinder 62, together with its slots 63, cooperates with the teeth 64 formed with the rotatable cutting blade 65. This cutting blade 65 is detachably and adjustably connected by means of the slot and bolt connections 66 to a rotating shaft 67, which latter is journalled within suitable bearings mounted upon the frame 44. This shaft 67 has keyed thereto a sprocket wheel 68 and the latter may be connected by means of a sprocket

chain (not shown) or any other conventional connection to the breaker mechanism of the bag-forming machine and this connection being so timed as to permit a complete revolution of the shaft 67 each time a bag is severed from the paper tubes as they pass through the bag-forming machine, in order that the teeth 64 of the rotary cutting blade may perforate the liner sheet 11 at predetermined points as the liner sheet passes over the cylinder 62 and such perforations registering with the tail flaps so formed by the breaker mechanism, which flaps provide a bottom for a bag. The floating frame 48 rests upon an adjustable cam 69 whereby the cylinder 62 may be raised and lowered for regulating the linear lengths of the perforations or notches formed in the liner web or sheet 11.

As the webs 8 and 11 leave the roller 53, the inner face of the web 11 is in direct contact with the outer face of the web 8, whereby the paste as applied to the web 8 is transferred to the inner or bottom side of the liner sheet 11. The paste is applied to the outer sheet by means of the disc 56 along one of its marginal edges, as shown in Fig. 7, and indicated by the numeral 32, and also applied to the outer face of the web 8 in a transverse strip adjacent its medial portion, as indicated by the numeral 33. A portion of this paste as applied to the points 32 and 33 upon the outer sheet will, while the two sheets are in direct contact, be transferred to one marginal edge of the liner sheet and the paste as applied in the strips designated by the numeral 33 will not only adhere to the inner face of the liner sheet but will be squeezed or exuded through the perforations 30 formed therein by the rotary cutting blade 65. From this arrangement, it will be apparent that only one paste stream is required as if paste is first applied to one sheet and as both sheets are brought into direct contact with one another, the unpasted sheet will be suitably pasted by adherence through contact with the previously pasted sheet. The marginal edges of the sheets or webs are then separated by means of the fingers 43 of the bag-forming machine, whereupon, the paste is left upon both sheets and as both sheets are subsequently folded, a longitudinal seal is established along the marginal edges of both the inner and outer tubes or sections of the bag but leaving the inner section unattached to the outer section along such longitudinal seams.

As the two superimposed webs or sheets pass through the former of the bag-forming machine, the opposite marginal edges of both the outer sheet and the liner sheet are jointly folded over and tucked between their adhesive applied edges, forming two independent tubes or sections and the inner or liner section being completely enclosed or housed by the outer section. By the conventional heat sealing means of the bag machine, the adhesive applied marginal edges of both sections are united or sealed together.

As the teeth 64 of the rotary cutter are brought in contact with the liner sheet 11, the latter is torn or slotted at predetermined intervals and the severed portions 31 of the liner sheet are folded or bent back thereupon. The liner web 11 travels over the stationary cylinder 62, which latter brings the liner sheet in contact with the rotary knife 65 but the contact of the web with the cutting knife is effected only for a period of time sufficient to effect slots or tears 30 of lengths having the proper longitudinal proportions with that of the bottom or tail flap 38. The rotating blade 65 is so timed that proper relation is thereby established with the breaker mechanism or cutting blade that cuts the web into separate bags. The regulation of the length of the bag is made by means of a variable speed mechanism that drives the conventional type of pull-in roller, the adjustment of said variable speed mechanism causing the pull-in roller to pull more or less paper in proportion to the bag breaker mechanism or cutting blade. The only change necessary to properly proportion the length of the slots or tears 30 which have been created within the liner sheet, when changing the length of the bag, is to vary the depth of penetration of the teeth 64 into the liner web by adjusting the cam 69, which causes the slots to assume proper longitudinal proportions to that of the bag length. The liner sheet 11 passes over the stationary cylinder 62 at a rate of speed equal to that of the linear speed of the tube passing through the bag machine and in providing perforations 30 in the tail flaps of bags of short lengths, the cylinder 62 is lowered by means of the cam 69, whereby the teeth 64 of the rotary knife are permitted to only slightly enter the slots 63, whereas, when increasing the lengths of the bags, the cylinder is raised to positions whereat the teeth 64 are permitted to more deeply penetrate the slots 63. The greater the length of the bags being formed, the greater the speed of the bag machine and the linear speed of the paper webs and tubes formed therefrom. Therefore, when bags of short lengths are being made, the teeth 64 should be permitted to engage the liner sheet only for limited periods of time, but when raising the cylinder 62, the teeth 64 are permitted to engage the liner sheet for a longer period of time, permitting slots 30 to be formed of the same length in liner sheets of bags of various sizes.

The number of slots 30 cut in the sheet is dependent upon the number of teeth 64 formed with the blade 65 and as this latter is detachably connected to the shaft 67, blades having varying numbers of teeth may be substituted therefor, whereby sheets may be perforated according to the particular width of the bag being formed. From these simple adjustments, it is apparent that sheets or webs of paper may be prepared prior to forming bags of various lengths and widths.

Instead of applying the transversely extending strip 33 of paste upon the inner face of the web 8, a strip 40 of paste may be applied to the outer wall of each formed bag. This strip 40 of adhesive is applied by the regular paste bars of the bag machine, as indicated by dotted lines in Fig. 7, after the bag tube is formed, sealed along its longitudinal seam and severed from the web. After the paste is applied as illustrated in Fig. 7, the tail flap 38 of the bag is then folded over, bringing the perforations 30 of the liner sheet in register with the paste strip 40, which latter flows through the perforations and causes a seal to be effected between the bag proper, inner-liner and outer-liner sheets, thereby closing the bottom of the bag and connecting the bag tubes together.

From the foregoing, it is obvious that my attachments may be easily and readily connected to any of the well-known paper bag-making ma-

chines for feeding a single sheet of paper thereto when the paper rolls 7 are removed, or they may be employed in the forming of duplex bags where two separate tubes are required and yet the bottoms of either type of bag will require only one strip of adhesive for effecting a seal between the tail flap and the body of the bag. This latter strip of adhesive extending entirely across the width of the bag establishes a more effective and economical sealing means. Furthermore, by perforating the liner sheet, only one sealing operation needs to be effected at the bottom of each bag, whereupon, both tubes of the bags may be jointly united or sealed together and yet permitting the remaining portions of the tubes to be unattached.

Manifestly, the construction herein shown is capable of considerable modification and such modifications as come within the scope of my claims, I consider within the spirit of my invention.

I claim:

1. An attachment for bag-forming machines comprising a supporting frame, a cutting element mounted upon said frame, a floating frame pivotally connected to said supporting frame, a platen cylinder journalled within said floating frame, a rotatable cam journalled upon said supporting frame and operatively connected to said floating frame and means for rotating said cam whereby said floating frame will be swung upon its pivoted connection upon said supporting frame and move said platen cylinder into and out of engagement with said cutting element.

2. An attachment for bag-forming machines comprising a supporting frame, a floating frame, means for pivotally connecting one end of said floating frame to said supporting frame, a platen cylinder journalled within said floating frame, a stationary cutting blade mounted upon said supporting frame, a rotatable cam journalled upon said supporting frame and a roller journalled within the free end of said floating frame and adapted to ride upon said rotatable cam whereupon said platen cylinder will be moved into and out of engagement with said cutting blade.

3. An attachment for bag-forming machines comprising a supporting frame, a floating frame mounted upon said supporting frame, a platen cylinder journalled within said floating frame, means for causing a web of paper to be fed over said platen cylinder, a cutting element mounted upon said supporting frame, a cam mounted upon said supporting frame and operatively connected to said floating frame and means for rotating said cam for moving said floating frame and platen cylinder journalled thereupon to be moved to and from said cutting element whereby serrations of predetermined length will be cut within the web of paper as the latter passes over said platen cylinder.

4. An attachment for bag-forming machines comprising a supporting frame, means for mounting a roll of paper upon said frame, guide rollers mounted upon said frame over which the paper web from said roll of paper may travel, a platen cylinder arranged between said guide rollers whereby the paper web may pass thereover, a cutting blade arranged adjacent said platen cylinder, means for supporting said platen cylinder and means for moving said platen supporting means for causing said platen cylinder to be moved into and out of engagement with said cutting blade whereby the paper web as it passes over the platen cylinder may at times be moved into cutting engagement with the said cutting blade.

5. An attachment for bag-forming machines comprising a supporting frame, means for removably mounting a roll of paper upon said frame, a floating frame, a platen cylinder mounted upon said floating frame, a cutting blade, means for raising and lowering said floating frame whereby the paper web as it passes over said platen cylinder may be caused to be moved in cutting engagement with said cutting blade, a paste applying means mounted upon said frame and means for moving said paste applying means into contact with the paper web whereby the paste applied thereto will be caused to exude through the openings formed within the paper web by said cutting blade.

6. An attachment for bag-forming machines comprising a supporting frame, means for guiding a web of paper through said supporting frame, a platen cylinder over which passes the paper web as it passes through said supporting frame, a frame pivotally mounted upon said supporting frame and having the platen cylinder journalled therein, a cutting blade, a cam mounted upon said frame and means whereby said cam may be brought into contact with said pivotally supported frame for moving said platen cylinder into and out of cutting engagement with said cutting blade.

7. An attachment for bag-forming machines comprising a supporting frame, means for causing a web of paper to be guided through said supporting frame, a movable frame pivotally connected to said supporting frame, a platen cylinder journalled within said movable frame over which travels the web of paper, a cutting blade, a roller journalled within said movable frame, a cam mounted upon said supporting frame and operatively connected to said roller and means rotating said cam whereby said movable frame will be raised and lowered for causing the web of paper as it travels over said platen cylinder to be moved into and out of cutting engagement with said cutting blade.

8. A machine for forming serrations in a web of paper preparatory to feeding the latter to a bag-forming machine comprising a supporting frame, a movable frame mounted upon said supporting frame, a platen cylinder carried and supported by said movable frame, means for feeding a web of paper over said platen cylinder, a cutting member adapted to cooperate with said platen cylinder for forming the serrations in the web of paper as the latter passes over said platen cylinder and means operatively connected to said movable frame for moving said platen cylinder to and from said cutting member whereby serrations of predetermined lengths will be cut within the web of paper as the latter passes over said platen cylinder.

9. An attachment for bag-forming machines comprising a supporting frame, means for separately mounting a pair of paper rolls upon said frame, guide means mounted upon said frame whereby the paper webs from said rolls may travel thereover, a platen cylinder movably supported by said frame over which passes one of said paper webs, a stationary cutting knife, means mounted upon said frame for moving said platen cylinder into cutting engagement with said knife whereby the perforations will be formed into the paper web as it passes over said platen cylinder, means mounted upon said frame for applying paste to the other of said paper

webs and means mounted upon said supporting frame for causing said paper webs to be brought into contact with one another whereby the paste upon one of said webs will be applied to the other of said webs and the paste caused to exude through the perforations formed within one of said webs.

10. An attachment for bag-forming machines comprising a supporting frame, means for separately mounting a pair of paper rolls upon said frame, guide means mounted upon said frame whereby the paper webs from said rolls may travel thereover, a movable frame, means for pivotally connecting one end of said movable frame to said supporting frame, a platen cylinder journalled within said movable frame over which passes one of said paper webs, a roller journalled within the opposite end of said movable frame, a cam rotatably mounted upon said supporting frame and upon the periphery of which rides said roller, a stationary cutting knife, means for rotating said cam whereby the paper web passing over said platen cylinder will at times be moved into engagement with said knife for forming perforations therein as it passes over said platen cylinder, means for applying paste to the other of said paper webs and means mounted upon said frame for causing said paper webs to be brought into direct contact with one another whereby the paste upon one of said webs will be applied to the other of said webs and the paste caused to exude through the perforations formed within one of said webs.

11. An attachment for bar-forming machines comprising a supporting frame, means for separately mounting a pair of paper rolls upon said frame, guide means mounted upon said frame whereby the paper webs from said rolls may travel thereover, a movable frame mounted upon said supporting frame, a platen cylinder journaled within said movable frame over which passes one of said paper webs, a rotary cutting knife cooperating with said platen cylinder for forming perforations within the paper web as it passes over the same, a cam operatively engaging said movable frame for moving said platen cylinder to and from said cutting knife, means mounted upon said frame for applying paste to the other of said paper webs and means mounted upon said supporting frame for causing said paper webs to be brought into direct contact with one another whereby the paste upon one of said webs will be applied to the other of said webs and the paste caused to exude through the perforations formed within one of said webs.

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