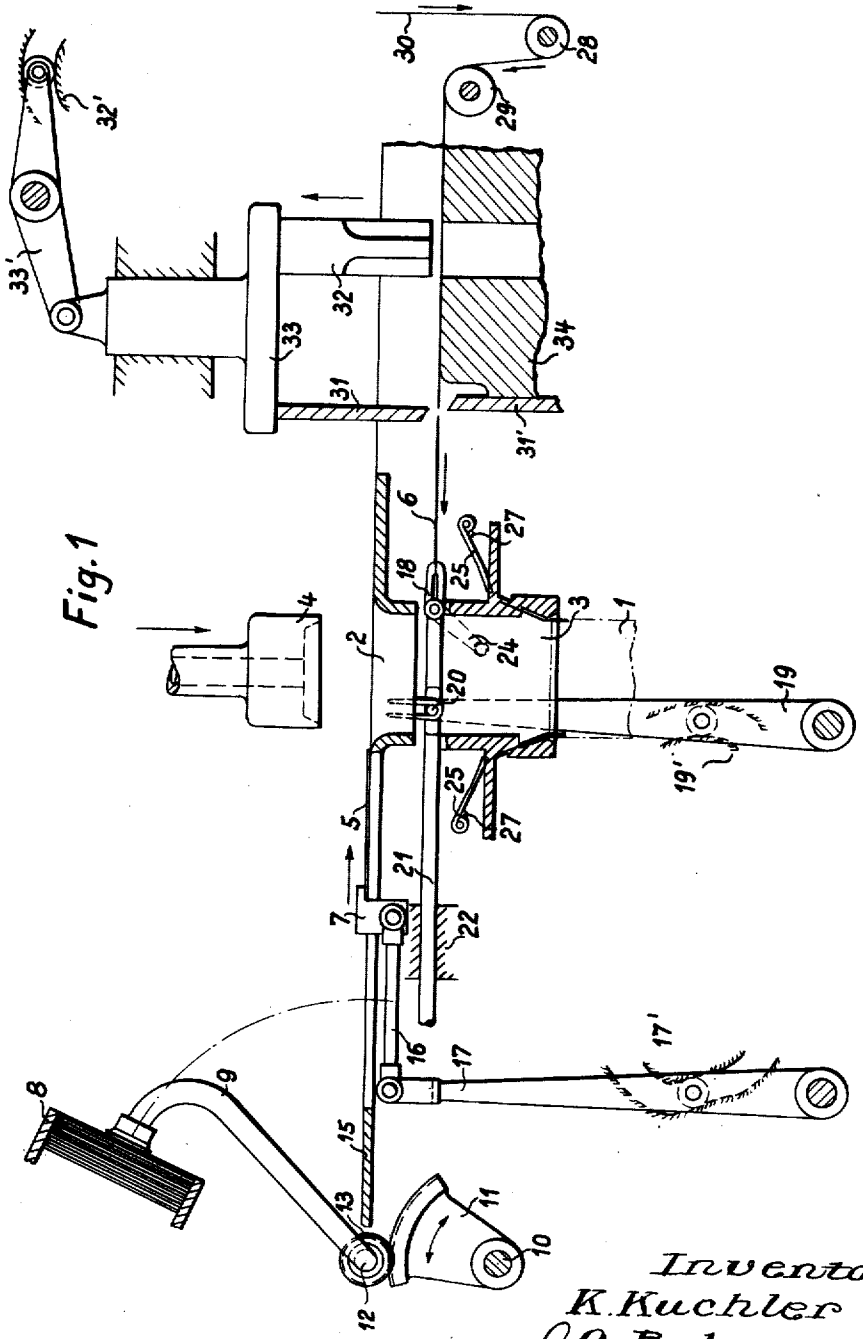
Nov. 26, 1957 K. KUCHLER ET AL 2,814,240

METHOD AND APPARATUS FOR INSERTING CLOSURE PARTS INTO CONTAINERS MADE OF PAPER, CARDBOARD OR THE LIKE CARTON FORMING MATERIAL

Filed March 22, 1956 5 Sheets-Sheet 1

Fig. 1



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Filed March 22, 1956 5 Sheets-Sheet 2

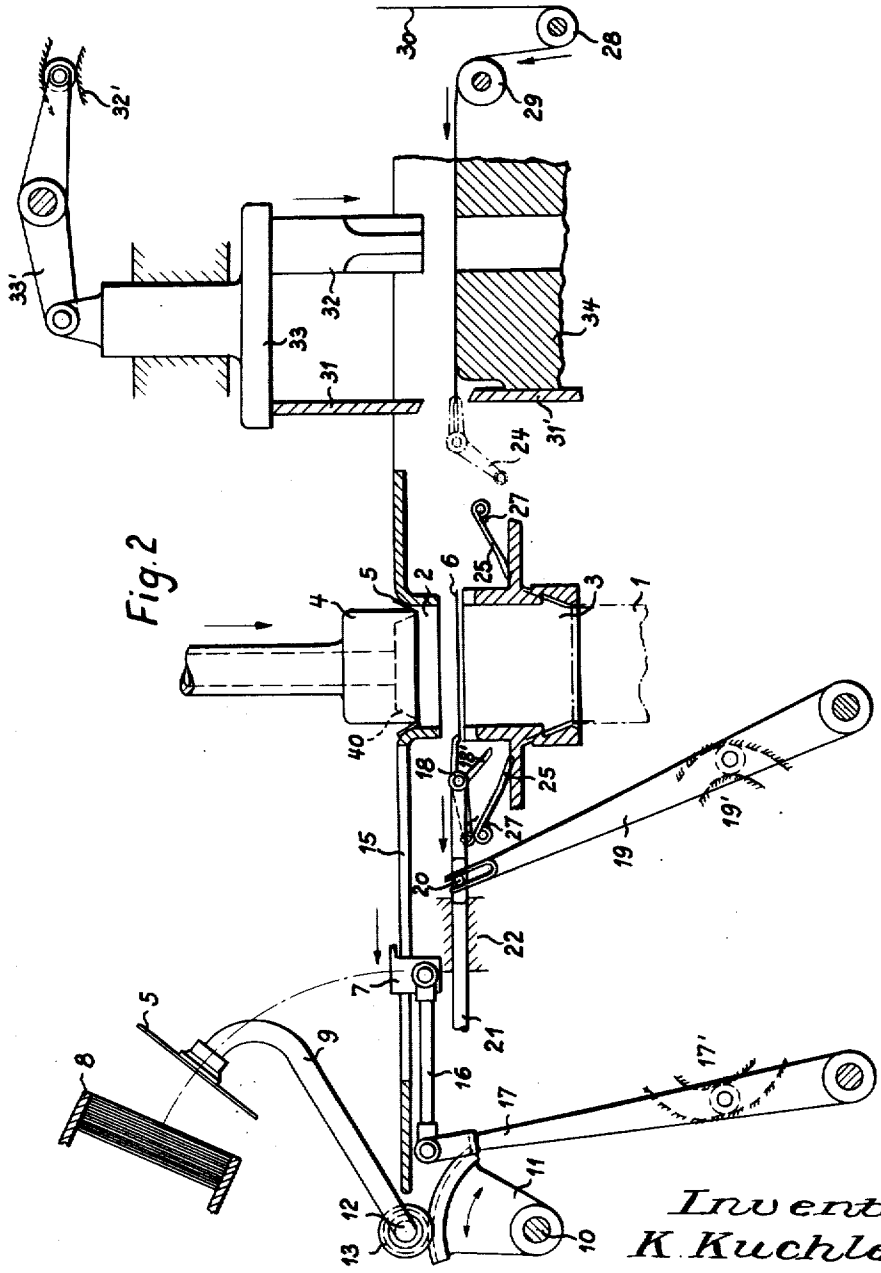


Fig. 2

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Filed March 22, 1956 5 Sheets-Sheet 3

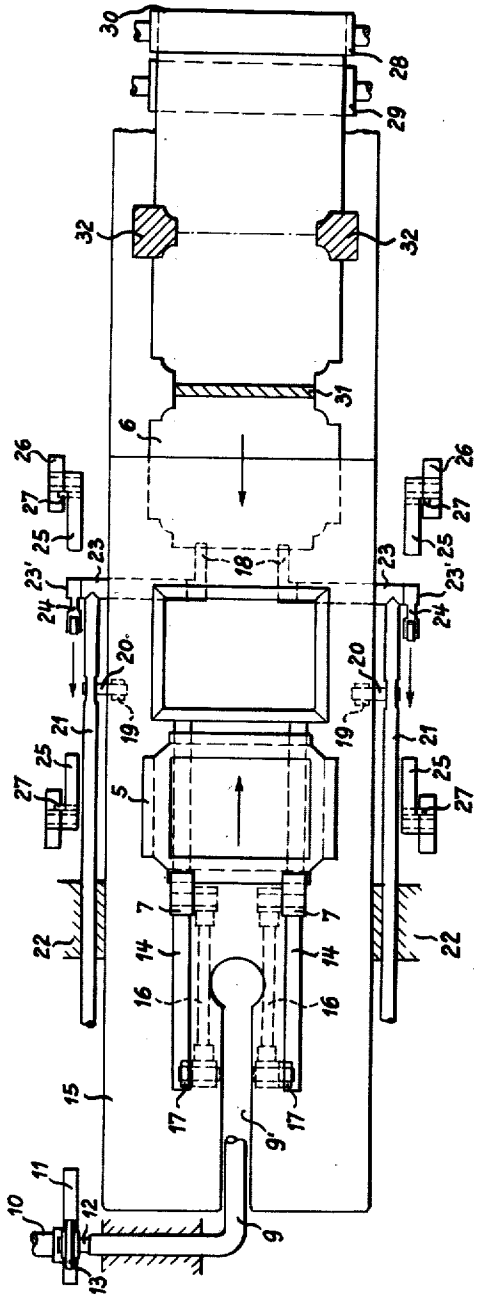


Fig. 3

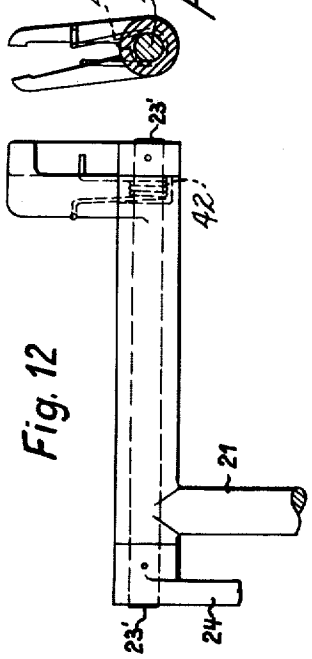


Fig. 12

Fig. 13

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METHOD AND APPARATUS FOR INSERTING CLOSURE PARTS INTO CONTAINERS MADE OF PAPER, CARDBOARD OR THE LIKE CARTON FORMING MATERIAL

Filed March 22, 1956 5 Sheets-Sheet 4

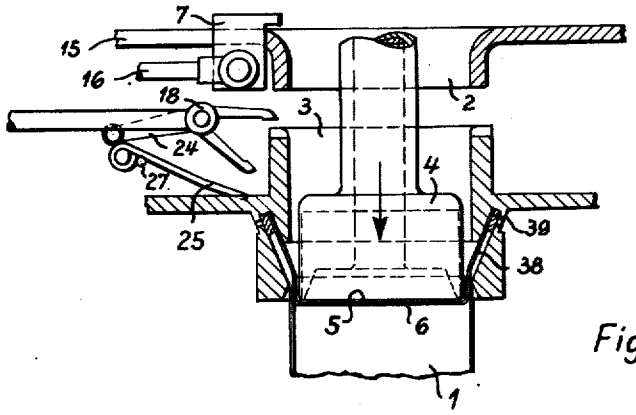


Fig. 4

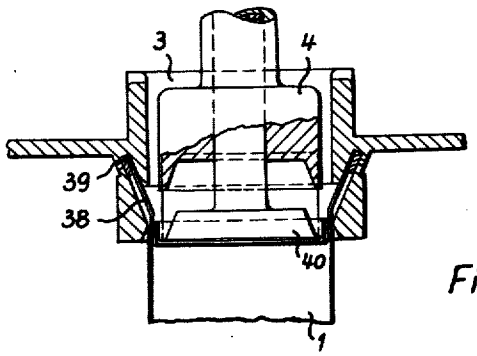


Fig. 5

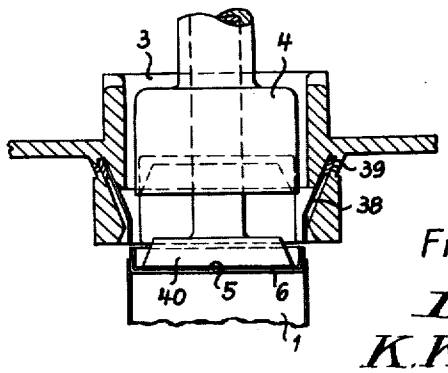


Fig. 5a

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METHOD AND APPARATUS FOR INSERTING CLOSURE PARTS INTO CONTAINERS MADE OF PAPER, CARDBOARD OR THE LIKE CARTON FORMING MATERIAL

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Fig. 6

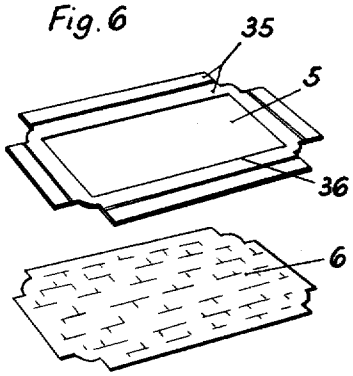


Fig. 7

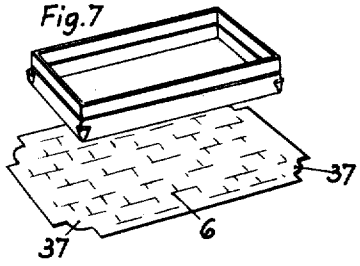


Fig. 8

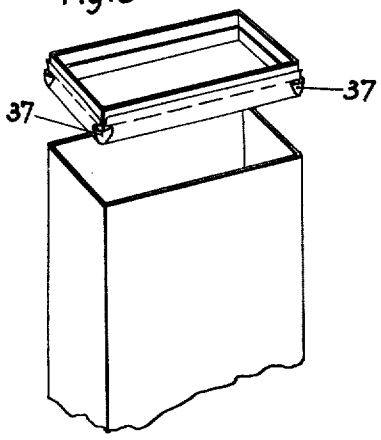


Fig. 9

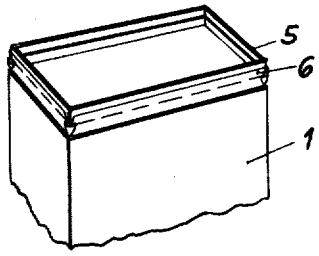


Fig. 10

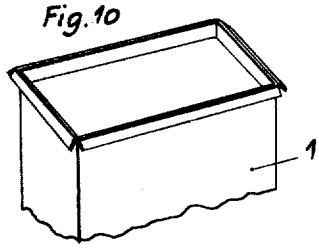
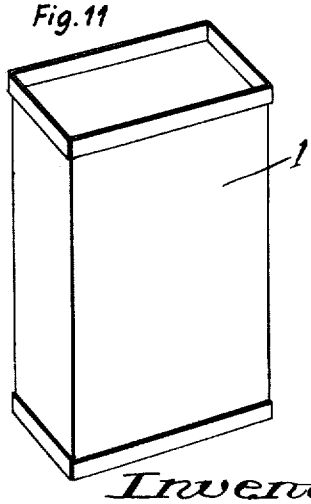


Fig. 11



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United States Patent Office 2,814,240 Patented Nov. 26, 1957

2,814,240

METHOD AND APPARATUS FOR INSERTING CLOSURE PARTS INTO CONTAINERS MADE OF PAPER, CARDBOARD OR THE LIKE CARTON FORMING MATERIAL

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Application March 22, 1956, Serial No. 573,119

Claims priority, application Germany January 21, 1956

12 Claims. (Cl. 93—55.1)

The present invention relates broadly to a method and apparatus for inserting closure parts into containers made of paper, cardboard or like carton forming material.

The invention further relates to the insertion of an end closure within a container body, and in which the end closure is preshaped before insertion and is of double ply construction in that it includes a closure panel forming member and an interior foil lining.

The invention further relates to apparatus for effecting preshaping and insertion of a two-part end closure within a container body.

Containers made of paper, cardboard or like carton forming material utilized for receiving dry, preferably highly hygroscopic semi-liquid, or even liquid materials, have been constructed by forming a polygonal tubular container body part from a rectangular blank, covering the interior of the body part with a moisture-proof coating, and inserting into the upper and/or lower end of the tubular body, closure parts made of the same material as, and corresponding in width to, the clearance space of the container body. These closure parts are provided at their margins with flange forming portions which, upon insertion into the container body opening, are turned up and positioned against the interior of the body or are arranged to embrace the marginal edges of the body in U-shape relation and then subsequently adhered to the marginal portions of the container body.

Containers of this type which are to be utilized for holding oil require special precautions during manufacture to attain a tight joint between the container body and the closure parts, particularly in the corner regions. In order to effect such tight closure there has been developed an end closure arrangement constructed of a closure panel blank having cut out corners to define flange forming portions and which cut outs are substantially bounded by extensions of the groove or score lines that connect the flange forming portions with the main closure panel. The end closure further includes on the side thereof facing the interior of the container a sheet or layer of foil which wholly or partly covers the corner cut outs in the closure panel forming blank and which foil sheet or layer is arranged in such a manner that during erection or turning up of the flanges and inserting the closure panel within the body, the foil sheet or layer is folded up about the edges constituted by the turned up flange forming portions. A container of this character is the subject matter of prior filed U. S. application Serial No. 419,441, filed March 29, 1954, and entitled "End Closure for a Multi-Sided Carton and Method of Closing Same."

During the insertion of closure parts constructed in accordance with the teachings of the above-noted application, and the simultaneous pre-shaping by turning up of the flanges during insertion, a drawback has arisen in that the simultaneous preshaping of two superposed or adhered together blank portions, comprising the closure panel forming blank made of the same material as the

carton and the thin and sensitive foil lining blank, subjects the latter to considerable pressure and friction forces. These forces originate due to the fact that the closure panel blank offers a relatively high resistance to its deformation. Thus the forces exerted by the shaping tool act directly on the thin and sensitive foil sheet which is unequal to such forces or stresses, particularly in the corner and edge regions, and thus is torn. The danger of tearing is enhanced by the fact that the foil sheet is stretched due to its lying on the exterior of the two blanks as regards the direction of deformation, and is thus tensioned during insertion whereby the additional possibility of injuring the foil sheet during insertion into the upper part of the container body arises. Therefore, the present invention has for an object to eliminate the susceptibility to damage of the foil liner and thus to avoid damaging the end closure arrangement for multi-sided cartons of the type in question to eliminate the possibility of leakage through the thin foil layer.

The particular object of the invention, therefore, is to provide a method and apparatus for preshaping the closure panel forming blank and the foil closure liner forming blank or sheet separately from one another.

It is a specific object to provide a method of preshaping the two blanks that form the end closure by delivering the separate blanks in dependently of one another and in different planes to a position above an open end of a container body, then moving the closure panel forming blank made of stronger material toward the open end while simultaneously turning up or erecting flanges thereon and folding them to provide corners, and only then preshaping the thin blank of foil while simultaneously conforming the foil about the erected closure panel forming blank, and then simultaneously inserting the erected closure panel forming blank and its now surrounding foil liner within the opening of the container body.

By proceeding in this manner there results an arrangement in which the thin foil sheet or blank is folded about an already preshaped closure panel part in a manner which applies only relatively slight pressure and friction forces to the thin and sensitive foil blank so that this blank is not exposed to any injurious stresses and strains. A further advantage resides in the fact that the folding in of the corner regions of both blanks is effected independently of one another so that after the corners of the stronger closure forming blank have been folded the corners of the thinner and liner forming blank can be folded thereabout uninfluenced by the pressures required to form the corner structures of the closure blank, and thus the liner forming blank is afforded the possibility of conforming itself in covering and sealing relation about the corner folds of the exterior or closure panel forming member.

In connection with the construction of the blanks, the closure member blanks are formed so that the flaps or flange forming portions along the opposite sides are interconnected at their corners with small substantially triangular shaped sections or web portions, so that when the flanges are set up these sections or web portions connect adjacent flanges and form corner joints. The blank for the foil layer or liner, while having corner cut outs, is so shaped that sections or webs of foil remain within the extensions of the liners that form the end edges of the flange forming portions of the foil blank, so that when the foil blank is folded about the corners of the erected closure member blank these webs or sections of foil will extend upwardly along the corner joint a substantial distance so as to prevent any leakage at the corners of the closure blank.

It is an additional object of this invention to provide apparatus for effecting the independent preshaping of the closure forming member and its foil lining sheet mem-

ber, and which apparatus includes two forming channels mounted in superposed spaced relation above an open container body and plunger means reciprocable toward and away from the closure body through the superposed channels and effective in moving toward the body to first preshape the closure panel member by turning up the flanges and folding the corners thereof, and then to preshape the liner blank about the preshaped closure member and simultaneously insert both members within the container body.

The invention further comprehends from an apparatus aspect conveying means independent from one another and movable in to and fro paths in different planes which deliver the respective end closure forming blank and its liner forming blank from supply sources to positions above the respective superposed forming channels.

Specifically, the invention has for an object to provide a movable suction element for removing a closure forming blank from a stack and depositing it in a position laterally displaced from and in a plane just above the upper forming channel, reciprocating slide means for moving this blank into a position superimposed above the upper forming channel, a movable gripper mechanism for delivering the foil or liner forming blank to a position above the lower forming channel and which gripper mechanism pulls the thin liner forming material from a supply roll and during movement of the gripper mechanism toward the forming channels mechanism is provided for cutting off and forming the liner forming blank.

Further and more specific objects will be apparent from the following description taken in connection with the accompanying drawings, in which:

Figure 1 is a fragmentary diagrammatic view partly in elevation and partly in longitudinal section illustrating the apparatus components for effecting the method of this invention in one position during the sequence of operations,

Figure 2 is a view similar to Figure 1, but illustrating the components in a different position,

Figure 3 is a fragmentary diagrammatic view partly in section and partly in top plan illustrating the apparatus components,

Figure 4 is a fragmentary cross sectional view on an enlarged scale illustrating the superposed forming channels and the positions of the apparatus components during the insertion of the now preformed end closure into the container body,

Figure 5 is a fragmentary longitudinal cross sectional view on an enlarged scale illustrating means for retaining the inserted end closure within the container body while the forming plunger is withdrawn therefrom,

Figure 5*a* illustrates position of tools after container body has been lowered and after retracting of the guide sheets,

Figures 6 to 11 illustrate the blank parts in the different stages of the preshaping and inserting operation,

Figure 12 shows a gripper arm in an enlarged scale,

Figure 13 is an end view of the gripper arm shown in Figure 12 and illustrating the gripper jaws in open position.

As particularly illustrated in Figures 1 and 2, the apparatus for effecting the method of this invention consists essentially of two superposed forming channels **2** and **3** and a forming plunger **4** which is reciprocable through the forming channels toward and away from a container body **1** supported within the lower end of the lower forming channel **3**.

Closure panel forming blanks **5** made of the stronger material such as that used for forming the container body **1** are stored in a stack or magazine **8** and a swingable suction element **9** delivers successive blanks **5** from the magazine to a table **15**. The suction element is swung by the movement of a segment **11** fixed to shaft **10** and which segment drives pinion **13** secured to the axle **12** of the arm that forms the suction element **9**.

The table **15** is slotted as at **9'** to accommodate the swingable suction element **9** so that when the latter swings down from the magazine **8** it passes through the table and deposits the blanks **5** on the top of the same. Successive blanks **5** are advanced to a position above the upper forming channel **2** by reciprocating slide members **7**. These slide members are guided in parallel slots **14** formed in the table **15**. Each slide **7** has pivotally connected thereto one end of a rod **16**, the other end of which is pivotally connected to the forked end of the lever **17** which is oscillated by a cam **17'**.

The delivery of the foil or liner forming blank **6** is effected by a pair of gripper means **18**. The gripper means are guided for reciprocation across the top of the lower forming channel **3** and the jaws of the gripper means open and close in proper phase relation to the operation. The recprocating movement of the gripper means **18** is effected by a pair of swingable levers **19** being actuated by cams **19'**. The levers **19** have slotted ends embracing pins **20** mounted to extend transversely of guide rods **21**. The guide rods **21** are slidable in fixed bearings **22** and at their ends are connected by a tubular cross member **23** which, in turn, carries the fixed jaws of the two gripper means **18**. The movable jaws of the grippers are carried by a rod or shaft **23'** and torsion spring means **42** normally urge the movable jaws **18'** into engagement with the upper and fixed jaws. Figure 13 illustrates the jaws in open position.

For opening and closing of the gripper means **18** at the moment of grasping the end of the web that is to form the liner blank and at the moment of release of the liner blank **6**, roller carrying levers **24** are secured to the opposite ends of the pin or shaft **23'** that project beyond the ends of the tubular rods **23'** being connected to the guide rods **21**. The rollers on the ends of the levers **24** are engaged, adjacent the respective end positions of the gripper means **18**, by deflector means or switches **25**. These deflector means control the opening and closing of the jaws of the gripper means and are constructed as what can be termed "snap switches" which, upon reversal of motion of the guide rods occurring at the respective terminal positions thereof, are engaged on their lower sides by the rollers of the levers **24** and thereby avoid an undesired opening of the gripper means after seizture or release of the blank **6**. Thus, the deflecting or switching means **25**, which are mounted in pairs on opposite sides of the table **15** and also on opposite sides of the channels **2** and **3**, are swingably mounted about fixed rotation points of journals **26**, the switches being positioned in operative relation by the stop pins **27**.

The pair of gripper means **18** in their extreme right-hand position grip the front edge of a strip of foil **30** that is being fed from a supply roll, not shown, and is guided over guide rolls **28** and **29**. The gripper means **18** further function to deliver the blank **6** after it has been separated from the strip **30** in a position overlying the upper open end of the lower forming channel **3**.

The cutting of the strip **30** into blank **6** and the simultaneous stamping out of the corner formation in the blank **6** is effected by a reciprocable plunger means **33**. This plunger means actuated by cam **32'** and lever **33'** has a transversely extending cutting knife **31** and transversely spaced pairs of stamping cutter means **32**. Cooperating with the knife **31** and cutter means **32** is a stationary counter tool **34** which includes a fixed cutting blade **31'**. The operation is such that when the plunger means **33** descends the foil strip is cut and simultaneously has corner formations formed therein. The knife **31** severs the blank **6** from the strip and at the same time forms the corner formations for the trailing edge of the next blank and the leading edge of the following blank. At the beginning of the operation or when feeding a new roll of foil respectively the introduction of the strip of foil into the mechanism is to be done by hand and the

first not properly cut and punched foil section to be removed.

The mode of operation of the apparatus components is as follows:

Starting from the position shown in dotted lines in Figure 2, wherein the grippers are adjacent the stationary counter tool 34, the grippers are opened and then allowed to close upon the front or leading edge of a strip of foil which, in a preceding reciprocation of the plunger 33, has had its leading edge severed and formed with corner regions. Levers 19 then swing to the left, allowing the gripper means to pull the strip toward the forming channel 3 up to the position illustrated in Figure 1. At this position the movement of the levers 19 and thus the movement of the gripper means is interrupted for a short interval. During this period when the strip 30 is stationary the plunger 33 descends and severs the blank 6 from the strip and simultaneously cuts out corners to form part of the blanks 6' and 6'', Figure 3.

Following the severing of the blank 6 from the strip, the levers 19 resume their swinging motion toward the left and thus the gripper means deliver the blank to the position shown in full lines in Figure 2, where it overlies the forming channel 3. In this motion the rollers on levers 24 coact with the switch means 25 to effect the opening of the jaws of the gripper means 18.

During the course of the movement of the blank 6 into position above forming channel 3, the closure panel forming blank 5, previously prepared by cutting and grooving, is removed from the magazine or stack 8 and placed on table 15 so that its trailing edge as regards the direction of movement toward the channel 2 is in front of the now rearwardly positioned slides 7. The levers 17 then swing to the right to push the slides 7 and the blank 5 to such an extent that at the end of the swinging motion of the levers 17 the blank 5 is directly above the forming channel 2, the slides 7 occupying the position shown in Figure 4.

Following the positioning of the blanks 5 and 6 above the marginal edges of the respective forming channels 2 and 3, the forming plunger 4 moves downwardly. In its downward motion the plunger 4, which is correlated in size and shape to the interior of the forming channels, first presses against the top of blank 5 which is of stiffer material than blank 6 and forces this blank 5 through forming channel 2 wherein the flange forming portions of the closure forming blank 5 are turned up and the relationship shown in Figure 7 exists in which the margin or rim forming portions 35 of blank 5 have been turned up about groove lines 36. During the continued downward movement of forming plunger 4 the blank 5, now preshaped to tray formation, engages the upper surface of the foil blank 6 and forces the same through the forming channel 3. The foil blank 6 folds itself around the preshaped blank 5 and, as shown in Figure 8, the web portions 37 in the corner forming portions of the foil blank 6 are folded up to approximate the form of pointed paper bags about the corners constituted by the edges of the turned up flanges 35 of blank 5. At this stage, that is, during the passage through forming channel 3, the superposed blanks have been preshaped. In a continued motion of plunger 4 the preshaped and superposed blanks 5 and 6 leave the lower extremity of the sides of forming channel 3 and approach the vicinity of resilient guide sheets 38. These guide sheets form a continuation of forming channel 3 and are fastened by clamps 39 within grooves formed in the walls of the forming channel. The free ends of the guide sheets are directed downwardly and are placed within the open upper end of the container body 1 that is mounted below the forming channel 3. The guide sheets 38 function to hold the turned up rim portions of the superposed blanks 5 and 6 in the position they occupy when preshaped in passage through forming channels 2 and 3, and further hold these rims against plunger 4. Additionally, they facilitate the insertion of the preshaped two-part closure member within the upper open end of the container body.

At the end of the forward or downward motion of drawing plunger 4 the same has reached the position shown in Figure 4 and has inserted closure parts 5 and 6 within the body of the container. Since the forming plunger 4 now starts its retracting stroke, and since the closure parts 5 and 6 have been only loosely inserted within the body 1, it is important to prevent the return motion of plunger 4 from partially or wholly detaching the closure forming members from the position they assume in Figure 4, that is, within the open upper end of the container body 1. To prevent this detachment or separation, the lower end of forming plunger 4 is recessed and the rod of this plunger is hollow. An ejecting plunger 40 fits within the recess of forming plunger 4 and, as shown in Figure 5, can be moved relative to forming plunger 4. Thus, the ejecting plunger 40 moves backward to starting position only when the forming plunger 4 has moved upward to a position above the turned up rims 35 of the closure parts, Figure 5. The relative movement of the ejecting plunger 40 is enlarged by an additional downward movement, while at the same time body 1 is lowered and the guide sheets 38 are retracted (see Fig. 5). After the container body 1 has been provided in the aforedescribed manner with an inserted two-part closure constituted by the preshaped and inserted blanks 5 and 6 and appears as shown in Figure 9, it is then delivered to additional pressing and shaping means whereby, as shown in Figures 10 and 11, the rim portions of the two-part closure that project above the marginal edges of the container body 1 are folded down about the exterior of the upper part of the container body and secured thereto to form a tight joint.

As indicated in the above-mentioned application, the side of the foil layer or leaf 6 that directed toward the interior of the container body is provided with a coating layer of a material that becomes adhesive under the action of heat and pressure.

What is claimed is:

1. A method of preshaping and inserting an end closure member and liner therefor into an open end of a container body, comprising independently delivering a planar end closure member blank and a planar liner blank in different planes into positions spaced from one another and in registry with the open end of a container and with the end closure blank remote from the container, moving the end closure member blank toward the container and preshaping the same during the initial phase of such movement by forming out-turned flanges thereon, continuing the movement to engage the liner blank and in continued movement toward the container preshaping the liner blank by conforming the same about the end closure member blank, and finally inserting the now preformed, superposed and mutually contacting end closure member and liner within the open end of the container body.

2. A method of preshaping and inserting a two-part end closure forming means within an open end of a multi-sided container body, comprising supporting a container body with an open end directed to receive the closure forming means, separately and independently positioning planar closure forming blank parts having side flange forming portions thereon in spaced planes in registry with the open end of the body, moving the blank part remote from the body toward the body while forming outwardly directed flanges thereon, continuing the movement of the outermost blank part into engagement with the other blank part and preshaping said other blank part by forming flanges thereon while in engagement with the outermost blank part so that during this preshaping the said other blank part adapts itself to the shape of the outermost blank part, and simultaneously inserting both preshaped blank parts within the open end of the body while maintaining them in their preshaped condition.

3. In the formation of end closures for containers made of paper, cardboard or like carton forming material, the improvement comprising supporting a multi-sided container body with an open end directed to receive a closure, feeding a planar closure member blank that is cut and grooved to define a closure panel conforming in size to the interior cross section of the body and has free foldable flange forming portions extending along the sides of the closure panel to a position in registry with and spaced from the container body, feeding a planar liner forming blank of a material more sensitive and frangible than that of the other blank and which liner forming blank is cut to define a closure panel covering portion and flange forming portions including an integral web formation within the corners that connected the flange forming portions to one another to a position in registry with the container body and lying between the container body and the closure member blank, moving the closure member blank toward the container body and in the initial phases of this movement preshaping the same by forming outwardly directed flanges thereon, continuing the movement of the now preshaped closure member blank into engagement with the liner forming blank and simultaneously moving both blanks toward the container body, during the initial phase of this simultaneous movement preshaping the liner forming blank by forming outwardly directed flanges thereon with the liner forming blank folding itself about the preshaped closure member blank, and finally while maintaining the now preshaped, superposed and flanged blanks in contact with one another inserting the same within the open end of the container body at least to an extent in which the closure panel portion lies within the rim of the body and at least a portion of the flanges protrude beyond the rim of the body.

4. In the formation of end closures for containers made of paper, cardboard or like carton forming material, the improvement comprising supporting a multi-sided container body with an open end directed to receive a closure, feeding a planar closure member blank that is cut and grooved to define a closure panel conforming in size to the interior cross section of the body and has free foldable flange forming portions extending along the sides of the closure panel to a position in registry with and spaced from the container body, feeding a planar liner forming blank of a material more sensitive and frangible than that of the other blank and which liner forming blank is cut to define a closure panel covering portion and flange forming portions including an integral web formation within the corners that connect the flange forming portions to one another to a position in registry with the container body and lying between the container body and the closure member blank, moving the closure member blank toward the container body and in the initial phases of this movement preshaping the same by forming outwardly directed flanges thereon, continuing the movement of the now preshaped closure member blank into engagement with the liner forming blank and simultaneously moving both blanks toward the container body, during the initial phase of this simultaneous movement preshaping the liner forming blank by forming outwardly directed flanges thereon with the liner forming blank folding itself about the preshaped closure member blank, and finally while maintaining the now preshaped, superposed and flanged blanks in contact with one another inserting the same within the open end of the container body.

5. A method as claimed in claim 3, in which the feeding of the liner forming blank includes the steps of grasping the end of a strip of liner forming material and pulling the same in a plane perpendicular to the axis of the container body and spaced from said body toward the same, interrupting the pulling movement and severing a blank from the strip, and then resuming the pulling movement to position the blank in registry with the container body.

6. A method as claimed in claim 5, in which during the severing of the liner forming blank from the strip the next succeeding liner forming blank is partially shaped to define corner forming structures and flange forming portions.

7. Apparatus for preshaping and inserting a two-part end closure within an open end of a container body, comprising superposed, spaced, aligned, inner and outer forming channels, each having inlet and outlet end portions and with respect to which a container body is to be positioned at least closely adjacent the outlet end portion of the inner channel, a reciprocable plunger means for cooperation with the forming channels and mounted for movement therethrough, and means for separately feeding blank parts having flange forming portions into registry with the inlet ends of the respective forming channels whereby movement of the plunger toward a container body initially forces one blank part through the outer channel to preshape the same, then engages that preshaped blank with the other blank part and forces the other blank part through the inner channel while folding the other blank part about the first preshaped blank part, and then inserts both preshaped blank parts within the container body.

8. Apparatus as claimed in claim 7, in which the means for feeding the blank parts comprise independent feed means mounted for movement in spaced planes lying perpendicular to the axis of the channels and closely adjacent the inlet ends of the respective channels.

9. Apparatus as claimed in claim 7, in which the means for feeding the blank parts to the outer channel include a stack of blank parts, a movable suction head and means for moving the same between a position in engagement with the end blank of the stack and a depositing position wherein a grasped blank lies in its feeding plane and reciprocable slide means and means for moving the same between a position behind the deposited blank to a position wherein it feeds a blank into registry with the inlet end of the outer forming channel, and the means for feeding the other blanks comprise a supply roll of blank forming strip material, reciprocable gripper means for grasping the end of the roll, means for moving the gripper means across the inlet end of the second channel, and means for severing blanks from the strip whereby the gripper means can dispose a blank in registry with the inlet end of the second channel.

10. In apparatus for associating end closures with containers made of paper, cardboard or the like carton forming material, a table, a first forming channel depending from said table including an opening in the top of the table, a second forming channel mounted beneath the first channel and including an inlet end spaced from the first forming channel and in registry therewith, said second forming channel including an outlet end adapted to receive the open end of a container, a plunger means reciprocable through the respective forming channels, said forming channels having interior dimensions substantially coinciding with the interior dimensions of a container to be closed, said table having at least one slot therein extending from a position closely adjacent the first forming channel to a position laterally displaced therefrom, slide means mounted for reciprocation is said slot, means for moving the slide means toward and away from said first channel, means for depositing a closure panel forming blank having free flange forming portions thereon on said table adjacent the end of the slot remote from the first forming channel, whereby movement of the slide means toward the channel moves the blank into position above the first forming channel, laterally displaced from the superposed forming channels on the side opposite the slide means, roller means having axes perpendicular to the axis of said slot and over which a strip of liner forming material can be trained, at least one roller means having its surface substantially on a level with the inlet end of the second channel, fixed guide means extending perpendicular to the axis of said channels and mounted at a

level below the table and between the respective channels, between said one roll means and the second channel a fixed counter knife means, a reciprocable knife means supported above the table for movement toward and away from said fixed counter knife means, movable gripper means mounted in said guide means, means for moving the gripper means from a position adjacent said fixed counter knife means to a position on the opposite side of the second forming channel, and means for actuating said gripper means and moving the same toward and away from said fixed counter knife means whereby when moved to a position adjacent the counter knife means the end of a strip of liner material can be gripped and pulled toward the forming channel, said reciprocable knife means being operative to sever a liner blank from said strip, and said gripper means releasing the liner blank when it is disposed at and on the inlet end of said second channel means whereby movement of said plunger toward a supported container initially preshapes a closure member blank by forcing it through said first channel means, engages the same with said liner blank, forces the preshaped closure member blank and liner blank through the second channel means to preshape the liner blank about the closure member blank and then inserts the now preshaped and mutually contacting liner blanks within the open end of the container.

11. Apparatus as claimed in claim 10, and including resilient guide sheets depending within and beneath said second channel means for insertion within the open end of the container and operative to retain the preshaped and superposed blanks in their preshaped position during insertion within the container.

12. Apparatus for preshaping and inserting a two-part end closure within an open end of a container body, comprising superposed, spaced, aligned, inner and outer forming channels, each having inlet and outlet end portions and with respect to which a container body is to be positioned at least closely adjacent the outlet end portion of the inner channel, a reciprocable plunger means for cooperation with the forming channels and mounted for movement therethrough, means for separately feeding blank parts having flange forming portions into registry with the inlet ends of the respective forming channels whereby movement of the plunger toward a container body initially forces one blank part through the outer channel to preshape the same, then engages that preshaped blank with the other blank part and forces the other blank part through the inner channel while folding the other blank part about the first preshaped blank part, and then inserts both preshaped blank parts within the container body, said means for feeding the blank parts comprising independent feed means mounted for movement in spaced planes lying perpendicular to the axis of the channels and closely adjacent the inlet ends of the respective channels, and the means for feeding the blank parts to the outer channel including a stack of blank parts, a movable suction head and means for moving the same between a position in engagement with the end blank of the stack and a depositing position wherein a grasped blank lies in its feeding plane and reciprocable slide means and means for moving the same between a position behind the deposited blank to a position wherein it feeds a blank into registry with the inlet end of the outer forming channel.

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