April 10, 1951 S. BERGSTEIN 2,548,251

MEANS AND METHOD FOR SECURING THE EFFECTS OF END DIPPING IN GAS-TIGHT FLEXIBLE WALL PACKAGES

Filed April 10, 1946 4 Sheets-Sheet 1

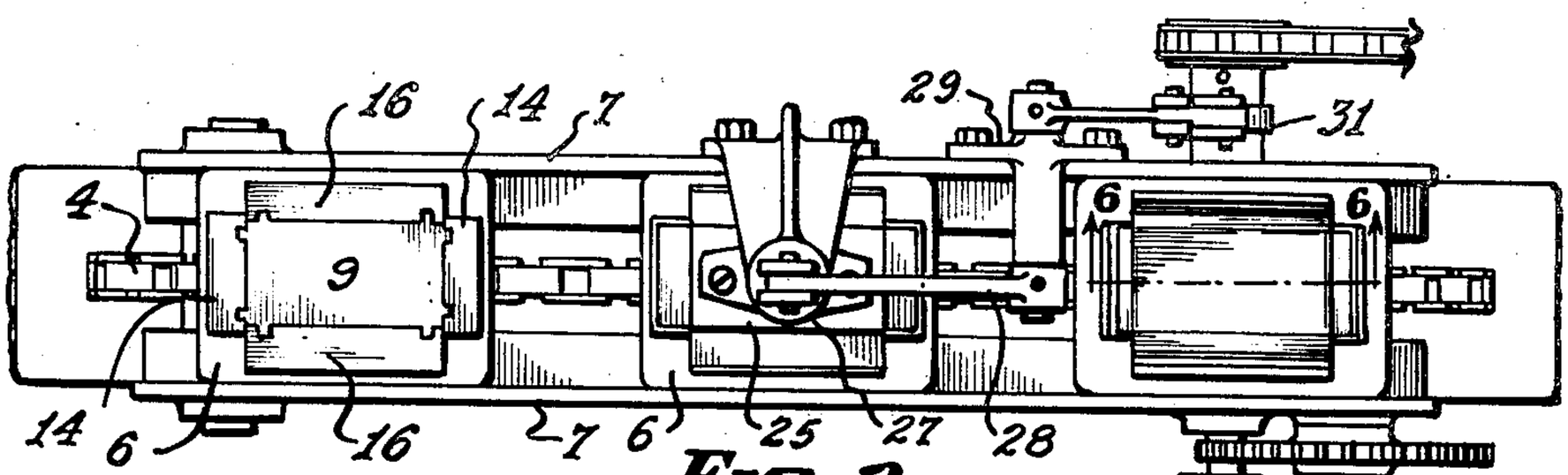

FIG. 2.

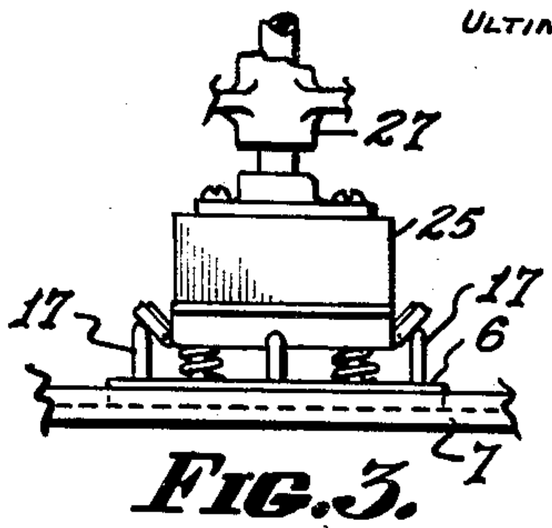

FIG. 3.

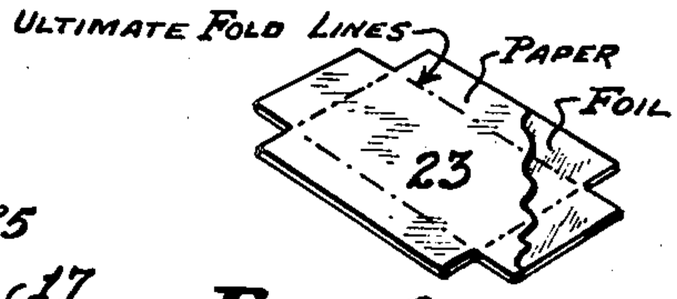

FIG. 4.

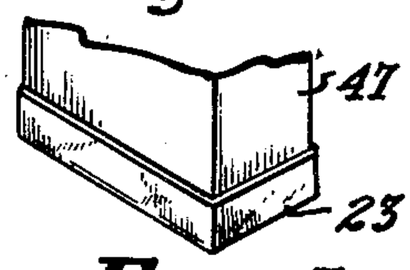

FIG. 5.

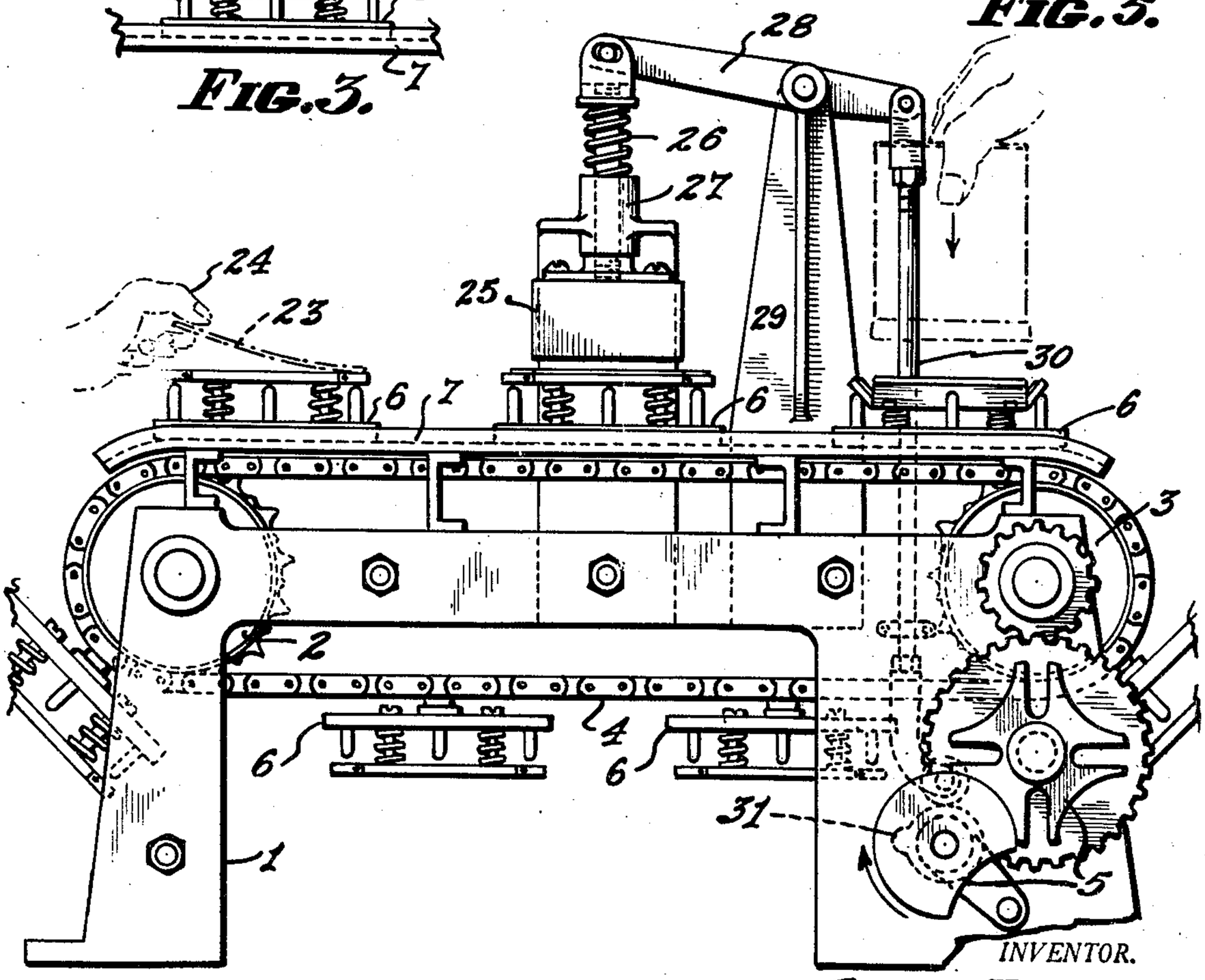

FIG. 1.

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MEANS AND METHOD FOR SECURING THE EFFECTS OF END DIPPING IN GAS-TIGHT FLEXIBLE WALL PACKAGES

Filed April 10, 1946 4 Sheets-Sheet 2

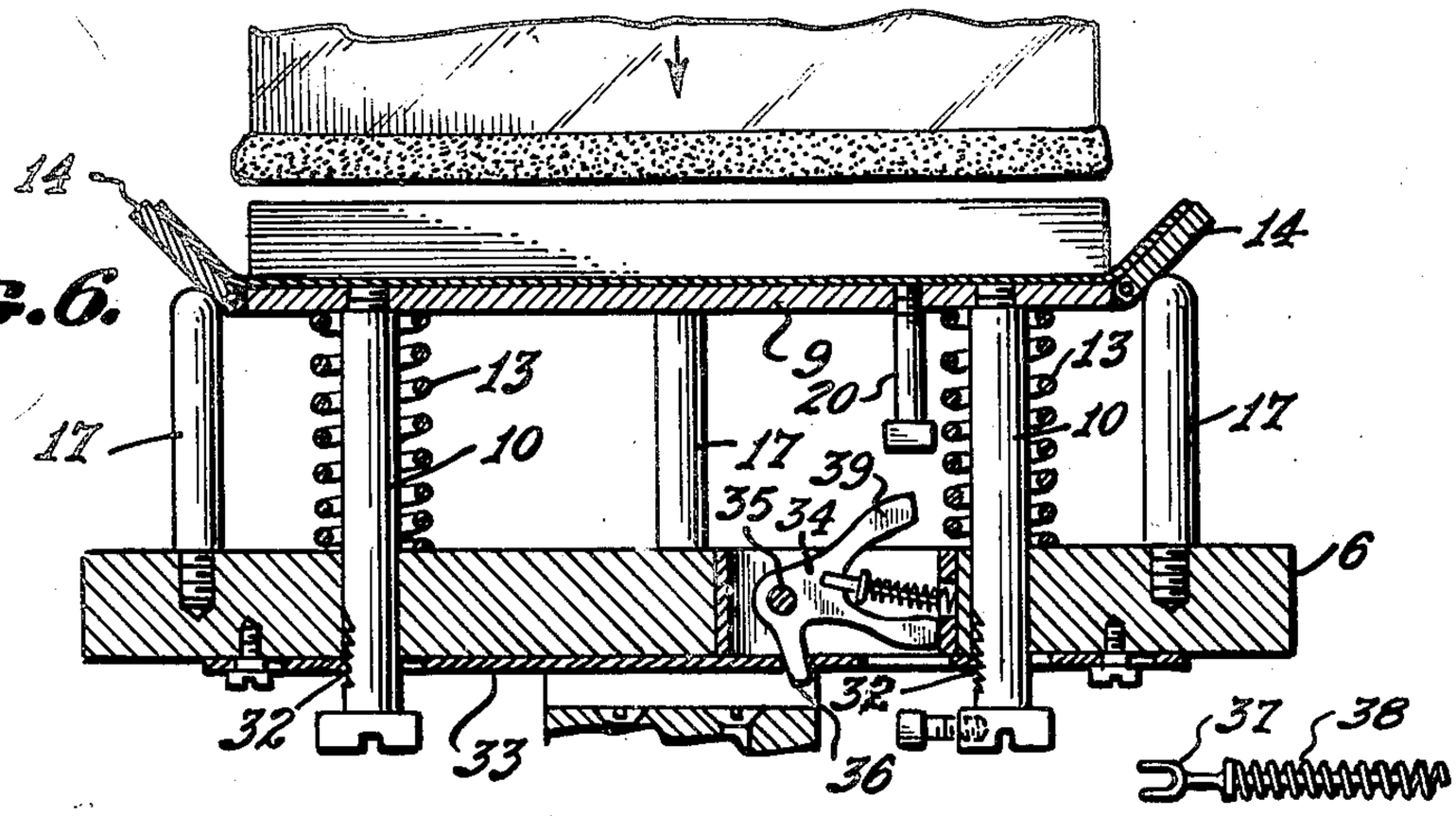

FIG. 6.

FIG. 9.

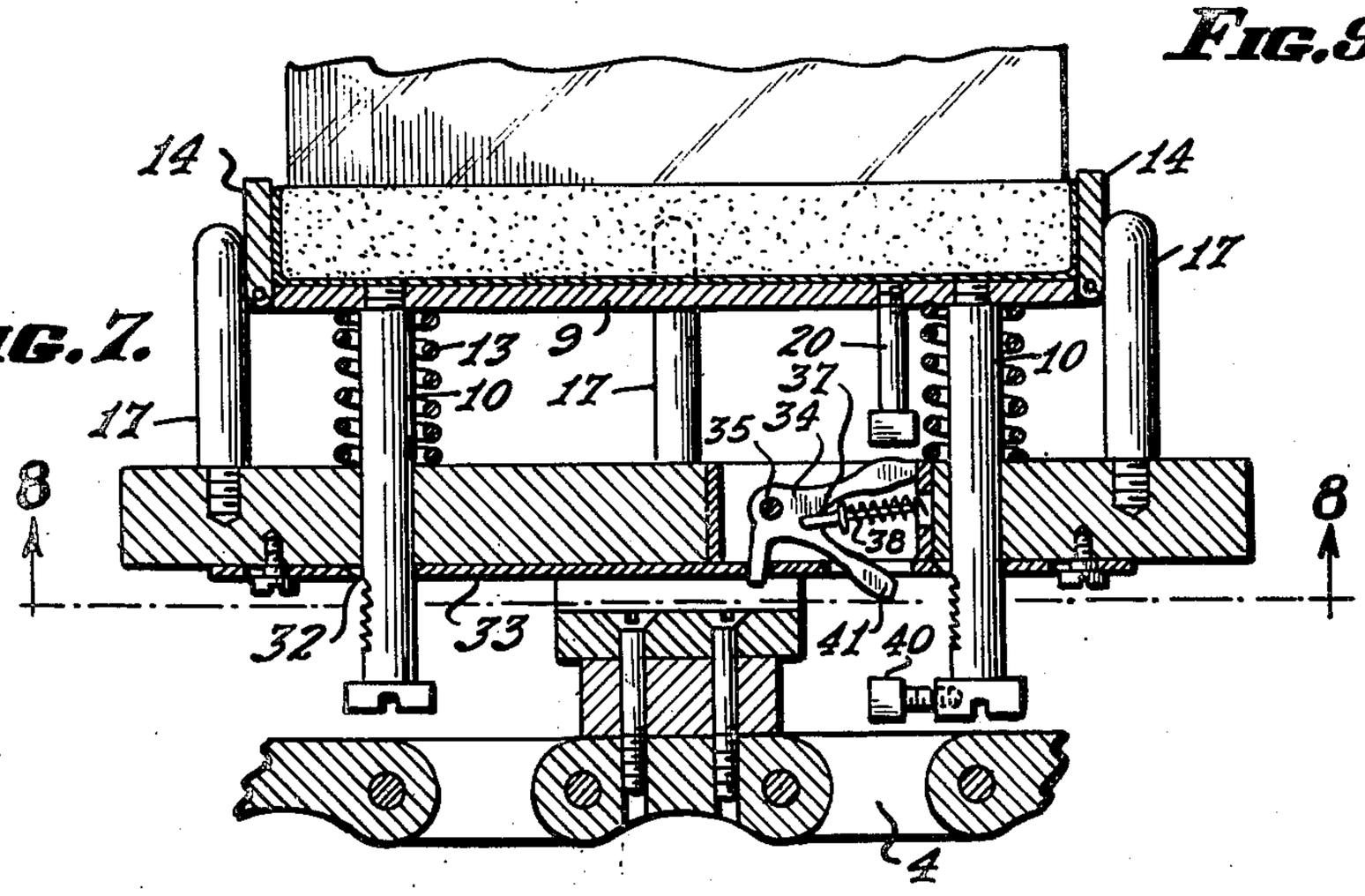

FIG. 7.

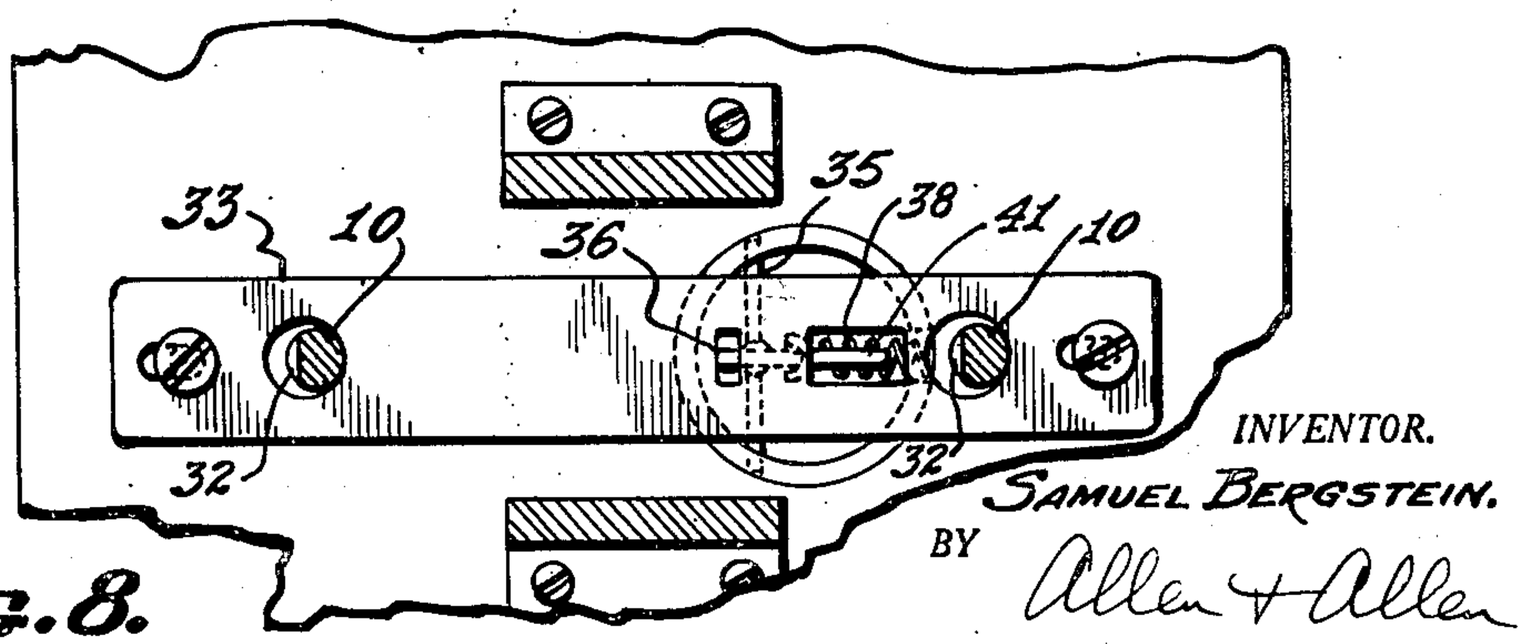

FIG. 8.

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MEANS AND METHOD FOR SECURING THE EFFECTS OF END DIPPING IN GAS-TIGHT FLEXIBLE WALL PACKAGES

Filed April 10, 1946 4 Sheets-Sheet 3

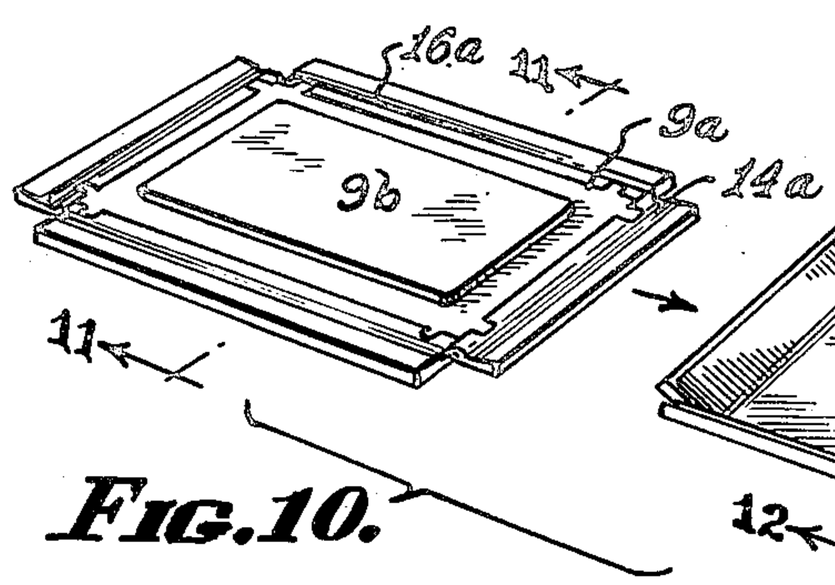

FIG. 10.

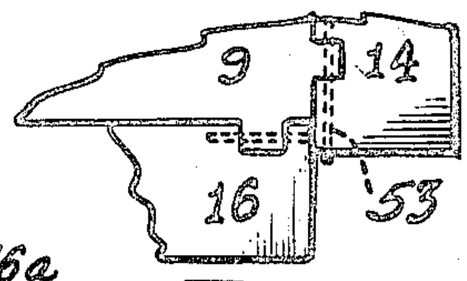

FIG. 16.

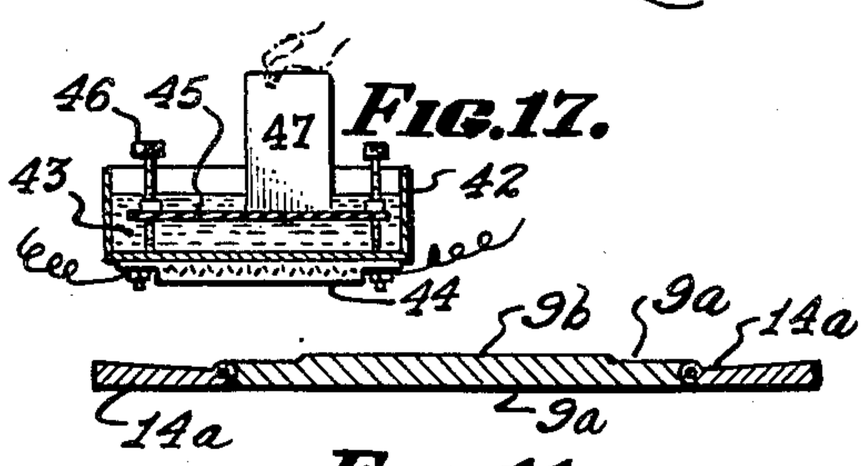

FIG. 17.

FIG. 11.

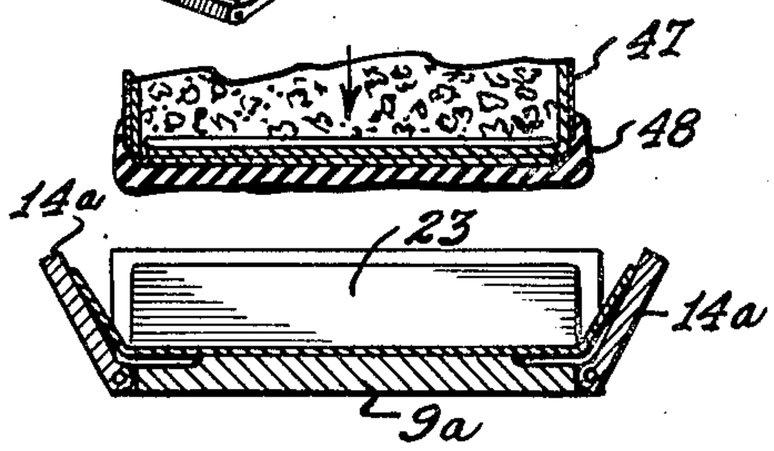

FIG. 12.

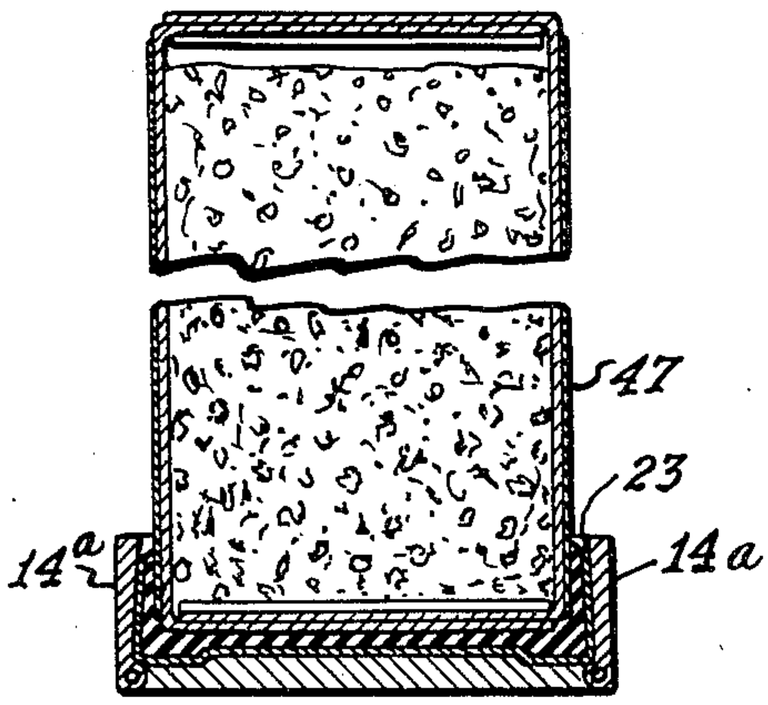

FIG. 13.

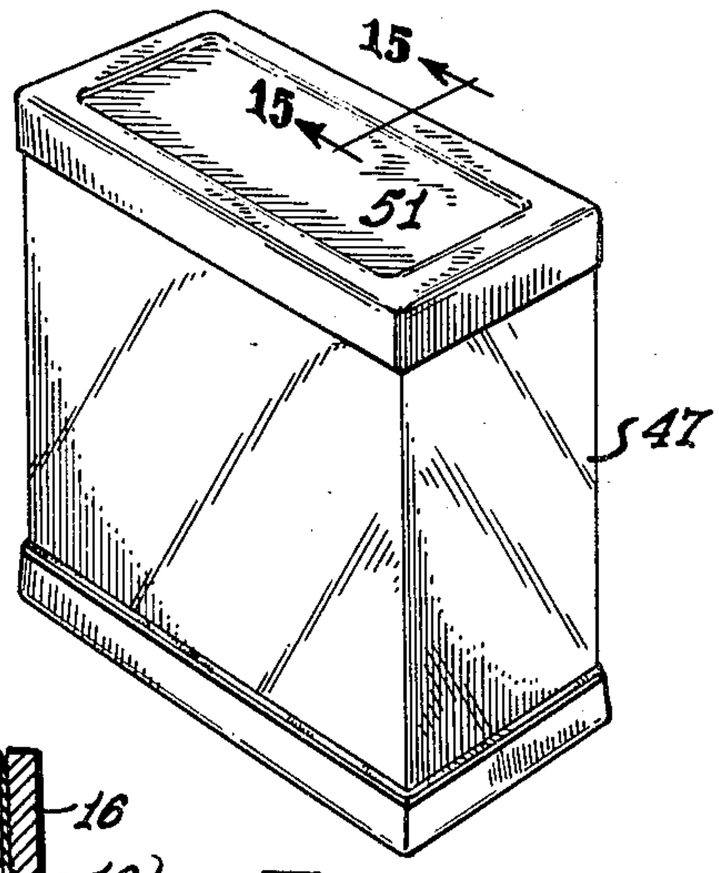

FIG. 14.

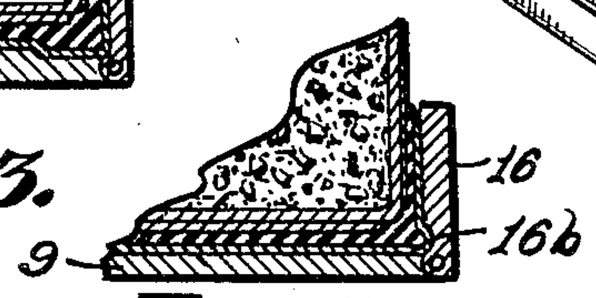

FIG. 13a.

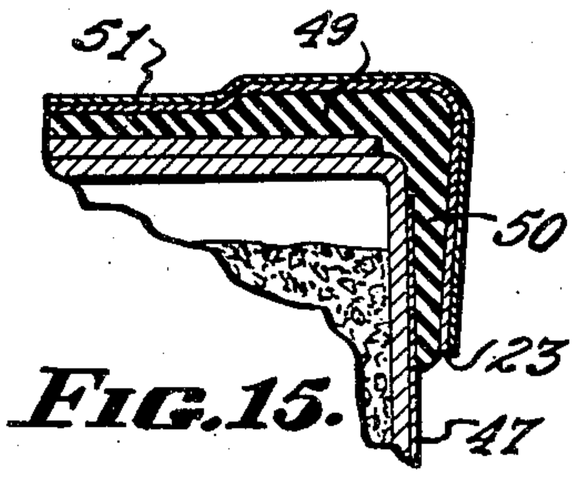

FIG. 15.

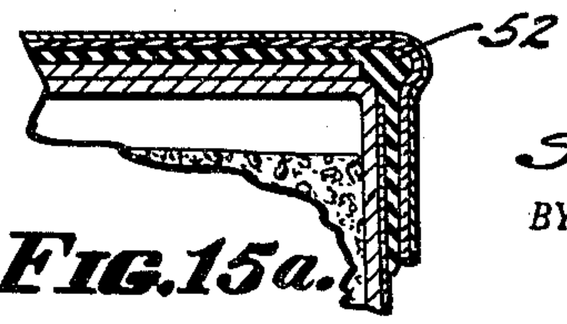

FIG. 15a.

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MEANS AND METHOD FOR SECURING THE EFFECTS OF END DIPPING IN GAS-TIGHT FLEXIBLE WALL PACKAGES

Filed April 10, 1946 4 Sheets-Sheet 4

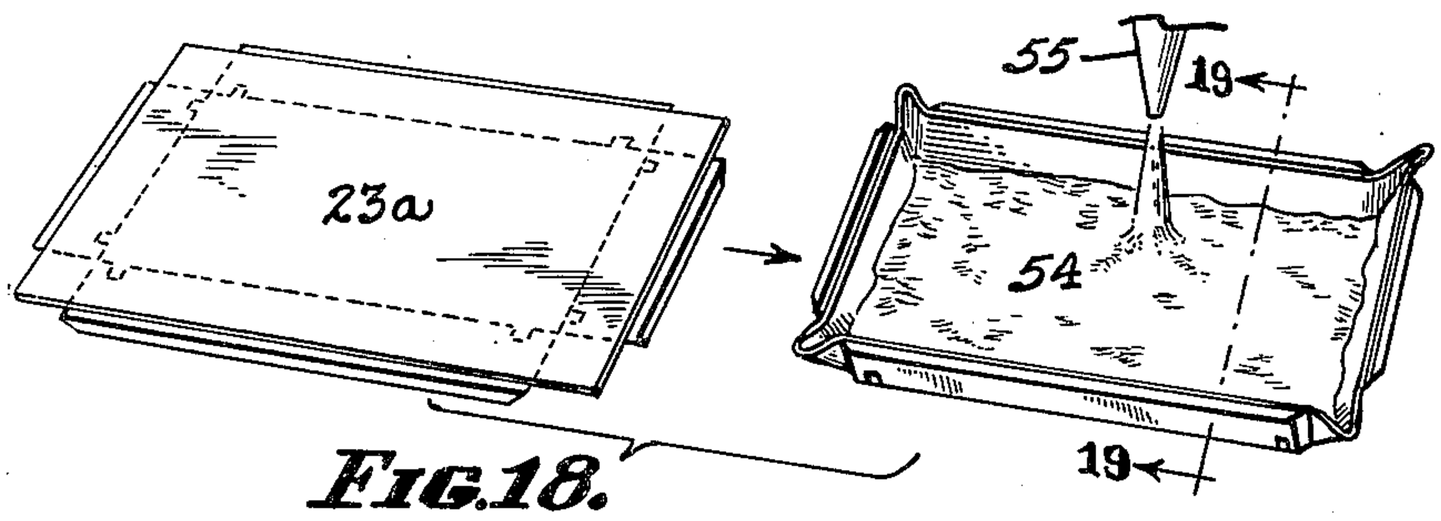

FIG. 18.

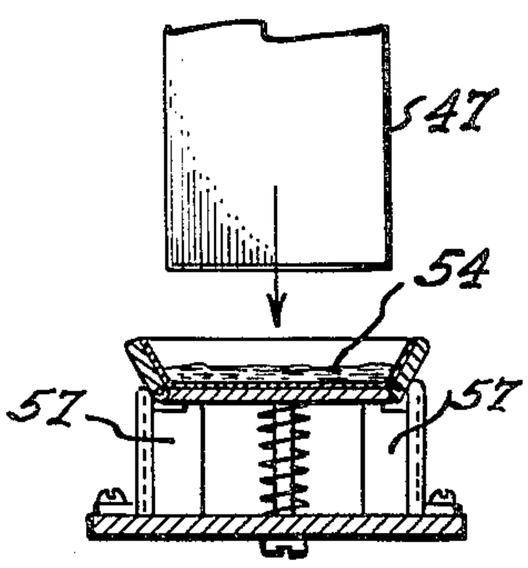

FIG. 19.

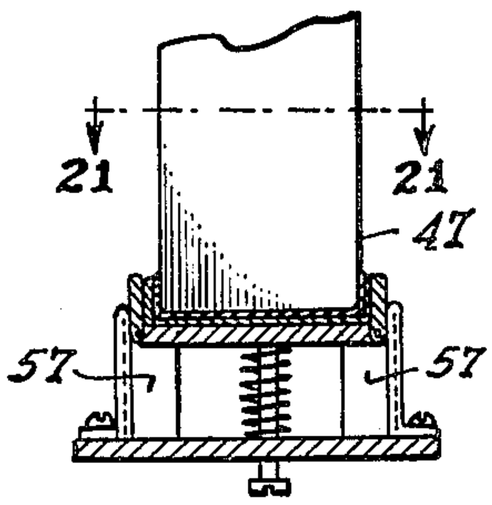

FIG. 20.

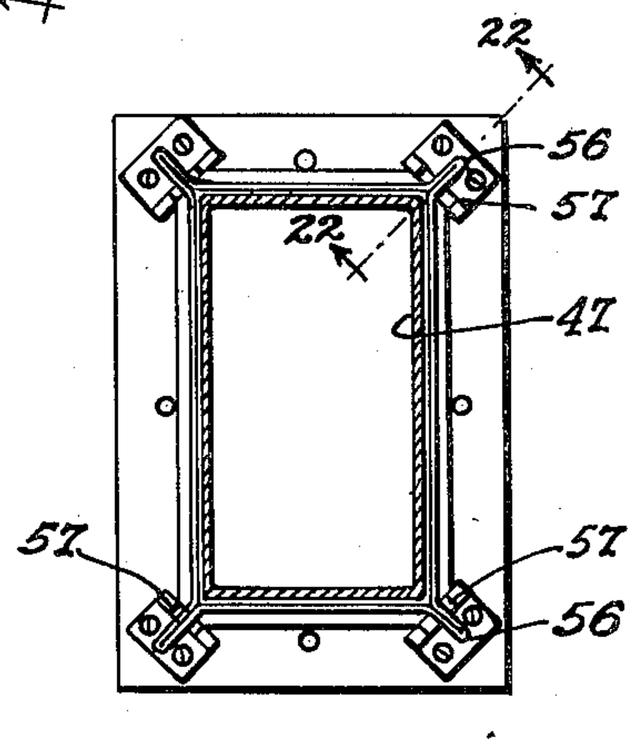

FIG. 21.

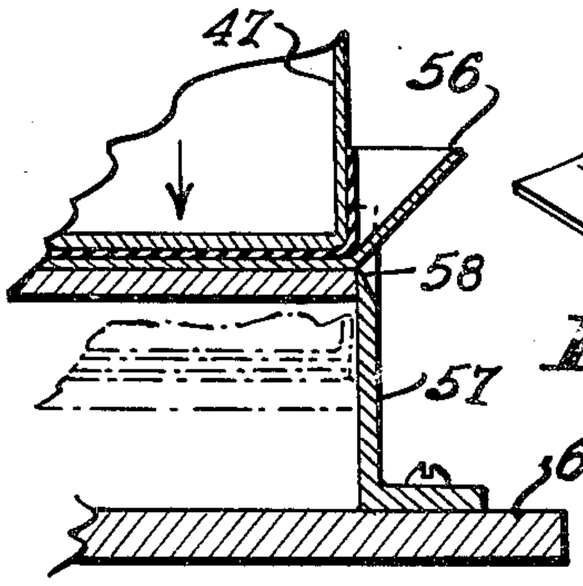

FIG. 22.

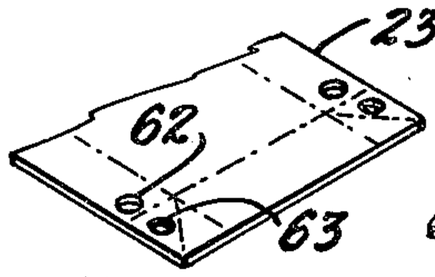

FIG. 26.

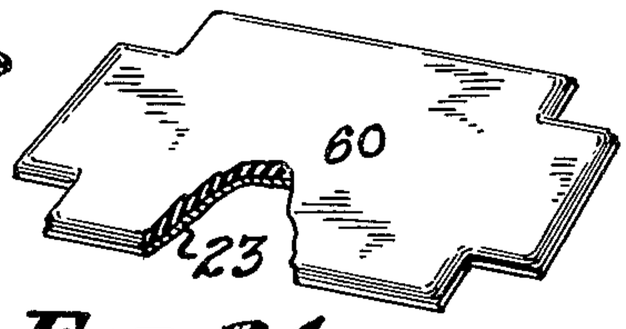

FIG. 24.

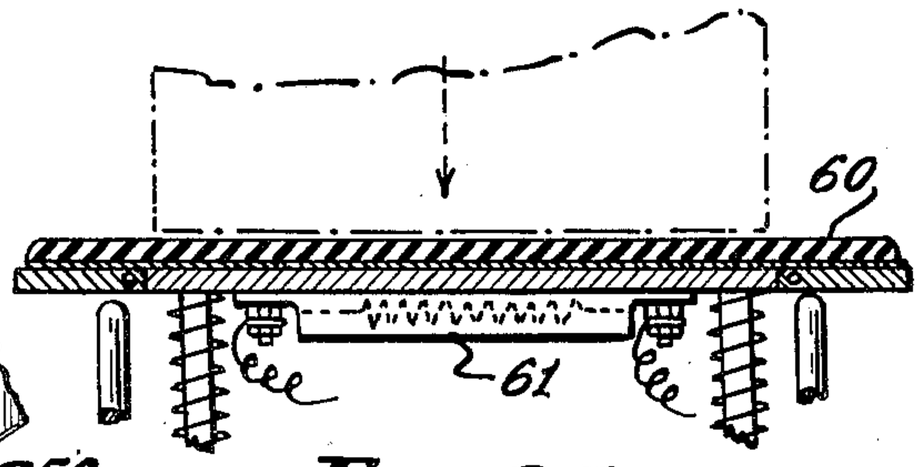

FIG. 25.

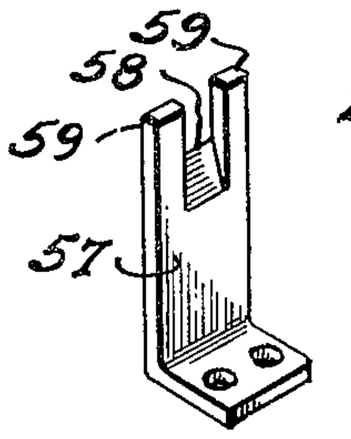

FIG. 23.

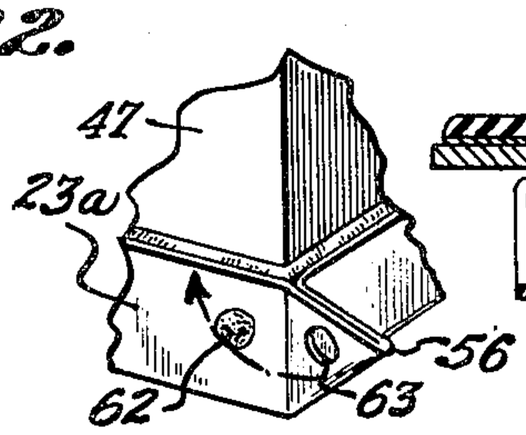

FIG. 27.

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Patented Apr. 10, 1951 2,548,251

UNITED STATES PATENT OFFICE

2,548,251

MEANS AND METHOD FOR SECURING THE EFFECTS OF END DIPPING IN GAS-TIGHT FLEXIBLE WALL PACKAGES

Samuel Bergstein, Cincinnati, Ohio

Application April 10, 1946, Serial No. 661,164

21 Claims. (Cl. 229—5.5)

1

In a co-pending application Serial No. 624,438 filed October 25, 1945, and entitled Means and Method for Rendering Paperboard Cartons Gas-Tight, and Packages so Produced, now Patent No. 2,506,057, I have set forth the manufacture of gas-tight packages in which, in a preferred embodiment, a tubed paperboard container in knocked down form is covered, as to its body walls at least, with a gas-tight surrounding sleeve or skin. This will consist preferably of a membrane or web resistant in itself to the passage of gas, such as glassine or the various non-fibrous films of commerce. The membrane will preferably be coated on its inner surface with a coating of thermo-plastic substance of gas-resistant character; and this coating may be employed to adhere the sleeve to the body walls of the carton. The sleeve will have an independent seam. The sleeve may be coterminous with the body walls, or may extend into the area of the sealing flaps without, however, being adhered to the flaps. In any event, in such a package gas-proofness at the end closures is attained primarily by an application of thermo-plastic sealing substance covering the end of the carton, lapping the sleeve to some extent, and bonded in a gas-tight fashion to the gas-tight sleeve. Hitherto this has been effected merely by dipping the ends of the carton into a bath of molten sealing substance, withdrawing them and permitting the coating to harden.

Certain difficulties are encountered in the formation of dipped coatings. There is no way of controlling the overall thickness of the coating excepting by the consistency of the thermo-plastic material in the dipping vessel. This material must be fairly fluid in order to do a good job of entering and closing crevices. There is no way of producing a coating of constant overall thickness; and since draining occurs there are likely to be sporadic areas of excessive and unnecessary thickness, and other areas of inadequate thickness. The points of danger in a closed, seal-end carton are at the corners and along the exposed free edges of flaps. Here a greater thickness of coating is desirable, but there has hitherto been no way of obtaining it. Moreover, a dipped coating as usually produced is deficient in appearance; and in some instances an exposed coating of thermo-plastic substance is undesirable for other reasons.

Principal objects of my invention relate to the provision of solutions for these problems, as will hereinafter be set forth.

These and other objects of the invention which

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will be set forth hereinafter or will be apparent to one skilled in the art upon reading these specifications, I accomplish in those structures, by those methods, and in those mechanisms of which I shall now describe exemplary embodiments.

Reference is made to the accompanying drawings wherein:

Figure 1 is a diagrammatic elevational view of a simplified mechanism with which my process may be carried on.

Figure 2 is a partial plan view thereof.

Figure 3 is an elevational view illustrative of the action of a plunger or former.

Figure 4 is a perspective view of a type of cover member which I may employ.

Figure 5 is a partial perspective view of a container treated in accordance with my invention.

Figure 6 is a sectional view of my molding mechanism.

Figure 7 is a similar view showing it in another position.

Figure 8 is a sectional view from beneath taken along the line 8—8 of Figure 7.

Figure 9 is a plan view of a dead center device which I may employ.

Figure 10 shows successively the molding device in open position and the molding device with a partially formed cover corresponding to the first and second stages of the mechanism of Figure 1.

Figure 11 is a sectional view of the molding device taken along the line 11—11 of Figure 10.

Figure 12 is a sectional view taken along the lines 12—12 of Figure 10, also showing a carton with a coated end about to be inserted into the molding means.

Figure 13 is a sectional view through a carton and the molding device.

Figure 13*a* is a partial sectional view of a molding device of somewhat different form.

Figure 14 is a perspective view of the finished gas-tight carton.

Figure 15 is a partial sectional view taken along the line 15—15 of Figure 14.

Figure 15*a* is a similar partial section of a carton treated with the molding device of Figure 13.

Figure 16 is a partial plan view of a molding member showing one mode of construction.

Figure 17 is a vertical sectional view of a form of dipping means which I may employ.

Figure 18 shows in successive stages a molding member provided with a cover member, and a partially formed cover member with coating substance being introduced into it.

Figure 19 is a partial sectional view taken along the line 19—19 of Figure 18, and also showing a carton about to be treated.

Figure 20 is a similar view showing the relationship of parts at the completion of the molding.

Figure 21 is a sectional view taken along the line 21—21 of Figure 20.

Figure 22 is a partial sectional view taken along the line 22—22 of Figure 21, and showing a knife member.

Figure 23 is a perspective view of the knife member itself.

Figure 24 is a perspective view of a coated cover member.

Figure 25 is a sectional view of a mold member with the coated cover of Figure 24 in place.

Figure 26 is a partial perspective view of a cover member treated for the adherence of the ears.

Figure 27 is a partial perspective view of a carton showing a mode of adhering the ears.

Briefly in the practice of my invention I have devised a method and means for molding a thermo-plastic, gas-tight, coating substance about the ends of containers. I employ a molding device which will hereinafter be described in detail. During the molding, the thermo-plastic, gas-tight substance will be in a non-solid and adhesive condition; and my invention further contemplates the use of a cover member on the molding device which will be folded about the end of the carton over the thermo-plastic coating and will be molded therewith, remaining as a part of the completed carton and, among other functions, keeping the tacky thermo-plastic substance away from the molding means to prevent fouling.

The thermo-plastic substance in a molten or heat softened condition may be applied first to the end cartons as by dipping, and may be transferred into the molding device on the end of the carton. Or again, the cover member may be formed as a tray and the softened thermo-plastic introduced into it prior to the association of the carton end therewith. Yet again, the thermo-plastic substance may be preassociated with the cover member and reactivated or softened prior to or during the association of the cover member and the thermo-plastic with the carton.

In Figures 1, 2 and 3 I have shown in a diagrammatic fashion, mechanism of a type useful in practicing my invention. This mechanism may be used as such, or it or its equivalent may be combined with other mechanism in a machine for performing other operations upon cartons. It will serve, however, to illustrate steps of my method and suitable means for carrying on these steps. On a machine frame 1 are mounted sprockets 2 and 3 over which a chain 4 passes. The device may be power driven; and a Geneva movement 5 may be employed to cause the chain to move in a step by step fashion. At intervals on the chain I mount base members 6 forming parts of molding devices. As the chain 4 moves, these bases ride along guides or trackways 7 on the machine so as to come to rest at a plurality of successive stations.

Exemplary details of the molding devices are shown in Figues 6 to 9 inclusive. The molding means proper comprises a platform 9 mounted for vertical reciprocation with respect to the base 6, by means of studs 10, attached to the platform and slidable in perforations in the base.

Spring means 13 operate to urge the platform to its highest position.

The platform is dimensioned so as to be slightly larger than the ends of the cartons to be treated. At the ends of the platform I pivot end formers 14, and side formers 16 are similarly pivoted to the side edges of the platform. These members are designed to be swung from a horizontal position substantially co-planar with the platform to positions substantially at right angles to the platform. To produce this swinging motion automatically I mount a series of posts 17 upon the base 6. These posts, as will be clear from the various figures, are of such length and so placed that the side and end formers 14 and 16 will overlie them when the platform is at its highest position, and the side and end members are substantially horizontal. As will be apparent from Figures 6 and 7, the result of depressing the platform will be to cause the posts 17 to raise the side and end formers to vertical positions. A limit stop member 20 may be employed to control the lowermost position of the platform, and also to operate a dead center mechanism hereinafter to be described.

As indicated above, I prefer to employ my molding mechanism with a cover member. One such cover member is shown at 23 in Figure 4. It is of flexible sheet material shaped to correspond substantially to the shape of the platform 9, and the side and end former members 14 and 16 when these are coplanar. The cover member may be made of various materials and a wide choice is permissible. I prefer a material which has gas resistance in itself, but this is not necessary. I also prefer a material which either will not be stained by the hot thermo-plastic gas-proof substance or will be uniformly stained thereby for appearance sake. The material may be any flexible paper or other fibrous web, or any of the non-fibrous films of commerce, and may be treated or not as desired. A material which I am employing in current operations comprises a metallic foil laminated by a suitable adhesive to a layer of paper as indicated in legends in Figure 4. Such a cover member where used is preferably disposed (in the first stage of the machine operation as shown at 24 in Figure 1) upon the molding device with the foil side down. The molding device will next move to a second stage of the machine for a partial forming of the cover member. At this second stage I provide a plunger 25 mounted upon a shaft 26 sliding in a bracket 27 on the machine. The plunger may be operated by a lever 28 pivoted upon another bracket 29, and rocked by a link 30, which is actuated by a cam 31, on a driven shaft of the machine. The function of the plunger 25 is to depress the platform 9 to such an extent as to produce a partial forming of the cover member 23, a condition illustrated in Figure 10. In this condition the side flanges of the cover member are bent slightly upwardly and the cover member becomes stably positioned upon the molding device.

It is desirable that the platform 9 retain its partially depressed position. This may be accomplished by structure illustrated in Figures 6, 7 and 8. The studs 10 are provided at one edge with ratchet teeth 32, and a sliding plate 33 mounted upon the base 6 is adapted to engage these teeth to retain the platform 9 in its partially depressed position. The sliding plate is operated by a member 34 pivoted as at 35 in a slot in the base 6. This member has a finger 36 engaging in a perforation in the plate 33. A dead

center mechanism illustrated in Figure 9 and comprising a fork 37, which engages the member 34 and a compression spring 38 engaging between the fork and an external abutment, is shown in Figure 6, as tending to rotate the member 34 in a counterclockwise direction so that the plate 33 is urged to the right and brought into engagement with the ratchet teeth to retain the platform 9 in its partially depressed position.

In the further course of my procedure the platform 9 will be depressed still further to a position (illustrated in Figure 7), where the side and end formers 14 and 16 are brought to vertical positions by the post 16. After that position has been attained and the molding has been completed, it is desired to have the platform return to its original or uppermost position automatically, and without interference from the ratchet teeth and the sliding plate 33. This is accomplished by causing the limit stop member 20 to engage an arm 39 on the member 34 and rotate this member clockwise past dead center, into the position shown in Figure 7. Now the plate 33 is driven to the left; and when the platform 9 is released, the springs 13 will drive it upwardly to its highest position as determined by heads on the studs 10. An abutment device 40 on one of these heads, engaging a lower arm 41 on the member 34, will reset the dead center mechanism. It will be understood that when the plunger 25 has effected the partial forming of the cover member, it will be withdrawn upwardly and the molding device will move to a third station as shown in Figure 1. At this station the carton end will be introduced into the molding device.

The thermo-plastic substance may be associated with the carton end by dipping. For this purpose I may provide, adjacent the machine of Figures 1 to 3, a dipping arrangement illustrated in Figure 17, and comprising a pan 42 in which the thermo-plastic 43 may be maintained molten by an electric or other heater 44. A stop member or platform 45, the height of which may be made adjustable by screws 46, so as to control the depth of dipping, may be provided; and the carton 47 may be dipped in this device by hand or by mechanism.

Figure 12 shows the end of the carton 47, bearing a dipped coating 48 of the thermo-plastic substance, about to be inserted into the molding device. This may be done by hand or by mechanism, and will be done while the coating 48 is still heat softened. One result of the insertion will be to depress the platform 9 to the position shown in Figure 7, resulting in a swinging upwardly of the side and end forming members 14 and 16, to substantially the vertical position. The irregular coating 48 of thermo-plastic substance will be molded by displacement about the end of the carton and contiguous sections of the carton body walls; and if the position shown in Figure 7 is maintained until the thermo-plastic has chilled sufficiently to be self-sustaining, the carton will have been provided with a molded end cap which is also covered by the protective cover member 23.

As hereinabove indicated, there are various places at the ends of a carton where a positive coverage with a sufficient mass of the thermo-plastic substance is vital if gas-proofness is to be dependably obtained. Such areas usually lie at the exposed free edges of the closure flaps and at the corners of the carton. I prefer so to carry on my molding as not alone to even up the end coating of thermo-plastic substance, but also to mold thicker areas of the thermo-plastic at these points or areas of danger. This may readily be done by configuring the platform 9 and the side and end forming members 14 and 16. One such configuration is illustrated in Figures 10 to 13 inclusive where edge portions of the platform have been relieved as at 9*a* leaving a central elevated portion 9*b*. Also the end and side forming members are progressively relieved or tapered toward their hinges as at 14*a* and 16*a*. The result of using a molding device of this character will be apparent from Figures 13 to 15 inclusive. About the periphery of the top of the carton there will be a thickened section of the thermo-plastic illustrated at 49, merging with a thickened but tapering section 50, about the end edges of the body walls. Centrally of the top or end there will be a depressed area 51 where an excess thickness of the thermo-plastic is not required. This depressed area adds to the appearance of the sealed article as will be evident.

Again, instead of configuring the platform 9, I may merely groove the side and end formers 14 and 16, as will be clear at 16*b*, in Figure 13*a*. The result will be (as seen in Figure 15*a*), a thickened bead 52 all about the corners and edges of the closure with a relatively uniform coating elsewhere. Another result of the molding operation in any of its forms, is that a certain degree of pressure is exerted upon the non-solid thermo-plastic during the molding operation, forcing it into crevices of the carton closure and preventing expanding gas from within the carton blowing holes in the softened thermo-plastic. The great improvement in appearance of my molded seals, as compared with a dipped, drained and uncovered coating of a thermo-plastic will be clearly apparent from such figures as 5 and 14.

The side and end formers 14 and 16 may be pivoted to the platform 9 by providing intermeshing ears on each, through which pintles 53 are passed. Other modes of construction may be adopted, it being desired that the molding device when in the position of Figure 7, shall enclose the end of the carton and contiguous end portions of the carton body walls, in a sufficiently continuous fashion for molding purposes.

In another mode of operation I may position upon the molding device a cover member 23*a* (Figure 18), which does not have cut-out corners. The operation of the plunger 25 or its equivalent in partially forming this cover member will be to make of it a shallow tray with partially bellows-folded corners. Into this tray I may, by suitable mechanism, inject or pour a quantity 54 of heat softened thermo-plastic material, as from a nozzle 55. Precautions should be taken to effect a fairly even distribution of the thermo-plastic over the bottom of the tray. The carton 47 may then have its end introduced into the thermo-plastic (without previous end dipping), as will be clear from Figure 19. When the carton further depresses the platform, resulting in the upswinging of the end and side formers 14 and 16, the still softened thermo-plastic will be molded about and bonded to the carton end as will be clear from the description hereinabove.

When a cover member such as 23*a* is employed, small triangular ears will be formed from the cover member at the corners of the carton. These ears are indicated at 56. They may be allowed to remain in place and folded over against the body walls of the carton.

Provision may be made to adhere the ears in

folded-over position, using the thermo-plastic substance **54** for the purpose. To this end, as shown in Figure 26, I may form in one half section of each bellows-folding corner of the cover member **23***a*, a perforation **62**, forming a corresponding perforation **63** in the side or end walls of the cover member. When, during the molding, the cover member and its contained thermoplastic coating are molded about the carton end, some of the thermoplastic will be exposed by the perforation **62**. When the ear **56** is folded over in the direction of the arrow in Figure 27, the thermo-plastic adhesives can be employed to hold the ear in place. It will enter the perforation **63** and engage the opposite, unperforated side of the ear, holding the ear firmly in place. If the folding of the ears is delayed, after molding, until the thermoplastic has set, it may be reactivated by gentle heat. Or again, the ears may be removed, giving a structure like those illustrated in Figures 5 and 14. The removal may be accomplished in various ways either during the molding or afterward. The side and end formers may be so configured as to cut or pinch off the ears when the formers are swung to a vertical position. Or if the side and end formers are beveled at the corners, stationary knives **57**, fastened to the base **6**, may be used to cut off the ears automatically when the platform is moved a sufficient distance in a downward direction. Each knife **57** will have a cutting blade portion **58** and may also have upstanding arms **59**, which serve the combined function of protecting the operator from the knife edge and of insuring the position of the blade with respect to the beveled portions of the side and end formers.

Yet another mode of operation involves the coating of the cover member **23** with a coating **60** of thermo-plastic sealing substance of sufficient thickness to form the desired end seal. The web for the cover member may be coated in roll form with the thermo-plastic and after cooling, and perhaps storage, the coated cover members **60** of Figure 24 may be cut out by dies or otherwise. These coated cover members may be positioned on the molding device in the manner hereinabove described; and the molding operation will be the same as that described, excepting for the necessity of softening or reactivating the thermo-plastic substance. This may be accomplished in various ways either before or after the cover member is placed upon the molding device. To assist in forming a strong bond, the end of the carton may be warmed before it is associated with the thermo-plastic. It is not necessary to heat the thermo-plastic to such a flowable consistency that any substantial amount of it will be lost. A heater **61** may be employed to maintain the molding device at a temperature to produce a sufficient softening of the thermo-plastic coating; or any combination of these methods may be employed.

Modifications may be made in my invention without departing from the spirit of it.

Having described my invention in certain exemplary embodiments, what I claim as new and desire to secure by Letters Patent is:

1. A process of treating closed cartons having end closure flaps and body walls surrounded by a gas-tight sleeve which comprises associating a non-solid thermo-plastic sealing substance with an end of said carton so as to cover said end, and molding said sealing substance about said end and contiguous end portions of the body wall, so as to insure complete coverage of and

bond with the portions of said carton with which said thermo-plastic sealing substance is associated, with areas of greatest thickness adjacent exposed edges of said sealing flaps.

2. The process claimed in claim 1 in which a cover member of flexible material is associated with said thermo-plastic sealing substance so as to cover it, when said substance is in molten condition.

3. The process claimed in claim 1 in which a cover member of flexible material is associated with said thermo-plastic sealing substance so as to cover it when said substance is in molten condition, and in which the molding operation is carried on by positioning said cover member on a molding device comprising a platform for covering the end of said carton and movable members for molding said thermo-plastic sealing substance about contiguous end portions of the body walls of said carton, whereby said cover member is formed along with said thermo-plastic sealing substance and remains as a part of the molded configuration so formed.

4. In a process of treating the ends of gas-tight, closed cartons, the step of providing a molding member comprising a platform to cover the end of the carton, and relatively movable members for molding a thermo-plastic sealing substance about contiguous end portions of the body walls of cartons, positioning on said mold member a cover member of flexible material, associating a thermo-plastic sealing substance with the end of a carton and molding said thermo-plastic sealing substance about said end with said cover member overlying and becoming affixed to the molded thermo-plastic sealing substance.

5. The process claimed in claim 4 in which the thermo-plastic sealing substance is first associated with a carton end by dipping said carton end in a bath thereof, whereupon said carton end is brought against said cover member.

6. The process claimed in claim 4 wherein said cover member is partially formed on said molding device with concurrent movement of said relatively movable members, wherein a quantity of said thermo-plastic sealing substance is placed in said cover member which has now assumed the form of a tray, and wherein said carton end is brought against said sealing substance and the molding concluded by further movement of said relatively movable members.

7. The process claimed in claim 4 wherein said cover member is partially formed on said molding device with concurrent movement of said relatively movable members, wherein a quantity of said thermo-plastic sealing substance is placed in said cover member which has now assumed the form of a tray, and wherein said carton end is brought against said sealing substance and the molding concluded by further movement of said relatively movable members, corner portions of said cover member being formed in the shape of bellows-folded ears, the process including the further step of removal of said ears.

8. The process claimed in claim 4 wherein said cover member is partially formed on said molding device with concurrent movement of said relatively movable members, wherein a quantity of said thermo-plastic sealing substance is placed in said cover member which has now assumed the form of a tray, and wherein said carton end is brought against said sealing substance and the molding concluded by further movement of said relatively movable members,

corner portions of said cover member being formed in the shape of bellows-folded ears, the said process including the further step of folding said ears against contiguous portions of the body walls of said carton and adhesively securing said ears.

9. The process claimed in claim 4 wherein a coating of thermo-plastic substance is preassociated with said cover member, and wherein the carton end is brought against said coating, said process including the step of softening said coating for the molding.

10. In a device for the purpose described, a molding means comprising a platform to cover the end of a carton, means mounting said platform for reciprocatory movement transverse its plane, side and end molding members pivoted to the sides and ends of said platform and adapted to be swung from a substantially coplanar position to a position substantially at right angles to said platform, and means for engaging said side and end molding members and acting upon movement of said platform, to swing said members from said first mentioned position to said second mentioned position, said platform having a highest position in which said side and end molding members are in the substantially coplanar position, and an intermediate position in which said side and end molding members are partially deflected so that a cover member placed on said molding device can be partially formed thereby, automatically acting holding means for fixing said molding device in the intermediate position, the molding device having a third position in which said molding members are substantially at right angles to said platform, and means for rendering said holding means inoperative in said last mentioned position, and resilient means for returning said platform to the first mentioned position.

11. In a device of the character described, a base, a platform mounted above said base on studs for reciprocation toward and from said base in a direction transverse the plane of said platform, resilient means for urging said platform to a position away from said base, side and end molding members pivoted to said platform and adapted, when said platform is in said last mentioned position, to lie substantially coplanar therewith, and studs on said base lying beneath said side and end molding members and acting, when said platform is moved toward said base, to swing said side and end molding members to positions substantially normal to said platform, means for moving said base through a path from station to station, there being a first station at which a cover member can be placed on said platform, and side and end molding members, there being a second station, a plunger at said second station for partially depressing said platform toward said base to form said cover member, there being a third station at which a carton end may be presented to said platform and said platform further depressed.

12. In a device of the character described, a base, a platform mounted above said base on studs for reciprocation toward and from said base in a direction transverse the plane of said platform, resilient means for urging said platform to a position away from said base, side and end molding members pivoted to said platform and adapted, when said platform is in said last mentioned position, to lie substantially coplanar therewith, and studs on said base lying beneath said side and end molding members and acting, when said platform is moved toward said base, to swing said side and end molding members to positions substantially normal to said platform, means for moving said base through a path from station to station, there being a first station at which a cover member can be placed on said platform, and side and end molding members, there being a second station, a plunger at said second station for partially depressing said platform toward said base to form said cover member, there being a third station at which a carton end may be presented to said platform and said platform further depressed, said device including means for depositing in the partially formed cover member a quantity of softened thermoplastic sealing substance.

13. In a device of the character described, a base, a platform mounted above said base on studs for reciprocation toward and from said base in a direction transverse the plane of said platform, resilient means for urging said platform to a position away from said base, side and end molding members pivoted to said platform and adapted, when said platform is in said last mentioned position, to lie substantially coplanar therewith, and studs on said base lying beneath said side and end molding members and acting, when said platform is moved toward said base, to swing said side and end molding members to positions substantially normal to said platform, means for moving said base through a path from station to station, there being a first station at which a cover member can be placed on said platform, and side and end molding members, there being a second station, a plunger at said second station for partially depressing said platform toward said base to form said cover member, there being a third station at which a carton end may be presented to said platform and said platform further depressed, said device including means for depositing in the partially formed cover member a quantity of softened thermoplastic sealing substance, said device including means for retaining said platform in partially depressed position, and for releasing said platform when fully depressed.

14. In a device of the character described, a base, a platform mounted above said base on studs for reciprocation toward and from said base in a direction transverse the plane of said platform, resilient means for urging said platform to a position away from said base, side and end molding members pivoted to said platform and adapted, when said platform is in said last mentioned position, to lie substantially coplanar therewith, and studs on said base lying beneath said side and end molding members and acting, when said platform is moved toward said base, to swing said side and end molding members to positions substantially normal to said platform, means for moving said base through a path from station to station, there being a first station at which a cover member can be placed on said platform, and side and end molding members, there being a second station, a plunger at said second station for partially depressing said platform toward said base to form said cover member, there being a third station at which a carton end may be presented to said platform and said platform further depressed, and cutting means on said base operating to sever ears of said cover member projecting between the raised side and end molding members when said platform is fully depressed.

15. In a process of treating closed cartons having enclosing body walls, the step of associating a non-solid thermoplastic sealing substance with an end of said carton and contiguous end portions only of said body walls, and molding said sealing substance about said end and contiguous end portions of the body walls, so as to assure complete coverage of and bond with the portions of said carton with which said thermoplastic substance is associated, with areas of greatest thickness adjacent exposed edges of said body walls and coextensive with said edges.

16. The process of claim 15 in which a cover member of flexible material is associated with said thermoplastic sealing substance so as to cover it, when said substance is in molten condition.

17. A moisture-, vapor-, and gas-tight package formed of flexible material and comprising a structure having enclosing body walls, a coating of thermoplastic sealing substance similarly covering both ends of said structure and contiguous end portions only of said body walls and bonded thereto, said coating being in molded, shaped condition with areas of predetermined greater thickness enclosing end edges of said body walls, said areas of greater thickness extending continuously throughout the periphery of the said end edges of the walls.

18. The structure claimed in claim 17 wherein said structure having enclosing body walls is a paperboard carton.

19. The structure claimed in claim 17 including a cover member of flexible material covering each said coating of thermoplastic substance and bonded thereto.

20. The structure claimed in claim 17 wherein said structure is a paperboard carton and wherein said carton has a gas-tight sleeve covering the said body walls, the said coatings being bonded to end portions only of said sleeve.

21. The structure claimed in claim 17 wherein said structure is a paperboard carton and wherein said carton has a gas-tight sleeve covering the said body walls, the said coatings being bonded to end portions only of said sleeve, said package including a cover member of flexible material covering each said coating of thermoplastic substance and bonded thereto.

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