

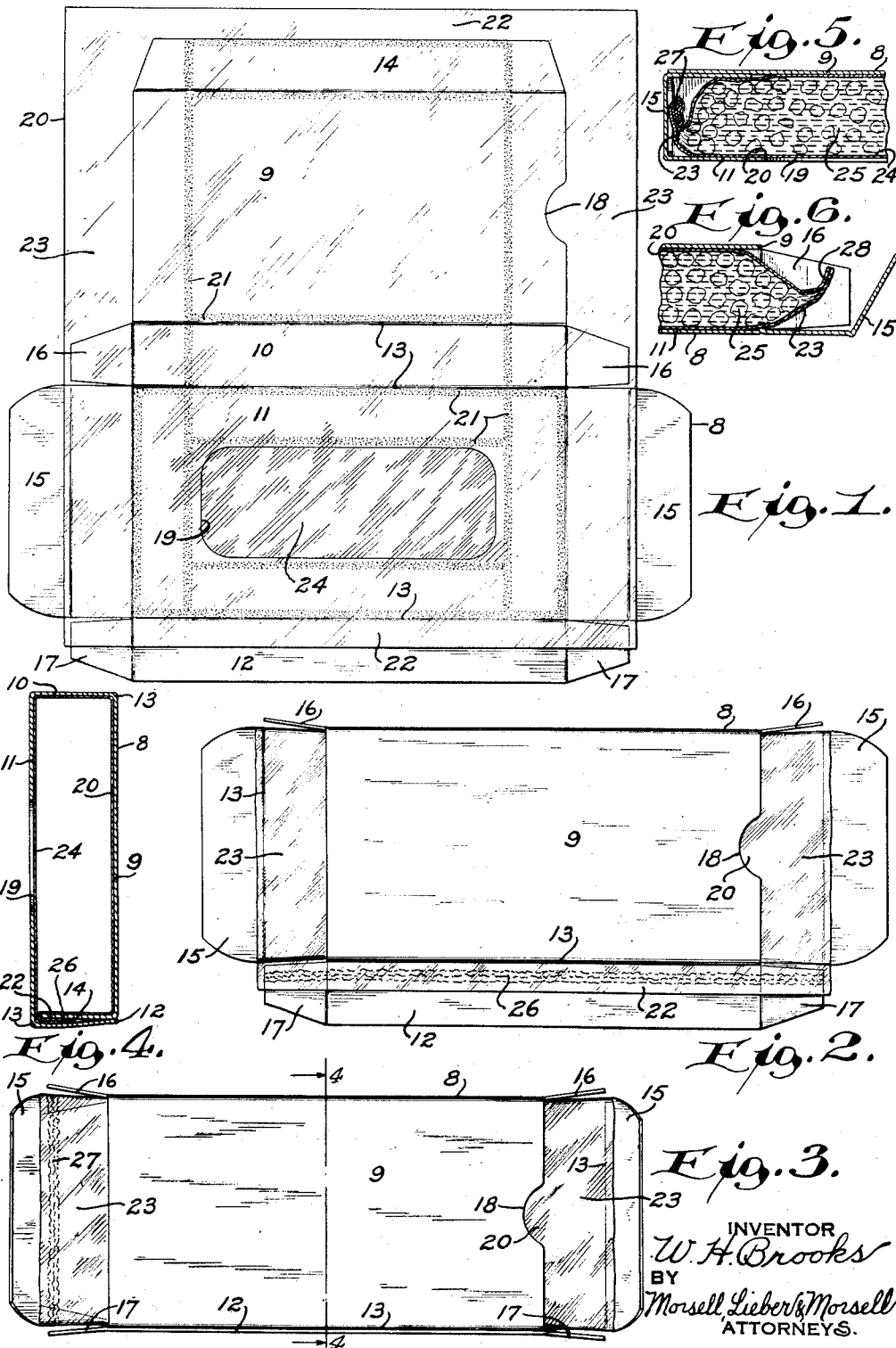
May 26, 1942.

W. H. BROOKS

2,284,604

ART OF PACKING

Filed April 22, 1940



INVENTOR
W. H. Brooks
BY
Morsell, Lieber & Morsell
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,284,604

ART OF PACKING

William H. Brooks, Wauwatosa, Wis., assignor to
Milprint, Inc., Milwaukee, Wis., a corporation
of Wisconsin

Application April 22, 1940, Serial No. 330,853

7 Claims. (Cl. 93—3)

This invention relates in general to improvements in the art of packing diverse commodities in sealed containers, and relates more specifically to an improved method of packaging and to an improved package or wrapper produced by the method.

Generally defined, one object of my invention is to provide an improved method of concealing and confining batches of solid or liquid commodity in relatively inexpensive but effective wrappers.

Another general object of my invention is to provide an improved carton or wrapper which may be produced at relatively low cost and which is adapted to hermetically seal various commodities or merchandise.

It has heretofore been common commercial practice to wrap diverse commodities in transparent, inexpensive and relatively impervious sheets of either regenerated cellulose or stabilized rubber hydrochloride, for the purpose of retaining the packed material in sanitary condition and to facilitate merchandising thereof in batches. While the regenerated cellulose is satisfactory for some purposes, the rubber hydrochloride because of its tenaciousness, its imperviousness to the passage of liquid and gases, and its adaptability to vulcanization or heat sealing, is more suitable for packing commodities such as delicate foods and other materials either in dry or moist state so as to insure permanent preservation and confinement thereof. Because of the relatively thin and highly flexible characteristics of these transparent wrapping sheets, the packages resulting from their use alone are rather irregular and difficult to stack and handle as compared to rectangular cardboard boxes; and the thinly wrapped packages are also apt to be punctured or torn with resultant waste or exposure of the commodity. Some attempts have therefore been made to first pack batches of the commodity such as liquid or foods immersed in liquid, in rubber hydrochloride or similar wrappers, and to thereafter confine the transparent thinly wrapped packages in cardboard boxes or cartons for additional protection; but this type of double wrapper is objectionable because the enwrapped commodity cannot be displayed in its transparent wrapper without first removing the protective box, and also because it is extremely cumbersome to remove the inner package for partial withdrawal of its contents and reinsertion of the broken package within the outer carton. This dual method of packing also makes it undesirably difficult to handle the thin wrappers

during loading or filling thereof with liquid or the like, while also making it difficult to dispense only part of the commodity and to thereafter close the package. The prior method of packing with individual wrapping elements such as a thin wrapping sheet cooperating with a separate carton, also involved difficulty in wrapping and precluded the possibility of providing the inner wrapper with printing or decoration which was visible and legible when the wrappers were assembled into a package, without providing a special window in the outer box through which the inner box might be seen, and even if such window were provided the inner package could shift so that the indicia thereon would not be visible through the window opening. The prior attempts at producing such compound wrappers have therefore been objectionable for various reasons, and have not met with universal acceptance by the trade.

I have discovered that all of the foregoing objections to prior compound wrappings comprising an inner wrapper of highly protective and flexible sheet material and an outer rigid carton or housing box, can be readily overcome by initially and permanently attaching the inner wrapping sheet to the inner flat face of the blank from which the box is subsequently formed, so that both elements of the single composite wrapper can be initially printed or decorated and subsequently assembled and handled as a unit. The lining sheet can also be utilized as a transparent closure for a window opening in the box, and since this exposed transparent covering area or window pane cannot shift with respect to the carton, the window may be provided with indicia which remain in place and are therefore visible at all times. The lining material may be conveniently and hermetically sealed at its overlapping longitudinal seam during assembly of the box, and subsequently protected at the sealed seam by final union of the box walls, and the inner package may be finally loaded and sealed without danger of having one part of the composite wrapper shift with respect to the other. The outer and inner wrapping elements are both reenforced and strengthened by virtue of their permanent interconnection, and one end of the package may be permanently sealed or both ends may be made accessible for removal of commodity.

It is therefore a more specific object of the present invention to provide an improved method of doubly packing commodity in an internal flexible hermetically sealed wrapping and an outer

more rigid protective housing, whereby most effective concealment and protection of the enwrapped material is afforded and convenient packing of the material is made possible.

Another specific object of the invention is to provide a relatively inexpensive and durable compound wrapper or covering for concealing diverse solid or fluent materials, and which can be readily handled, assembled, loaded and emptied as a single unit.

A further specific object is to provide an improved composite commodity wrapper comprising a cardboard box lined with transparent viscous material such as rubber hydrochloride, and provided with a window covered with a definite portion or area of the transparent lining material, the compound wrapper moreover being collapsible while empty for shipping and stacking purposes.

Still another specific object of my invention is to provide a packing or housing assemblage composed of a relatively rigid outer carton formed of a single blank and having therein an impervious tubular lining permanently secured within the carton or box, and freely accessible at one or both ends for loading and withdrawal of the packed commodity.

These and other specific objects and advantages of my invention will be apparent from the following detailed description.

A clear conception of the several steps involved in my improved packing method, and of the construction of my improved compound wrapping, may be had by referring to the drawing accompanying and forming a part of this specification wherein like reference characters designate the same or similar parts in the various views.

Fig. 1 is a plan view of a distended and scored carton blank having a flat transparent liner sheet initially permanently secured to the inner side of the blank preparatory to the step of assembling the composite wrapper;

Fig. 2 is a view showing the composite wrapper of Fig. 1 partially assembled, with the transparent lining sheet heat sealed along its overlapping edge portions to form a tube;

Fig. 3 is a view similar to that of Fig. 2, but with the side walls of the box fully assembled and united, and showing one end of the lining tube heat sealed;

Fig. 4 is a somewhat enlarged transverse section through the compound wrapper, taken along the line 4—4 of Fig. 3;

Fig. 5 is a similarly enlarged fragmentary longitudinal section through the normally sealed and lower end of the commodity laden composite wrapper; and

Fig. 6 is a likewise enlarged fragmentary longitudinal section through the opposite normally sealed but more accessible upper end of the loaded container.

While the invention has been shown and described herein as being applied to a composite wrapper of definite shape and size formed of cardboard and material such as rubber hydrochloride, it is not my desire or intent to thereby unnecessarily restrict the scope or utility of the improvement.

Referring to the drawing, the several steps of my improved method of packing are revealed in sequence, and in Fig. 1 is shown a typical generally rectangular cardboard carton or box blank 8 spread or distended in flat condition, the blank 8 comprising a series of rectangular panel walls

9, 10, 11, 12 hingedly interconnected along parallel score lines 13, an assembly panel 14 foldably secured to the edge of the wide wall 9, closure flaps 15 swingably associated with the opposite ends of the other wide panel wall 11, and tongues 16, 17 hingedly connected with the opposite ends of the narrow walls 10, 12 respectively. The wide rear panel wall 9 may be provided with a thumb notch 18, while the other wide front wall 11 may be provided with one or more window openings 19; and the assembly panel 14 is adapted to fold within and to be adhesively attached to the narrow wall 12 when the blank is assembled.

A generally rectangular relatively thin, flexible and transparent sheet 20 of material such as rubber hydrochloride, is symmetrically and adhesively attached in flat condition to the inside of the cardboard blank 8 by means of local adhesive areas 21, so that the side edge portions 22 of the sheet 20 extend beyond the outer side edges of the carton panels 11, 14, while the end edge portions 23 extend considerably beyond the end edges of all of the panels 9, 10, 11, 12, 14; and the medial portion 24 of the sheet 20 spans the window opening 19 to provide a transparent window pane. The blank 8 and liner sheet 20 thus form a unitary compound wrapper which may be freely folded along the score lines 13, but the sheet 20 is free from direct attachment to the flaps 15 and tongues 16, 17.

The permanent attachment of the liner sheet 20 to the box blank 8 in the manner above described, constitutes the first step of my improved wrapping method, and the outer or normally exposed areas of the compound wrapper may be provided with decorative indicia such as printing or the like, preparatory to assembly and loading of the package with commodity 25. The next step of the method is depicted in Fig. 2, wherein the walls 9, 10, 11 and the panel 14 have been folded along the score lines 13 into box formation, thereby causing the side edge portions 22 of the liner sheet 20 to overlap each other. These overlapped portions 22 are then vulcanized or heat sealed along an area 26, or otherwise intimately united to convert the lining into a tube extending somewhat beyond the ends of the carton walls; and after such sealing has been effected, the narrow wall 12 may be adhesively or otherwise permanently attached to the outside of the panel 14 to snugly confine the interconnected sheet portions 22 between the wall panels 12, 14 as clearly shown in Figs. 3 and 4. The projecting and overlapped end portion 23 of the sheet 20 at the bottom of the initially assembled wrapper may then be vulcanized or heat sealed along an area 27, or otherwise tightly closed, to convert the lining sheet into a relatively impervious bag, and the sealed bag bottom may be subsequently folded into the bottom of the box and the adjacent tongues 16, 17 and flap 15 may be folded to closing position and finally sealed, see Figs. 3 and 5. It is noteworthy, that after the wrappers have been assembled as shown in Fig. 3, the same may be collapsed into flat condition for stacking and convenient shipment, and each assemblage may be subsequently distended for loading or filling.

The assembled compound wrappers may be supplied with batches of diverse commodities 25, such as liquid, mixed liquid and solids, or granular or fibrous solids alone, through the open upper ends and while the assemblages are either in vertical or inclined positions, after which the

upper overlapped sheet portions 23 may be vulcanized or heat sealed along an area 28, or otherwise tightly closed, as illustrated in Fig. 6. The finally sealed bag mouth may thereafter be folded into the outer carton and the tongues 16, 17 and flaps 15 may be folded to finally close the completed package. When it is desired to remove some or all of the commodity 25, the upper flaps 15 and tongues 16, 17 may be opened and the seal 28 may be broken by cutting off a portion thereof. If only a portion of the charge is removed, the upper opened end may be resealed or merely folded over, and the tongues 16, 17 and flap 15 may be restored to closed position to again confine the remaining commodity 25.

From the foregoing detailed description it will be apparent that my present invention provides a new and simplified method of effectively sealing and confining batches of either solid or liquid commodity in relatively inexpensive cartons or wrappers which can be conveniently assembled and handled while carrying on the wrapping method. The inner liner or sheet 20 while providing a hermetically sealed enclosure for the commodity 25, also provides a window pane through which the confined material is constantly visible; and the outer relatively rigid covering formed by the blank 8, not only protects the inner lining but also makes it possible to conveniently pack and stack the rectangular packages. By virtue of the fact that the sheets 20 are initially permanently attached to the blanks 8, the composite wrappers thus formed may be readily handled and assembled, and the relatively stiff outer enclosure makes it possible to more conveniently handle the wrapper during loading and when removing commodity 25 therefrom. It has been found that the use of impervious material such as rubber hydrochloride, makes it possible to readily confine and preserve liquids, semi-liquids, or solids of a delicate nature. Packages of this type will effectively confine the aroma and flavors in materials such as tobacco, coffee, or the like, and have also been found to serve as most efficient receptacles for confining and preserving granular materials immersed in liquid, such as pickles, olives, or the like. The improved wrappers may obviously be manufactured and sold at moderate cost, and may be attractively decorated to present a neat appearance while at the same time making it possible to compactly stack and confine the packages during shipment thereof. The invention has proven highly satisfactory in actual use, and the cartons may obviously be of various shapes and sizes and used for the confinement of diverse commodities. The mode of sealing the side of the lining tube and of confining the sealed seam insures provision of a tight joint at the side of the tube, and it has been found that the use of heat sealing insures effective closure of the opposite ends of the tubular lining.

It should be understood that it is not desired to limit this invention to the exact steps of the method, or to the precise construction of the wrapper, herein shown and described, for various modifications within the scope of the claims may occur to persons skilled in the art.

I claim:

1. The method of packing, which comprises, permanently attaching a relatively impervious and flexible flat sheet to the inside of a flat foldable cardboard blank along local longitudinal and transverse areas disposed entirely within and remote from the marginal edge of the sheet,

folding the blank into box formation while causing the opposite side edges of the liner sheet to protrude and overlap, heat sealing the protruding sheet edges to form a tube and firmly confining the seam between adjacent overlapped wall portions of the box, and sealing the opposite ends of the tube to confine material therein.

2. The method of packing, which comprises, permanently attaching a relatively impervious and flexible flat sheet to the inside of a flat foldable cardboard blank along local longitudinal and transverse areas disposed entirely within and remote from the marginal edge of the sheet, folding the blank into box formation while causing the opposite side edges of the liner sheet to protrude and overlap, heat sealing the protruding sheet edges to form a tube and firmly confining the seam between adjacent overlapped wall portions of the box, heat sealing the opposite ends of the tube to hermetically confine material therein, and finally closing the opposite ends of the box to completely confine the sealed inner wrapper.

3. The method of packing, which comprises, permanently attaching a flat relatively flexible sheet along local longitudinal and transverse areas disposed within and remote from the marginal sheet edges to the inside of a flat relatively rigid blank having foldable adjoining walls and an assembly panel projecting considerably beyond the adjacent marginal edge of the sheet, folding the blank into box formation while causing the opposite side edges of the liner sheet to protrude and overlap, sealing the protruding sheet edges to form a tubular lining having an outwardly projecting longitudinal seam, and confining the seam beneath a portion only of the assembly panel and against the adjacent wall.

4. The method of packing, which comprises, permanently attaching a flat relatively flexible sheet along local longitudinal and transverse areas disposed within and remote from the marginal sheet edge to the inside of a flat relatively rigid blank having foldable adjoining walls and an assembly panel projecting considerably beyond the adjacent marginal edge of the sheet, folding the blank into box formation while causing the opposite side edges of the liner sheet to protrude and overlap, sealing the protruding sheet edges to form a tubular lining having an outwardly projecting longitudinal seam, and permanently confining the tube seam between a portion only of the assembly panel and one of said walls.

5. The method of packing, which comprises, initially permanently attaching a flat relatively flexible sheet along local longitudinal and transverse areas disposed within and remote from the marginal sheet edges to the inside of a flat relatively rigid blank having foldable adjoining walls and an assembly panel hingedly connected to one end wall and cooperable beyond the adjacent marginal edge of the sheet with the opposite end wall, folding the walls into box formation while causing the opposite protruding edges of the liner sheet to overlap outside the box, permanently uniting the protruding sheet edges to form a tubular lining having an outwardly projecting longitudinal seam, and permanently confining the tube seam between a portion only of the assembly panel and said opposite end wall.

6. The method of packing, which comprises, permanently attaching a flat sheet of rubber hydrochloride along local longitudinal and trans-

verse areas disposed within and remote from the marginal sheet edges to the inside of a flat foldable cardboard blank having an assembly panel projecting considerably beyond the adjacent marginal edge of the sheet, folding the blank into box formation while causing the opposite side edges of the liner sheet to protrude and overlap, heat sealing the overlapping sheet edges to form a tubular lining having an outer longitudinal seam, and confining the seam beneath a portion only of the assembly panel and against the adjacent side wall.

7. The method of packing, which comprises, permanently attaching a flat transparent flexible sheet along local longitudinal and transverse

5 areas disposed within and remote from the marginal sheet edges to the inside of a flat foldable cardboard blank having a medial window opening spanned by the sheet and also having an assembly panel at one end projecting considerably beyond the adjacent marginal edge of the sheet, folding the blank into box formation while causing the opposite edges of the liner sheet to protrude and overlap, sealing the overlapping sheet edges to form a tubular lining having an outwardly projecting longitudinal seam, and permanently confining the seam beneath a portion only of the assembly panel and against the adjacent side wall.

15
WILLIAM H. BROOKS.