Feb. 20, 1945. S. H. BERCH 2,369,654

PAPER RECEPTACLE

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Fig. 1.

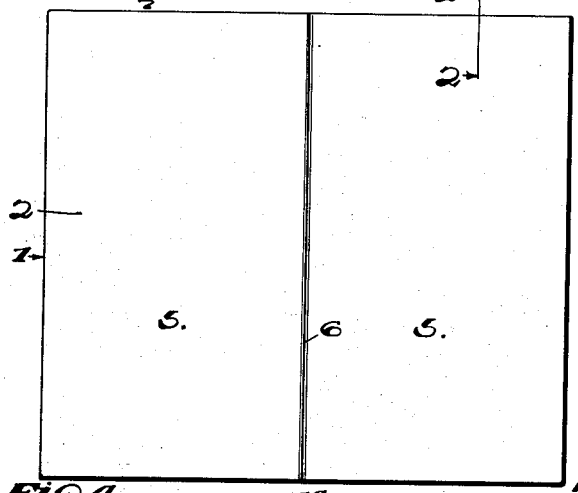


Fig. 2.

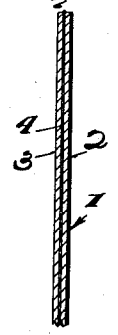


Fig. 3.

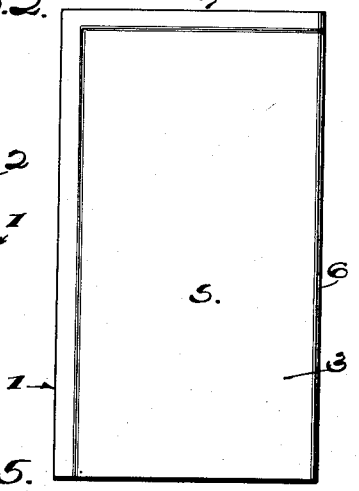


Fig. 4.

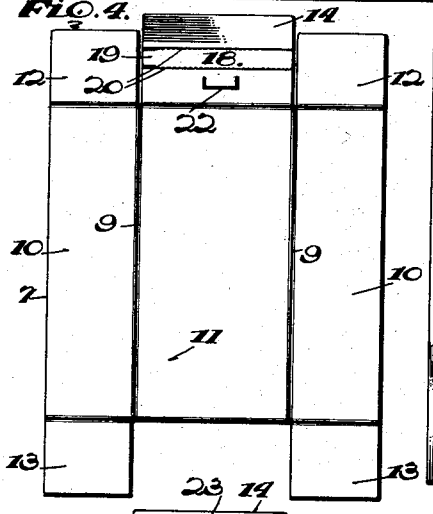


Fig. 5.

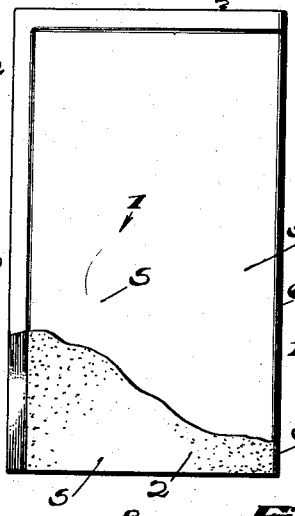


Fig. 6.

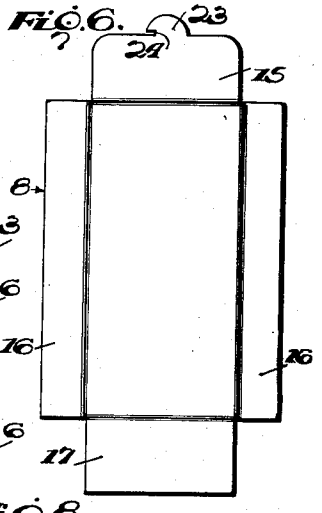


Fig. 8.



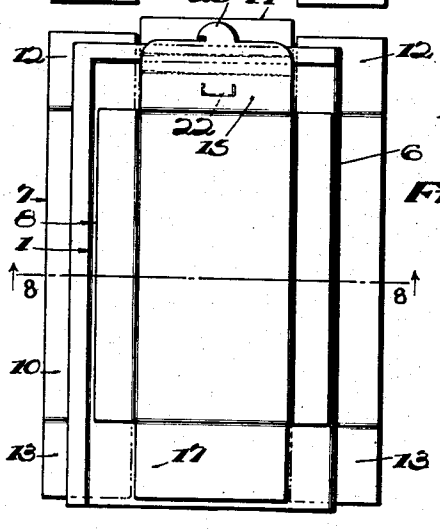
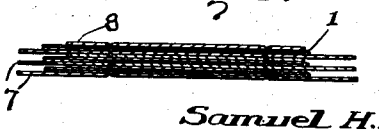


Fig. 7.

Fig. 9.



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Fig. 10.

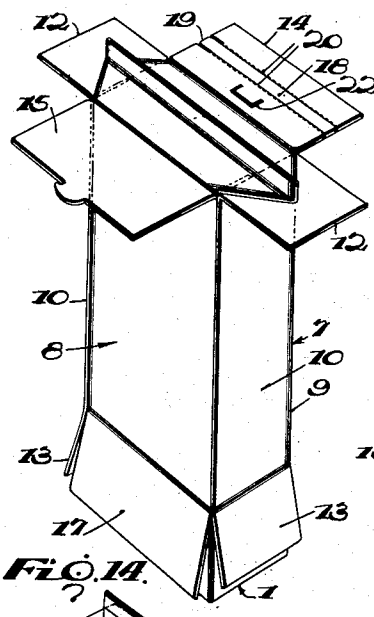


Fig. 11.

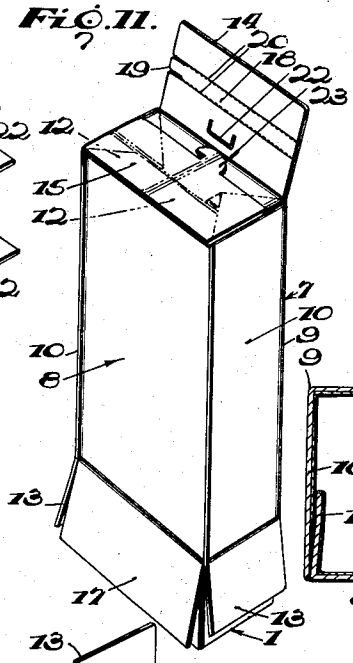


Fig. 12.

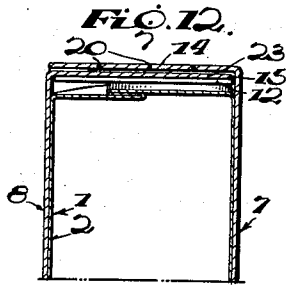


Fig. 13.

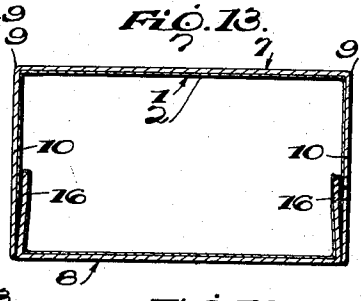


Fig. 14.

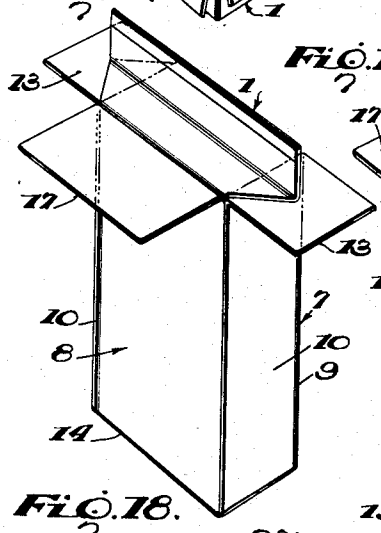


Fig. 15.

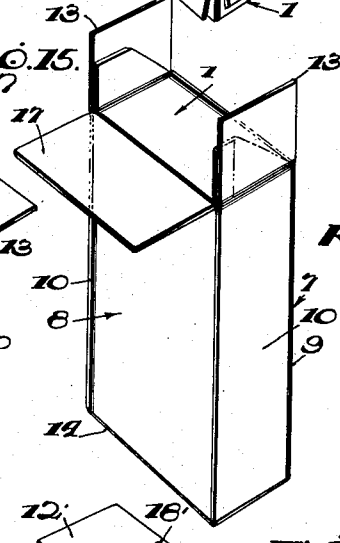


Fig. 16.

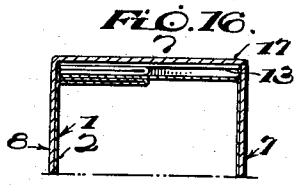


Fig. 17.

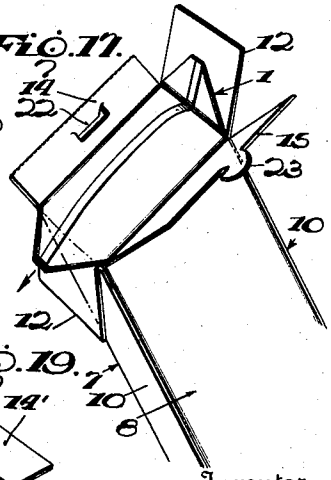


Fig. 18.

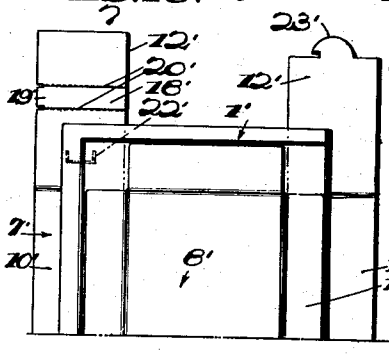
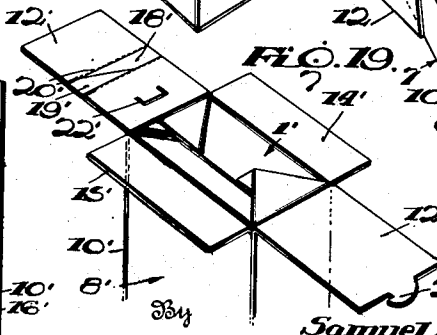


Fig. 19.



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Patented Feb. 20, 1945

2,369,654

UNITED STATES PATENT OFFICE

2,369,654

PAPER RECEPTACLE

Samuel H. Berch, Beverly Hills, Calif., assignor to The Flexible Vacuum Container Corporation, Los Angeles, Calif., a corporation of Nevada

Application November 30, 1940, Serial No. 368,082

1 Claim. (Cl. 229—14)

The invention relates to a paper receptacle designed to contain milk and milk products, cooking oils and greases, mayonnaise and salad dressings and other food products and constituents thereof which deteriorate when exposed to air and this application is a continuation in part of my application Serial No. 243,626 filed December 2, 1938, and which has now eventuated in Patent No. 2,267,320 issued December 23, 1941.

An object of the present invention is to provide a paper receptacle which will be greaseproof, water- and moisture-proof, and air-proof, and which in the process of packaging said goods or products will be adapted to be sterilized by ultra-violet rays or other rays or gas either individually or in large numbers in a container adapted to maintain the sterilized receptacles in such condition until fed to a packaging machine or otherwise filled and sealed.

A further object of the invention is to provide a collapsible receptacle of this character which, when employed for packaging milk, cream and other liquid or semi-liquid products, will enable their contents to be poured or dispensed without liability of human hands coming in contact with a pouring lip or spout, thereby eliminating all liability of contaminating the contents of the receptacles while emptying the same.

Another object of the invention is to provide a paper receptacle adapted to be vacuumized and sealed or sealed without being vacuumized and which will maintain its contents in air-tight, waterproof and greaseproof condition, whereby the packaged goods may be maintained for an indefinite period in perfect condition.

Another object of the invention is to provide a paper receptacle comprising an inner flexible and collapsible container and an outer collapsible carton adhesively united with the inner container to form a single unit and capable of being easily and quickly filled and sealed and in which the contents of the inner container will be thoroughly protected by the outer carton.

Another object of the invention is to provide a paper receptacle comprising an outer collapsible carton and an inner bag or container forming with the carton a unitary structure and adapted to be constructed of a single sheet of pliable material substantially impervious to gas, moisture and oil or grease and adapted to be folded centrally to form two similar side members adapted to be sealed at their marginal edges while in a flat condition with the free sealed edges in the central transverse plane of the carton whereby effective hermetical sealing may be accomplished without producing a fold in the seamed areas through which air or moisture may seep or percolate. Instead, however, of forming the side members by folding a single sheet, the inner flexible bag or container may be made of separate sheets and sealed at all of the marginal edges thereof.

It is also an object of the invention to provide a paper receptacle comprising an outer collapsible carton and an inner container of laminated pliable sheet material composed of an inner Pliofilm sheet, an outer paper sheet and a layer of adhesive material uniting the inner and outer sheets, the Pliofilm being adapted to enable the inner container to be heat-sealed at the marginal edges while the same are in flat contacting condition.

A further object of the invention is to provide a paper receptacle comprising an inner flexible container of laminated pliable sheet material composed of an inner Pliofilm sheet, an outer paper sheet and a layer of adhesive material uniting said sheets, and an outer collapsible carton having a main body portion adhesively united to the outer paper sheet of the inner container and provided with foldable closure members.

A further object of the invention is to provide a paper receptacle including an inner container of pliable sheet material substantially impervious to air, moisture and oil or grease and an outer carton composed of front and rear sections secured to the inner container at the front and back thereof and forming a unitary structure therewith and constituting front and rear walls and provided at opposite sides with hinged side members foldable over each other in overlapping relation, the front and rear walls and the side members being provided at the ends of the receptacle with closure flaps arranged to cover and conceal the ends of the inner container after the same has been filled and sealed.

It is also an object of the invention to provide a paper receptacle comprising an outer collapsible carton and an inner container formed of pliable sheet material substantially impervious to air, moisture and oil or grease and adapted when filled and sealed to permit expansion and contraction of its contents due to heat and cold without liability of injuring the inner container or causing the same to leak and permit deterioration of its contents.

A further object of the invention is to provide a paper receptacle comprising an inner container and an outer carton provided with foldable over-

lapping closure members adhesively secured together at the free end of one of the closure members, the latter being provided intermediate of its ends with a removable intermediate section or strip adapted to be torn off to release the closure members to afford access to the inner container, one of the closure members being also provided with a slit and the other closure member having an interlocking tongue adapted to extend through the slit to provide reclosure locking means for detachably securing the closure members in their closed position so that the paper receptacle may be unsealed and a portion of its contents poured off and then reclosed.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claim hereto appended, it being understood that various changes in the form, proportions and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

Fig. 1 is a plan view of the laminated sheet showing the same before folding.

Fig. 2 is a detail sectional view taken on the line 2—2 of Figure 1.

Fig. 3 is a plan view showing the laminated sheet folded to form the inner receptacle.

Fig. 4 is a plan view of the front carton section.

Fig. 5 is a view similar to Fig. 3 with a portion of the outer lamination broken away to show the layer of adhesive material.

Fig. 6 is a plan view of the rear carton section.

Fig. 7 is a plan view showing the front and rear carton sections applied to the inner container.

Fig. 8 is a transverse sectional view of the paper receptacle taken on the line 8—8 of Figure 7, the parts being arranged as shown in Fig. 7.

Fig. 9 is a sectional view showing a plurality of collapsed paper receptacles arranged one upon another in stacked formation.

Fig. 10 is a perspective view of the paper receptacle showing the same unfolded preparatory to filling.

Fig. 11 is a similar view with the top sealed and closed with the exception of the closure flap of the front wall of the carton.

Fig. 12 is a sectional view of the upper portion of the paper receptacle showing the top completely closed.

Fig. 13 is a horizontal sectional view of the carton in its unfolded or expanded condition.

Fig. 14 is a perspective view of the carton inverted and the inner container sealed preparatory to closing the bottom of the container.

Fig. 15 is a similar view showing the bottom sealed and partially closed.

Fig. 16 is a sectional view of the paper container in its inverted position after sealing and closing the bottom.

Fig. 17 is a perspective view of the paper carton with the top open preparatory to cutting one of the ears of the inner container.

Fig. 18 is a plan view of a paper receptacle illustrating a modification of the invention in which the detachable strip and the means for reclosing the receptacle are formed on the foldable closure members of the side walls of the carton.

Fig. 19 is a perspective view of the upper end of the paper receptacle shown in Fig. 18, the paper receptacle being unfolded.

Referring to the drawings, 1 designates an inner container constructed of a single sheet of pliable laminated sheet material substantially impervious to gas, moisture and oil or grease and consisting of an inner sheet 2 of Pliofilm or other suitable material having the characteristics of Pliofilm, an outer sheet 3 of paper or other suitable material, and a layer or coating 4 of adhesive material which unites the inner and outer sheets. The sheet of pliable laminated material is folded centrally to form two side members 5 which, in the formation of the inner container and in the sealing of the same, are heat-sealed at the marginal edges with the marginal areas of the side members 5 in flat contact with each other and with the sealed seams lying in the central transverse plane of the paper receptacle so that the sealing may be effected while the side members of the inner bag or container are in flat contact and devoid of any folds or creases which might permit leakage or seepage of air or liquid and cause deterioration of the contents of the receptacle. Instead, however, of forming the inner bag or container of a single piece of sheet material, it may of course be made of two separate sheets with the side edges thereof united by heat-sealing instead of the bag or container being closed by the fold 6 as shown in the drawings.

United with the inner flexible container is an outer carton composed of front and rear sections 7 and 8 which are die cut and which are adhesively secured to the outer paper sheet 3 to form a unitary structure. The front section 7, which is constructed of a single piece of paper board or similar material, is provided with fold lines 9 formed by scoring or other suitable means for connecting side wall members 10 to the front wall 11. The side wall members 10, which are hinged to the front wall section and which are foldable to positions at right angles thereto, are provided at their ends with hinged closure members 12 and 13 and the front wall is provided at one end with a hinged closure member 14 which, when the receptacle is filled, sealed and closed, is arranged in overlapping relation with a similar closure member 15 of the rear section 8 of the carton. The rear section 8 is provided with side wall members 16 which are of a width less than the side wall members 10 of the front member 7 of the carton and which extend to and terminate at the central transverse plane of the paper receptacle when the inner container is filled and sealed and the carton is closed around the inner container.

In practice it is preferable to fill the inner container from the bottom end and, when the latter is closed and sealed, it is covered by an end closure member 17 of the rear section of the carton and the adjacent side closure members 13 of the front carton section.

In the closing of the top of the carton, the side closure members 12 are first folded inwardly and the closure member 15 of the rear section of the carton is folded over the closure members 12. The closure member 14 of the front section of the carton is then folded over the closure member 15 and is secured to the same by a suitable adhesive which is applied to the surface adjacent the free end of the closure member 14. The closure member 14 is provided with an intermediate removable strip 18 having a tongue or finger piece 19 at one end connected with the

adjacent portions of the closure member 14 by weakening lines 20 of perforations, corrugations, scoring or the like, to enable the removable strip 18 to be readily torn off the carton. This releases the closure member 15 and enables the top of the carton to be opened for obtaining access to the contents of the inner container. The folding of the ends of the bag or inner container forms portions 21 adapted to constitute a pouring lip or spout and which project when the carton is opened. The projecting fold 21 of the inner container is adapted to be readily cut with a pair of scissors, thereby opening the inner container without the hands coming in contact with the same and without liability of contaminating the contents of the container when removing or decanting the same.

It is preferable to provide the inner portion of the closure member 14 of the front carton section with a slit 22 adapted to be engaged by a hook-shaped tongue 23 projecting from the free end of the closure member 15 of the rear section of the carton. The hook-shaped tongue has a shoulder 24 adapted to engage the closure member 14 beyond the slit and thereby hold the closure members 14 and 15 in a closed position.

The containers may be sterilized individually or in a large number in a suitable receptacle where they may be maintained in a sterilized condition until fed into a filling machine or otherwise filled. The sterilization may be effected by ultra-violet rays or by gas or by other suitable means. The inner container is hermetically sealed and, if desired, it may be vacuumized, and whether vacuumized or not, the contents will be maintained for an indefinite period of time in an uncontaminated condition as the inner flexible container is grease-proof, water- or moisture-proof, and air-proof, so that grease, moisture and air are effectually prevented from seeping or percolating into the inner receptacle and affecting the contents thereof. Also the inner container of pliable sheet material is adapted to permit expansion and contraction of its contents when subjected to heat or cold so that there is no liability of the inner container bursting or otherwise leaking and permitting its contents to deteriorate.

While the rear carton section 8 only is provided with a closure flap 17 for folding over the closure flaps 13 at the bottom end of the receptacle, each of the carton sections may be provided with a closure flap 17, as will be readily understood.

In Figs. 18 and 19 of the drawings is illustrated another form of the invention in which an inner flexible container 1' has secured to it front and rear carton sections 7' and 8'. The front section 7' is provided with hinged side wall members 10' which have at their upper ends closure members 12' foldable over front and rear closure members 14' and 15'. One of the side closure members 12' is provided intermediate of its ends with a removable strip 18' adapted to release the closure members in the same manner as heretofore explained in connection with the removable strip 18. The side closure member 12' which is provided with the removable strip 18' is also provided with a slot 22' adapted to be engaged by a tongue 23' located at the free end of the other side closure member 12' for resecuring the closure members after the carton has been opened. The side closure members 12' are constructed substantially the same as the front and rear closure members 14 and 15 heretofore described, and the operation of sealing and opening the paper receptacle illustrated in Figs. 18 and 19 is substantially the same as the opening and closing of the paper receptacle illustrated in Figs. 1 to 17, inclusive, of the drawings.

What is claimed is:

A paper receptacle comprising an inner container formed of a single sheet of pliable material substantially impervious to air, moisture and oils or grease and folded to form two similar side portions and sealed at the marginal edges thereof, and an outer carton composed of separate front and rear sections attached to the side portions of said sheet to form a unit with the inner container, said front and rear carton sections forming front and rear walls and having hinged side wall sections foldable over each other in overlapping relation, the hinged side wall sections of one of the carton sections extending the full width of the carton and the side wall sections of the other carton section terminating at the central transverse plane of the carton, and foldable closure members carried by the carton sections and arranged to cover the ends of the inner container.

SAMUEL H. BERCH.