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PACKAGE

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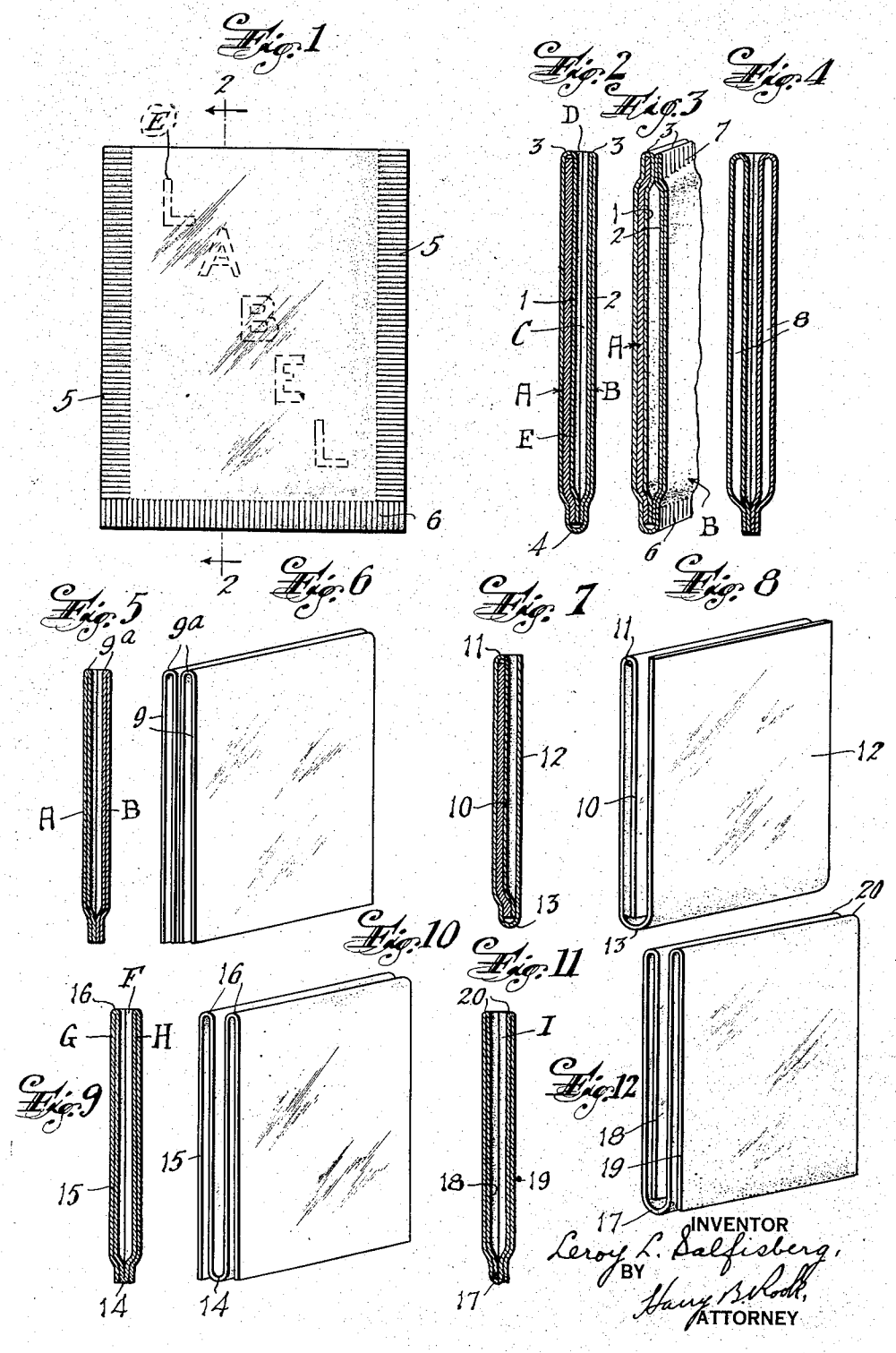

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PACKAGE

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This invention relates in general to bag-like packages whose walls are formed of thin flexible material, for example "Cellophane," "Pliofilm," metal foil and the like, and more particularly the invention contemplates a package of the type wherein walls are sealed together to form a commodity receiving pocket between them which has a mouth between the juxtaposed edges of certain marginal portions of the walls for insertion of a commodity, such as powder, into the compartment.

Considerable difficulty is encountered in filling packages of this character, particularly because the thin edge portions of the walls in the mouth of the package are hard to separate for the filling operation and the edge portions of the walls easily bend or collapse if they are accidentally abutted by for example a filling nozzle, so that either the packages are destroyed or are only partially filled and much of the commodity is wated.

Furthermore, the walls of known packages of this type are relatively easily punctured or torn. It is also difficult and expensive to apply labels to such packages, particularly when they are formed of materials such as "Cellophane" or "Pliofilm."

Therefore, one object of my invention is to provide a package of this general character which shall embody novel and improved features of construction whereby the edge portions of the walls at the mouth of the package easily and quickly can be separated for filling of the package and shall be resistant to tearing or collapse under pressure or blows applied to said edge portions.

Another object is to provide such a package wherein the walls shall be strong and resistant to tearing or puncture.

Further objects are to provide a novel and improved construction and combination of a package and a label wherein the label can be easily and quickly applied to the package, and more particularly to provide a package that shall have a wall formed of two layers of packaging material, at least the outer of which shall be transparent, with the label interposed between said layers and visible through and protected by the outer layer.

In many cases, particularly where the package is to be used for pharmaceutical powders or the like, it is desirable that the contents of the package be heat-insulated, or be protected against evaporation of moisture therefrom or absorption of moisture through the package from the atmosphere, and accordingly another object of my invention is to provide a package the walls of which shall be constructed in a novel and improved manner to impede the passage of heat and moisture therethrough.

Other objects, advantages and results of the invention will appear from the following description in conjunction with the accompanying drawing in which

Figure 1 is a front elevational view of a package constructed in accordance with my invention, showing the package in unfilled and open condition.

Figure 2 is a transverse vertical sectional view on the line 2—2 of Figure 1.

Figure 3 is a fragmentary sectional perspective view showing the package closed.

Figure 4 is a view similar to Figure 2 showing a modification of the package.

Figure 5 is a similar view showing another form of the package.

Figure 6 is a perspective view of the two folded and unconnected sheets that form the package shown in Figure 5.

Figure 7 is a transverse vertical sectional view through another form of the package.

Figure 8 is a perspective view of the sheet of packaging material folded preliminarily to sealing the walls together for forming the commodity receiving compartment, as shown in Figure 7.

Figure 9 is a view similar to Figure 7 showing a further modification of the package.

Figure 10 is a view similar to Figure 8 showing the packaging material as used in forming the package illustrated in Figure 9.

Figure 11 is a transverse vertical sectional view through still another form of the package and

Figure 12 is a view like Figure 8, showing the packaging material preliminarily folded for forming the package of Figure 11.

In its broader aspects my invention contemplates a package comprising spaced opposed walls of packaging material sealed together in said zones to form a commodity receiving compartment between them and a mouth for said compartment between the edges of juxtaposed marginal portions of said walls, at least one of the walls including two approximately co-extensive layers of packaging material sealed in said zones to each other and to the other wall and joined together along the edge of the corresponding said marginal portion at the mouth of the compartment so that said edge shall be relatively thick and constitute a lip that is easily separable from the corresponding edge of the other wall for opening the mouth of the package.

In Figures 1 to 3 inclusive the package is shown as comprising a single strip of packaging mate-

rial, for example thin flexible "Cellophane," "Pliofilm" or metal foil, said strip having its end portions 1 and 2 folded inwardly upon itself as at 3. The strip also is folded intermediate the extremities of inturned edge portions as at 4 so as to form two opposed walls A and B for the package each of which comprises two layers of the packaging material connected by the respective integral folds 3. The strip is folded at 4 so that the folds 3 are brought into juxtaposition, each fold 3 forming one edge of the corresponding wall A or B. The longitudinal marginal portions of the walls are sealed together as at 5, while the transverse marginal portions of the walls at the fold 4 are sealed together as at 6 so as to form a commodity receiving compartment C between the walls and a mouth D for the compartment between the free or unsealed folded edge portions 3.

Preferably the contacting surfaces of the walls A and B will have a thermoplastic coating which under heat and pressure will form an adhesive for connecting the walls together, although the walls may be connected in other ways as by other adhesives, and where the packaging material is "Pliofilm," the material itself will become fused under heat and pressure so as to adhesively connect the contacting portions of the walls.

With this construction, it will be seen that the folded edge portions 3 are relatively thick so that they may easily be separated for filling of the compartment C and the edges will be relatively stiff and strong so as to resist tearing or collapse, for example upon accidental abutment of the edges with other objects such as a filling spout. Also the walls will be strong and resistant to puncture due to the double layers of the packaging material.

Preferably the outer layer of at least one of the walls is formed of transparent material and a label E of paper or the like is inserted between said layer and the corresponding layer of the same wall as shown in Figure 2, so that the label is visible through the outer layer and protected thereby. Where the strip of packaging material is "Cellophane" or "Pliofilm" the outer layer of both walls is bound to be transparent. The label preferably is secured between the layers at and by the sealed zones 5 and 6, although such positive attachment of the label to the packaging material is unnecessary to retain the label in position.

After the package has been filled in the usual way, the mouth is sealed by pressing together the edge portions 3 as indicated at 7 in Figure 3.

Where it is desired to prevent passage of moisture through the walls of the package, the package will be formed of substantially gas-impervious and liquid-impervious material and the two layers of the walls will be sealed together in such a manner as to form an air-tight chamber 8 between the layers as shown in Figure 4, and a gas, for example air, may be entrapped within said chamber to insulate the walls. It will be understood also that where a suitable gas such as air is utilized the walls will be rendered heat resistant as well as air and moisture resistant.

The walls of the package may be formed in various ways, particularly by folding one or more sheets of packaging material in different ways. In Figures 5 and 6 the package is shown as comprising two sheets of packaging material each of which is folded upon itself at 9, and the sheets are sealed together for example in the manner hereinbefore described to form a commodity receiving compartment between them and a mouth for the compartment between the folded edges 9, whereby each sheet forms one wall of the package and comprises two layers of packaging material.

In Figures 7 and 8 a single sheet of packaging material has one end portion 10 folded inwardly as at 11 to form one wall of the package including two layers of the material, and the other end portion 12 folded into juxtaposition thereto as at 13 to form the other wall. The two walls are sealed together in the same manner above described so that the fold 11 forms one edge of one wall and the free edge of the end portion 12 forms the edge of the other wall which between them provide the mouth for the commodity receiving compartment.

Figures 9 and 10 illustrate a package wherein a strip of packaging material is folded intermediate its ends at 14 and has its end portions 15 folded outwardly in opposite directions at 16 to form a plurality of superposed layers which are sealed together, for example, in the manner above described to form a commodity receiving compartment F between two walls G and H, each of which includes two layers of the packaging material.

In Figures 11 and 12 is shown another form of the package wherein a strip of packaging material is folded intermediate its ends at 17 and has one end portion folded inwardly at 18 and the other end portion folded outwardly at 19, the end portion 18 and the juxtaposed main portion of the sheet forming two layers of one wall and the end portion 19 and the juxtaposed main portion of the sheet forming the two layers of the other walls, the layers of the respective walls being integrally connected by the folds 20. The two walls are sealed together in any suitable manner to form a commodity receiving compartment I between them, the mouth of which is formed between the folded edge portions 20 of the walls.

Other modifications in the details of structure of the package will occur to those skilled in the art as within the scope and spirit of the invention.

Having thus described my invention, what I claim is:

1. A bag comprising spaced opposed walls of packaging material sealed together in certain zones to form a commodity receiving compartment between them and an open mouth for said compartment between the edges of juxtaposed marginal portions of said walls, at least one of said walls including a sheet of packaging material folded upon itself to form two juxtaposed approximately co-extensive layers with the fold connecting said layers forming a relatively thick lip at the edge of the corresponding said marginal portion at said mouth, said layers being sealed together and to the other wall in said zones.

2. A bag comprising spaced opposed walls of packaging material sealed together in certain zones to form a commodity receiving compartment between them and a mouth for said compartment between the edges of juxtaposed marginal portions of said walls, each wall including two layers approximately co-extensive of packaging material sealed in said zones to each other and to the other wall and connected by an integral fold which constitutes the edge of the corresponding wall at said mouth and forms a relatively thick lip.

3. A bag comprising a sheet of thin flexible packaging material folded upon itself to form two spaced opposed walls at least one of which includes two approximately co-extensive layers of said material connected by an integral fold which forms an edge of said wall, said walls being sealed together to form a commodity receiving compartment between them and a mouth for said compartment between said folded edge of one wall and the corresponding edge of the other wall, so that said folded edge constitutes a relatively thick lip for said mouth.

4. A bag comprising a sheet of thin flexible packaging material folded upon itself to form two spaced opposed walls each of which includes two approximately coextensive layers of said material connected by an integral fold which forms an edge of said wall, said walls being sealed together to form a commodity receiving compartment between them having a mouth between said folded edges of said walls so that said edges constitute a rim and relatively thick lips for the mouth.

5. A bag comprising a rectangular sheet of thin flexible material folded into two approximately coextensive layers forming a wall one of whose edges is said fold, said sheet also being folded into juxtaposition to said wall to form another wall, all of said layers being sealed together in certain zones to form a commodity receiving compartment between said walls having a mouth between said folded edge of the first wall and the corresponding edge of the other wall, so that said folded edge forms a relatively thick lip for said mouth.

6. A bag comprising two sheets of thin flexible packaging material, each folded upon itself to form two approximately coextensive juxtaposed layers connected by an integral fold, said folded sheets being arranged in opposed relation to each other with said folds in juxtaposition, and all of said layers being sealed together to form a commodity receiving compartment between said two sheets and a mouth for said compartment between said folds, so that said folds form relatively thick lips for said mouth.

7. A bag comprising spaced opposed walls formed of rectangular layers of packaging material, at least one wall including a plurality of approximately coextensive layers connected by an integral fold which forms one edge of the wall and is juxtaposed to one edge of the other wall, the other edge portions of all of said layers being sealed together to form a commodity receiving compartment between said walls, and said folded edge of the first-mentioned wall and the corresponding edge of the other wall being unsealed and forming between them a mouth for said compartment, said folded edge constituting a relatively thick lip for said mouth.

8. A bag comprising spaced opposed walls of packaging material sealed together in certain zones to form a commodity receiving compartment between them and an open mouth for said compartment between the edges of juxtaposed marginal portions of said walls, at least one of said walls including two approximately coextensive layers of packaging material sealed in said zones to each other and to the other wall and said layers being joined together along the edge of the corresponding said marginal portion at the mouth of said compartment to form a relatively thick lip.

9. A bag comprising spaced opposed walls of packaging material sealed together in certain zones to form a commodity receiving compartment between them and an open mouth for said compartment between the edges of juxtaposed marginal portions of said walls, at least one of said walls including two approximately coextensive layers of packaging material sealed in said zones to each other and to the other wall and integrally connected by a fold which constitutes the edge of the corresponding said marginal portion at said mouth and forms a relatively thick lip.

10. A bag comprising spaced opposed walls of packaging material sealed together in certain zones to form a commodity receiving compartment between them and a mouth for said compartment between the edges of juxtaposed marginal portions of said walls, at least one wall including a sheet of thin flexible packaging material folded upon itself into layers with a fold constituting the edge of said wall at said mouth and forming a relatively thick lip, said layers being sealed together and to the other said wall in said zones.

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