June 25, 1957 L. I. VOLCKENING 2,796,982

MULTIPLE UNIT LABELED PACKAGE AND METHOD OF MAKING IT

Filed May 23, 1955 2 Sheets-Sheet 1

Fig. 1

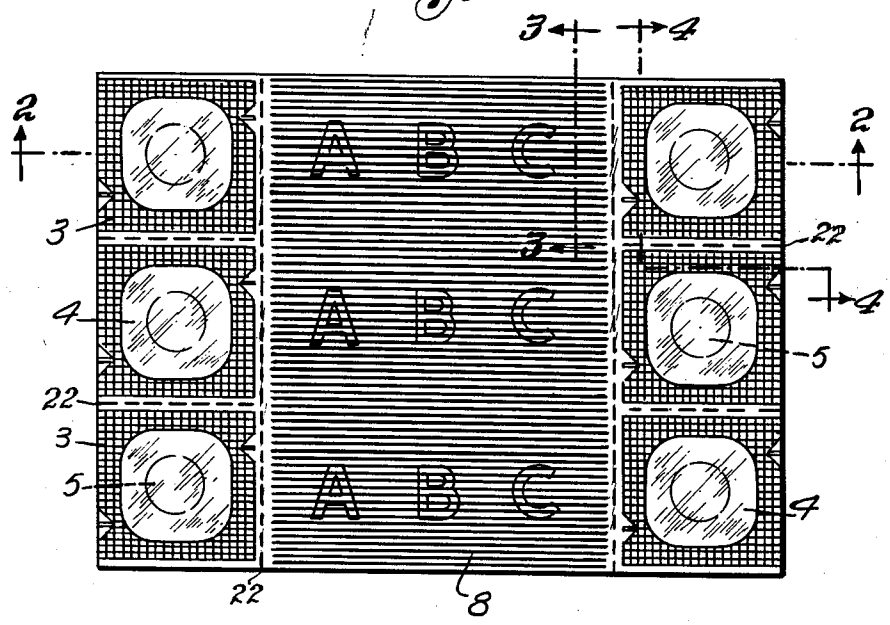


Fig. 2

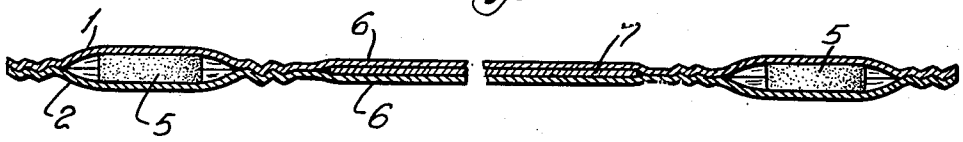
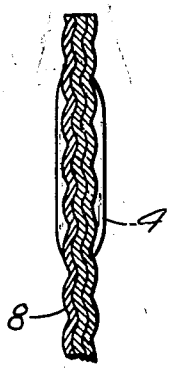


Fig. 3



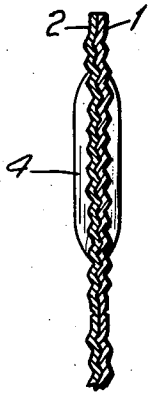


Fig. 4

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June 25, 1957 L. I. VOLCKENING 2,796,982

MULTIPLE UNIT LABELED PACKAGE AND METHOD OF MAKING IT

Filed May 23, 1955 2 Sheets-Sheet 2

Fig. 5

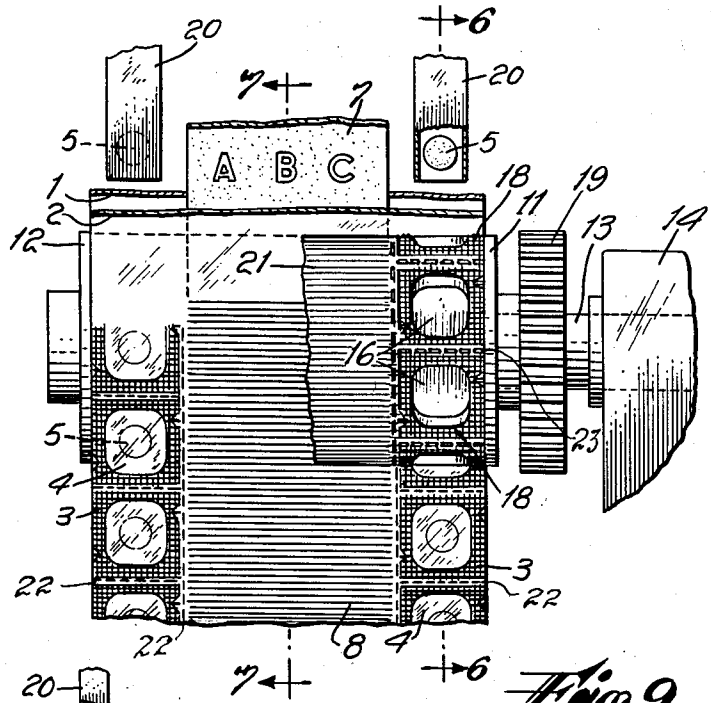


Fig. 6

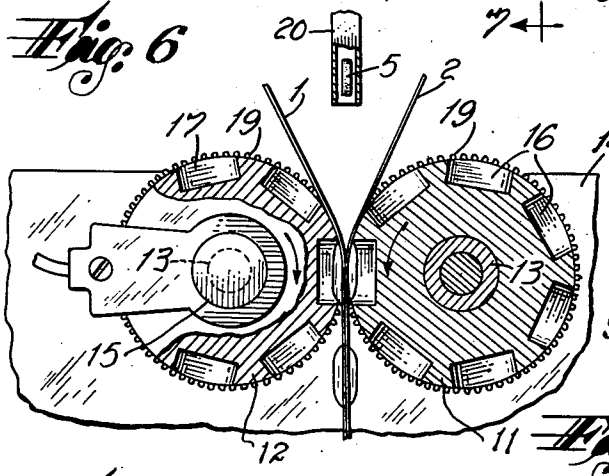


Fig. 9



Fig. 8

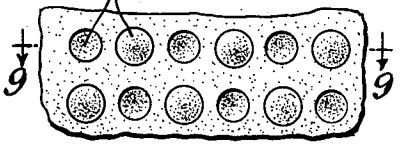
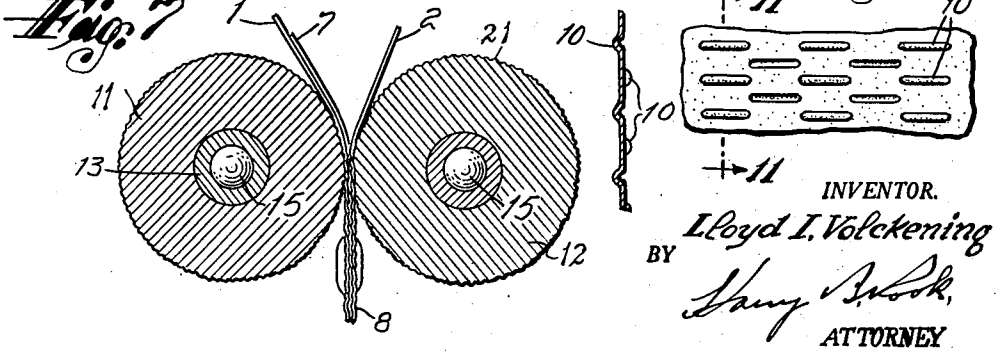


Fig. 11

Fig. 10

Fig. 7



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MULTIPLE UNIT LABELED PACKAGE AND METHOD OF MAKING IT

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Application May 23, 1955, Serial No. 510,465

1 Claim. (Cl. 206—46)

This invention relates in general to packages of the type comprising two opposed normally flat, thin, flexible sheets of packaging material such as cellophane, Pliofilm, metal foil and the like sealed and crimped together in zones forming and bounding compartments between said sheets in which a commodity such as a tablet or a paste is enclosed.

More particularly the invention contemplates a package of this general character wherein the packaging sheets are sealed and crimped together in at least two spaced zones. In the manufacture of such packages heretofore, the enclosure of the commodity between the packaging sheets and the crimping of the sheets, causes a displacement of the sheets transversely of their normal flat planes so as to cause buckling or rippling of the packaging sheets. Such buckling or rippling of the sheets between the zones is, to say the least, unsightly and makes it difficult to apply a label to the package between said compartments; and any labels that might be inserted between the portions of the sheets between the compartments are difficult if not impossible to read because of the ripples in the packaging sheets and the consequent irregular reflection of light thereby.

Therefore, a prime object of the invention is to provide a package of the general character described which shall embody novel and improved features of construction whereby the rippling and buckling of the packaging sheets between the compartments shall be obviated and whereby a label can be easily sealed between portions of the packaging sheets between said compartments and will be clearly legible.

Another object is to provide a novel and improved method of making a package of this character whereby the package can be easily, rapidly and inexpensively produced.

Other objects, advantages and results of the invention will be brought out by the following description in conjunction with the accompanying drawings in which

Figure 1 is a plan view of a package constructed in accordance with the invention;

Figure 2 is an enlarged transverse sectional view approximately on the plane of the line 2—2 of Figure 1;

Figure 3 is a fragmentary transverse sectional view approximately on the plane of the line 3—3 of Figure 1;

Figure 4 is a view like Figure 3 approximately on the plane of the line 4—4 of Figure 1;

Figure 5 is a fragmentary schematic front elevational view of apparatus for making the package with one of the sealing rollers broken away;

Figure 6 is a transverse vertical sectional view approximately on the plane of the line 6—6 of Figure 5;

Figure 7 is a similar view on the plane of the line 7—7 of Figure 5;

Figure 8 is an enlarged fragmentary plan view of a modified form of crimping of the portions of the packaging sheets between the compartments;

Figure 9 is a vertical sectional view on the plane of the line 9—9 of Figure 8;

Figure 10 is a view similar to Figure 8 showing another form of crimping; and

Figure 11 is a transverse vertical sectional view on the plane of the line 11—11 of Figure 10.

Specifically describing the illustrated embodiment of the invention, the package has been shown as comprising two normally flat, thin, flexible strips of packaging material 1 and 2 that are preferably transparent. This material may be cellophane, Pliofilm, metallic foil, paper or the like and may be thermoplastic itself or may have a thermoplastic or fusible coating so that the juxtaposed layers can be caused to adhere together by application of heat and pressure or the layers could be sealed together with an adhesive. As shown, the strips are heat sealed and crimped in zones 3 that extend longitudinally of the strips and are spaced transversely thereof, said zones forming and bounding commodity compartments 4 that are arranged in rows extending longitudinally of the strips and spaced transversely thereof and each enclosing a commodity such as a tablet 5. Between the portions 6 of the strips 1 and 2 and between the zones 3 and rows of compartments is a normally flat, thin, flexible label strip 7 that may be formed of suitable material such as paper, the label strip preferably being sealed to both of the packaging strips 1 and 2. These portions 6 of the packaging strips and the label strip are also crimped as indicated at 8 to obviate buckling or rippling of said portions 6 that is incidental to the formation of the compartments 4 and the enclosing of the commodity therein. As shown in Figures 1 to 4 inclusive, the crimping 8 is in the form of straight closely spaced and narrow corrugations that extend from adjacent one zone 3 to the other zone 3 as best shown in Figures 1 and 2. If desired, the corrugations 8 may emerge into the crimped zones 3.

The form of the crimping may be widely varied but of course preferably it will be such as not to produce so much reflection or refraction of light as to interfere with the reading of the label. The cross crimping that is shown in the zones 3 is common in the art but is so fine and includes so many light refracting surfaces that transparency of the packaging sheets is interfered with.

Another form of crimping is shown in Figures 8 and 9 where a plurality of rounded or frusto-conical projections 9 are formed on opposite sides of the portions 6.

In Figures 10 and 11 the crimping is shown in the form of short straight corrugations 10 in staggered relation.

In making the package, the zones 3 and the crimping 8 are formed at the same time and the label may also be inserted between the strips and crimped in the same operation. For accomplishing this result, apparatus shown in Figures 5 to 7 may be utilized. This apparatus comprises two rollers 11 and 12 mounted upon shafts 13 journaled in a suitable frame or bearing 14, the shafts preferably having hollow portions in which electric heater cartridge 15 is disposed.

The roller 11 is provided with two series or rows of recesses 16, the rows being spaced apart longitudinally of the roller while the other roller 12 is provided with similar peripheral rows of recesses 17. In the peripheral surfaces surrounding these recesses the rollers are provided with crimping surfaces or areas 18. These crimping surfaces are mechanically complemental to each other so that the crimping surface of roller 11 meshes and engages with the crimping surfaces of the roller 12 to produce a forced crimping and sealing together of the strips of packaging material fed between the rollers. In rotation of the rollers the recesses 16 of the roller 11 coincide with the recesses 17 of the roller 12 so that the tablets or other commodity are held and bound in a proper position without crushing while the crimping surfaces 18 join the strips of packaging material in zones

surrounding the commodity so as to produce the compartments **4**. The shafts of the rollers are provided with intermeshing pinions **19** and one of said shafts is driven from a suitable source for simultaneously rotating the rollers in opposite directions. The two strips **1** and **2** of the packaging material are fed from a suitable source such as spools between the sealing rollers **11** and **12** as shown in Figures 6 and 7 and the commodity tablets are dropped between the strips from suitable discharge chutes **20** in a manner well known in the art. The label strip **7** is preferably adhesively attached to one of the two strips and is fed with that strip between the rollers, and the rollers between the crimping zones **18** are formed with other crimping surfaces **21** of the proper size and nature to form the desired crimping **8** in the package, the crimping surfaces **21** causing the packaging sheets and the label to be crimped simultaneously with the crimping of the packaging sheets in the zones **3**.

As shown on the drawings, the sheets of packaging material may be weakened or scored as indicated at **22** to facilitate separation of the individual packages from the package strips, and said scoring can be formed in known manner by cutting edges **23** on one sealing roller coacting with flat surfaces on the other roller.

It will be understood by those skilled in the art that the shape and size of the commodity compartments and the number thereof, as well as the arrangement thereof on the packaging strip may be widely varied, and the method and apparatus for joining and crimping the strips may be modified and changed, all within the spirit and scope of the invention.

What I claim is:

A package comprising two opposed thin normally flat flexible transparent sheets sealed and crimped together in zones each of which forms and bounds a compartment between the sheets that has a commodity therein, each crimped zone being spaced in the normal flat planes of said sheets from another zone, said crimping in said zones displacing the material of the sheets transversely of their normal flat planes with a consequent tendency to buckle or ripple the portions of the sheets between said zones, said portions of the sheets between the zones having a thin flexible label adhesively secured therebetween, and said portions of the sheets and said label being also crimped and displaced transversely of their normal flat planes preserving legibility of the label and compensating for the displacement of the sheets in said zones to prevent buckling or rippling of said portions of said sheets and said label between said zones.

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