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C. NICOLLE

2,358,246

PLASTIC MATERIAL WRAPPER

Filed May 6, 1938

Fig. 4

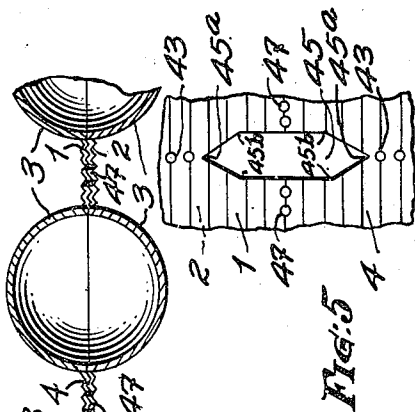


Fig. 2

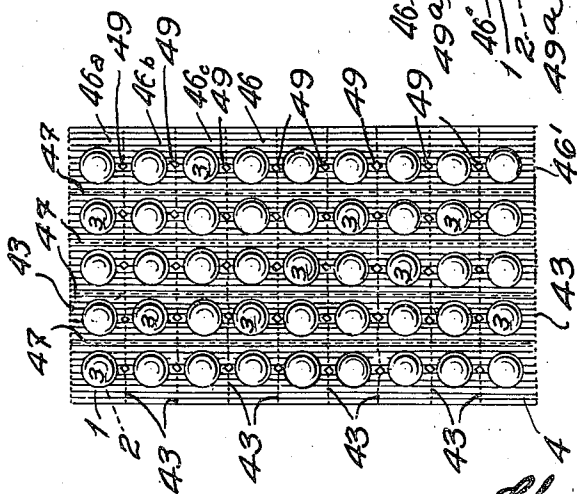
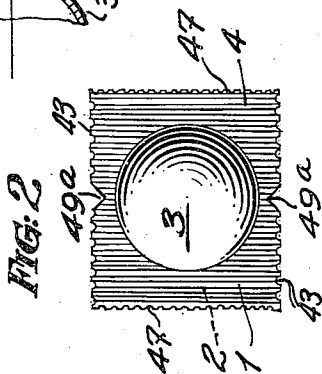


Fig. 1

Fig. 3

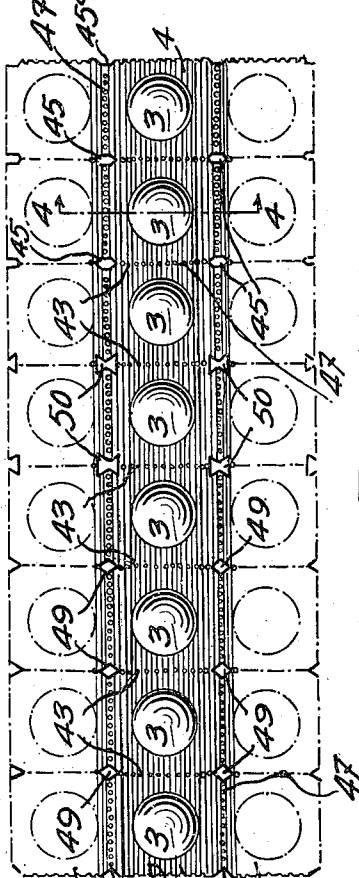
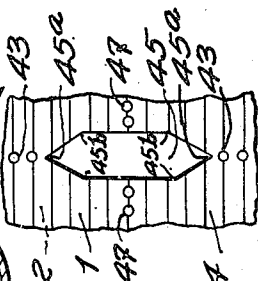


Fig. 5



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UNITED STATES PATENT OFFICE

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PLASTIC MATERIAL WRAPPER

Charles Nicolle, Montrouge, France; vested in the
Allen Property CustodianApplication May 6, 1938, Serial No. 206,498
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4 Claims. (Cl. 206—56)

The object of the present invention is to provide improvements in plastic material wrappers comprising two layers or two sheets of plastic material both of which or one or the other of which are embossed, said layers being placed one against the other so that the embossed portions will form closed cells in which articles or materials are packed.

It particularly applies to the packing of articles similar to one another, such as compressed tablets, suppositories, powders and the like, and its purpose is, while constituting a multiple wrapping, complete in itself, which is at the same time hermetical, tamper-proof, damp-proof, proof against microbes and the variations in hygrometrical conditions, to permit the rapid and convenient division and separation by the user in portions consisting of one or more units, said result being obtained without the help of scissors, pins or instruments of any sort.

The invention is moreover characterized by means which make it possible:

(A) To insure that the whole wrapping, as well as each of the individual members constituting it, will be sufficiently rigid and strong notwithstanding the very slight thickness of the plastic material ($\frac{1}{100}$ of a millimeter and over) that will be used.

(B) To detach, as desired by the user, one or more tablets, without having either the cells or the parts stuck to one another damaged and to preserve, for each of said members, considered separately, a strength equal to or comparable with that of the whole wrapping.

(C) To facilitate the opening, by tearing of each of the wrapping members, so as to obtain the rapid release of the enclosed products as well as the separation of two adjoining members.

For this purpose, the wrappers made according to the invention are characterized by sheets embossed so as to form cells which sheets are:

(1) On the one hand grooved, ribbed, or fluted everywhere except in the embossed portions, thus insuring both the sticking and the rigidity, said fluting or grooving being arranged in a given direction.

(2) Finally, perforated with small holes either rounded or shaped so as to permit the detaching of the members composing the wrapping. When it is merely desired to detach strips of tablets, the holes which are positioned in a direction perpendicular to the grooving or fluting are employed as a tear line. On the other hand, when it is desired to detach individual members of the wrapping from the detached strip, the holes

which are arranged in the direction of the grooving or fluting and in a direction perpendicular to the first-named holes are employed as a tear line.

At the time of making the holes intended to permit the separation of individual receptacles or of strips of receptacles, special holes, for instance in the form of lozenges or longitudinal slits or similar openings, are provided. These enlarged holes are of a polygonal shape and located in alignment with the smaller holes. One angle of the polygonal hole points along the line of smaller holes while another angle points toward a receptacle, thereby facilitating the separation of the receptacle, and the rupturing thereof.

In the attached drawings, some wrappers according to the invention, intended to receive articles, have been shown as examples.

Fig. 1 is a schematical view showing strips of alveoli and alveoli detachable from one another.

Fig. 2 is an enlarged view of a wrapping member such as represented in Fig. 1 after the same has been separated by tearing along the perforated dividing lines.

Fig. 3 is a schematic view similar to Fig. 1 but showing a modified form of the invention.

Fig. 4 is an enlarged sectional view taken along the line 4—4 in Fig. 3.

Fig. 5 is an enlarged detail view showing the relative position of one of the enlarged polygonal perforations to the intersecting lines of smaller perforations.

Referring more particularly to the drawing, the numerals 1 and 2 designate sheets of plastic material which may or may not be identical. In the present disclosure, each of the sheets is embossed so as to provide hemispherical cavities 3 therein, and these cavities are caused to coincide when the sheets are placed together as shown in Fig. 4 to thereby provide spherical receptacles for the accommodation of certain articles or materials. It is evident that the cavities may have other desired shapes, such as cylindrical, ellipsoidal and the like to accommodate the material wrapped.

After the materials have been placed in the receptacles, the flat or unembossed portions 4 of the respective sheets 1 and 2 are adhesively or otherwise secured together and thus the receptacles are sealed. It is preferable to flute the flat portions 4 in at least one direction to assist in perfecting the seal.

In order to provide means whereby individual receptacles or strips of receptacles may be detached, the sheets of receptacles 46' are divided

into a plurality of polygonal areas by intersecting lines of perforations 43 and 47. The line of perforations 43 is disposed substantially at right angles to the flutes, whereas the line of perforations 47 is disposed substantially in alignment with the flutes. Each area is adapted to contain a sealed receptacle 3, which area and receptacle can be separated or detached from the sheet by tearing along the above-mentioned lines of perforations 43 and 47.

In Figs. 1 and 2, the rows of perforations designated by reference characters 43 have a plurality of polygonal diamond-shaped perforations 49, said perforations 49 being somewhat larger than the other perforations, and being preferably located along a straight line drawn through the centers of adjacent receptacles 3. When an area, which contains a receptacle, such as shown in Fig. 2, has been detached, the diamond-shaped perforation is bisected, thus forming edge notches 49a disposed on opposed sides of the detached area. It will be noted that one angle of each diamond-shaped opening 49 is directed along the line of perforations 43 to facilitate the tearing off of strips, such as 49a, 49b and 49c, from the sheet of receptacles 46; whereas, another angle of the same perforation 49 is directed toward receptacle 3 to facilitate the rupture thereof. Therefore, it is seen that each opening is so shaped and positioned in the sheet that a dual function is possible; namely, the separation of the areas and the rupturing of the receptacles.

Figs. 3, 4 and 5 show a slight modification in which elongated enlarged perforations 45 are located at the intersection of the rows of perforations 43 and 47. Likewise, these enlarged perforations perform a dual function of facilitating the tearing-off of the areas and the rupturing of the packages in the areas. For example (Fig. 5) the angles 45a are directed along the line 43 of smaller perforations and, when sheet 46' is torn at this angle, the tearing along the perforated line is also facilitated, whereas the angles 45b are directed toward receptacles 3 and when the sheet is torn at this angle the rupture of the receptacles is facilitated.

It will be noted that sheet 46' (Fig. 3) also has enlarged diamond-shaped openings 49 located at some of the intersections of the lines of perforations 43 and 47, whereas enlarged perforations 50 of a different shape are disposed at other intersections. The shape shown in Fig. 5, however, is the preferred shape for performing the dual function.

What I claim is:

1. A package adapted especially for use in the protection of perishable articles and materials, such as foods, medicines, toilet articles or the like, from the deleterious effects of air, moisture and abrasion, which comprises, in combination,

two sheets of material, at least one of said sheets having a plurality of alveolated portions therein, said sheets being superposed and adhesively secured together at their contacting surface areas, said alveolated portions each providing a receptacle adapted to conform to the configurations of the enclosed articles or material, the contacting area of said sheets being provided with series of parallel corrugations, said contacting areas also being provided with intersecting lines of tear-off perforations forming polygons isolating one or more sealed receptacles, for separating said one or more receptacles with the contents from the remainder of the package, at least one of said perforations between receptacles being somewhat enlarged and polygonal in shape, said enlarged perforation having an angle pointing along the line of perforations and having another angle pointing toward one of said isolated receptacles, whereby the tearing-off of said receptacle and the rupturing thereof are both facilitated.

2. A package as set forth in claim 1 wherein said enlarged perforations are located at the intersections of said lines of tear-off perforations.

3. A package adapted especially for use in the protection of materials such as foods, medicines, toilet articles or the like, from the deleterious effects of air, moisture and abrasion, which comprises, in combination, two superposed sheets secured together along their contacting surface areas to provide a plurality of spaced receptacles adapted to receive said materials, said contacting areas being provided with a tear line having at least one polygonal opening located thereon, the polygonal opening having an angle pointing along the tear line and having another angle pointing toward one of said isolated receptacles, whereby the tearing-off of said receptacle and the rupturing thereof are both facilitated.

4. A package adapted especially for use in the protection of materials such as foods, medicines, toilet articles or the like, from the deleterious effects of air, moisture and abrasion, which comprises, in combination, two superposed sheets secured together along their contacting surface areas to provide a plurality of spaced receptacles adapted to receive said materials, said contacting areas being provided with intersecting tear lines forming polygons isolating one or more receptacles with the enclosed contents from the remainder of the package, and also being provided with a polygonal opening at the intersection of said lines, the polygonal opening having an angle pointing along one of the tear lines and having another angle pointing toward one of said isolated receptacles, whereby the tearing-off of said receptacle and the rupturing thereof are both facilitated.

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