

[54] **INDIVIDUAL SPRINKLE-PACKET WITH RIBBED BREAK-OPEN NECK**
 [75] Inventor: Charles E. Cloud, Wilmette, Ill.
 [73] Assignee: Cloud Machine Corporation, Skokie, Ill.
 [22] Filed: Dec. 3, 1971
 [21] Appl. No.: 204,436
 [52] U.S. Cl. 206/56 AA, 222/107
 [51] Int. Cl. B65d 83/00
 [58] Field of Search 222/107, 541; 206/56 AA, 78 B

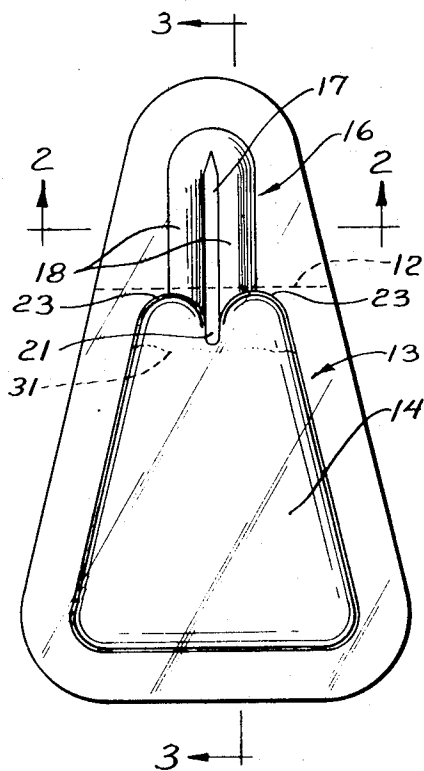
2,499,313 2/1950 Hoag 222/54 X

Primary Examiner—Robert B. Reeves
 Assistant Examiner—Larry Martin
 Attorney—Howard H. Darbo, Edward C. Vandenburg et al.

[57] **ABSTRACT**
 An individual sprinkle-packet for salt, pepper, sugar and the like is in the class comprising a pocketed plastic sealed along its edges to a paper backing, which can be bent back along a given line to rupture the plastic and provide one or more sprinkling openings. This invention, in preferred form, provides a pocket tapering and reducing to a narrow neck. Along the longitudinal center line of the neck, the plastic is depressed to form an inward rib which stiffens the neck, and supports its humped portions to ensure rupturing. The rib portion extends slightly into the pocket body, so that breakage adjacent to the pocket forms two small sprinkling apertures.

[56] **References Cited**
UNITED STATES PATENTS
 2,705,579 4/1955 Mason 222/541 X
 1,438,487 2/1921 Greene 206/56 AA
 2,895,606 7/1959 Hoag 206/56 AA
 2,517,027 8/1950 Rado 206/56 AA

3 Claims, 4 Drawing Figures



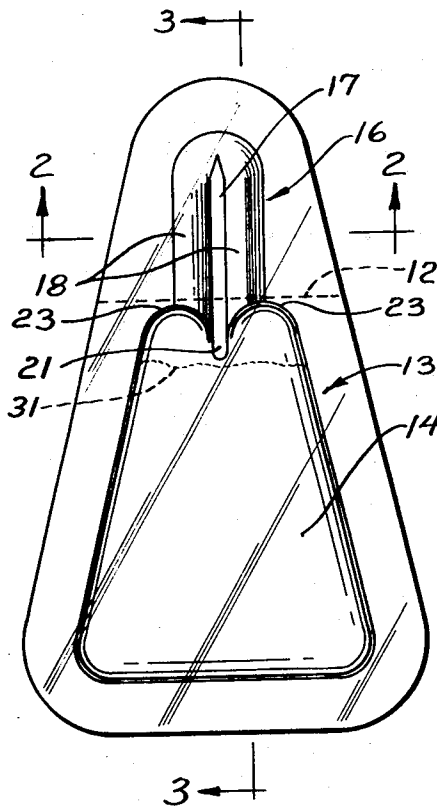


Fig. 1

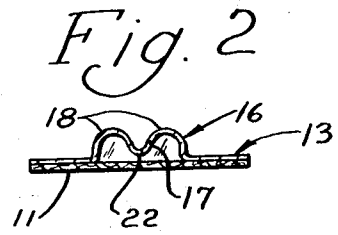


Fig. 2

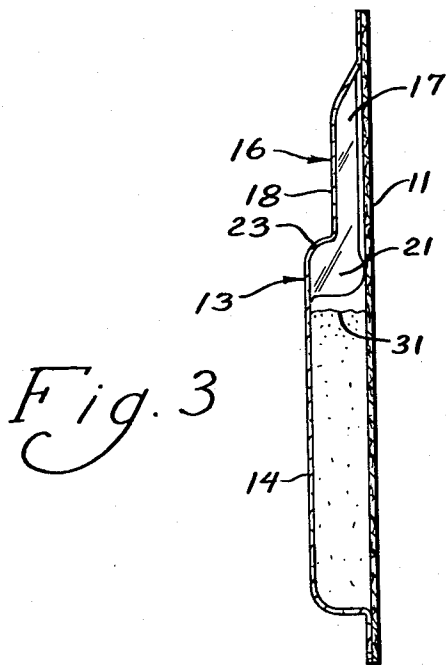


Fig. 3

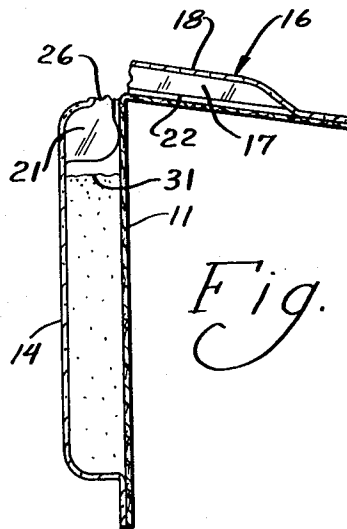


Fig. 4

INDIVIDUAL SPRINKLE-PACKET WITH RIBBED BREAK-OPEN NECK

The invention of which the present disclosure is offered for public dissemination in the event that adequate patent protection is available relates to individual sprinkle-packets such as are widely used for salt and pepper and sometimes for sugar. A common form of such packet includes a pocketed plastic film sealed along its periphery to a paper backing, with the plastic shaped to provide a break-open formation. By bending back a portion of the packet away from the plastic face, the break-open formation is supposed to rupture and provide one or more sprinkling openings, so that the user can sprinkle the contents as from a salt shaker, and can gauge the quantity poured out.

One problem with such packets has been to provide thoroughly dependable rupturing of the break-open formation. Packets which best achieved this result have had other faults. Anything in the nature of notching the formation to ensure its breaking open by weakening it was likely to result in an aperture or a slit which was regarded by some as an undesirably imperfect seal of the contents. At least one design which had achieved acceptable dependability in the break-open characteristic was somewhat objectionable due to occasional spillage of some of the contents prematurely. This could result when some of the contents were above the break-open formation at the time it broke open.

According to the present invention, maximum break-open dependability is provided with minimum likelihood of spillage. The break-open formation comprises a narrow neck, narrower than the narrow end of the pocket from which it extends, with a longitudinal depression forming an internal rib. The neck is of uniform cross section. The result is that if the neck has been filled by the position of the packet when picked up, it immediately clears when the neck is turned uppermost. There is no "hourglass" effect to delay the clearing of the neck. The rib stiffens the neck so that when pressure is applied to the tip of the neck or the packet beyond it, the neck acts as a rigid lever to enforce bending of the packet at the base of the neck, which is adjacent the end of the pocket. By extending the rib slightly into the pocket, breakage occurs through the rib so that the two humps separated by the rib form two apertures for better sprinkling or controlled pouring than sometimes is achieved by a single aperture.

DESIGNATION OF FIGURES

FIG. 1 is a greatly enlarged face view of one form of packet embodying the invention.

FIG. 2 is a transverse sectional view taken approximately along the line 2—2 of FIG. 1.

FIG. 3 is a longitudinal cross section taken approximately along the line 3—3 of FIG. 1.

FIG. 4 is a view corresponding to FIG. 3 but showing the packet opened by bending its neck backwards.

BACKGROUND DESCRIPTION

Packets similar to the packets of the present invention in many respects are old. Such packets have a flat backing 11 of paper, usually printed to show the nature of the contents of the packet, and perhaps with a dotted line such as the line 12 and the legend "Bend here." To the front side of this backing is secured a pocketed plastic layer 13. A large part of the area of this plastic

member is occupied by a pocket 14. Conventionally, a sheet of the plastic film is fed in contact with a drum having many pockets formed therein, heated, and drawn into the pockets by a suction applied internally of the drum. Then the pockets thus formed in the plastic film are filled, any excess of the fill lying on the edges removed, and the paper applied throughout the area of the film, and sealed to the film around each pocket. Thereafter the combined web thus formed is severed to cut out the individual filled packets. These packets have heretofore been designed so that upon bending one portion of the packet backwardly, the plastic film would be ruptured and its contents could be poured out.

RUPTURING FEATURES OF PRESENT INVENTION

According to the present invention thorough reliability in rupturing, with minimum danger of spillage, is achieved by providing an elongate neck 16 of a cross section which is uniform or at least does not enlarge upwardly, and with a longitudinal groove 17 which forms an internal rib, as seen best in FIG. 2. Thus the groove-rib 17 separates the neck 16 into two longitudinal ribs or bulges 18 which internally communicate with the pocket 14. The two bulges 18 are seen best in FIGS. 1 and 2, and their depth and communication with pocket 14 are seen best in FIG. 3. Their depth, the dimension perpendicular to the backing 11, is considerably less than the depth of pocket 13.

Preferably the groove-rib 17 extends well into pocket 14, providing a recess 21 within the boundaries of the pocket. The tip 22 of this recess rests on backing 11 or extends quite close to it, considerably closer than does the rest of groove-rib 17.

When the user wishes to break the packet open, he holds the neck 16 uppermost as seen in FIG. 1 and bends substantially the entire neck backwards, with the results seen in FIG. 4. The combination of the two bulges 18 and the groove-rib 17 between them gives the neck great stiffness.

One result of the stiffness of the neck is that, in bending it backwards, it tends to concentrate the bending and rupturing action at its base. The vertical extent of the walls of recess 21, and coaction with noses 23 provides a relatively stiff structure. This alone, or its ability to rest on backing 11, tends to prevent the collapse of the structure in this region. Since the paper backing, reinforced by the plastic, does not have appreciable longitudinal compressibility, and since the plastic at normal temperatures does not have much stretchability, the plastic invariably ruptures at or very close to the junction of neck 16 with the pocket 14. Whether this results entirely from the concentration of forces or partly because of weakening of the film at or adjacent the juncture at it stretches around a corner of the forming die is immaterial.

Because the groove-rib 17 extends somewhat into the pocket 14, it prevents collapse of that portion of the pocket as the neck is bent, and since breakage occurs near the junction of the neck 16 with the pocket, two pour openings 26 (not necessarily entirely separate) inevitably result. This is advantageous because it is easier to achieve uniformity of pouring action with two small openings than with one intended to be a little larger. Also some people like multiple openings for better distribution of the sprinkling action. Others like the

sprinkling action to be more narrowly confined than with two or several openings spanning a considerable extent, although not objecting to two openings when closely spaced. Here the openings preferably are mainly within one-eighth inch.

Because the neck 16 is of uniform cross section, there is no "hourglass" effect to delay the emptying of the neck when the packet is tilted neck uppermost. Some prior packets have provided a very short neck with an appreciable pocket space beyond the neck from the main pocket, but this is somewhat objectionable in that if the pocket above the neck happens to have been filled when the pocket was picked up, its drainage through the relatively narrow neck takes appreciable time. Although this "hourglass" effect is only a few seconds, it may cause a customer who is unobserving or hurried to break open the packet prematurely and some of this "hourglass" flow of the contents results in spillage.

Although the particular vial-shape illustrated is not a part of the present invention, some form of funnel shape of the pocket toward the neck 16 is desirable so that it will be easy to pour out the entire contents of the packet. Although not many users empty the packets, if the contents are salt or pepper, it is desirable for them to be able to do so easily if they choose to.

The present packets can be reasonably well filled, for example to the broken line 31, while still having minimum danger of accidental spillage in breaking the packet open. Good filling represents economy in packaging; the use of only so much material as is necessary for packaging the quantity of fill desired.

ACHIEVEMENT

From the foregoing it is seen that a packet is provided which has thoroughly dependable break-open characteristics with a minimum danger of spillage, and with great economy of manufacture. It lends itself to attractive designing, one such design being shown. Using a transparent plastic (oriented polystyrene is one that works well), the visibility of the packaged product adds to the attractiveness.

INTENT CLAUSE

Although the preceding disclosure offered for public dissemination is detailed to ensure adequacy and aid understanding, this is not intended to prejudice that purpose of a patent which is to cover each new inventive concept therein no matter how others may later disguise it by variations in form or additions or further improvements. The claims at the end hereof are intended as the chief aid toward this purpose, as it is

these that meet the requirement of pointing out the parts, improvements, or combinations in which the inventive concepts are found. Reference in the claims to two small openings does not exclude more than two, nor a single opening nearly divided to, in effect, form two.

I claim:

1. A sealed dispensing packet of bend-to-rupture type comprising a pocketed face sheet sealed peripherally to a backing sheet, the pocketed face sheet having a narrow imperforate neck narrower than the pocket extending from the pocket, the neck having a longitudinal groove-rib separating it into longitudinally extending portions communicating with the pocket and of substantially non-increasing cross section with increasing distance from the pocket; said neck with its groove-rib being stiff whereby, when the neck is bent backwardly, rupture substantially at the junction of the neck and pocket is ensured.

2. A sealed dispensing packet of bend-to-rupture type comprising a pocketed face sheet sealed peripherally to a backing sheet, the pocketed face sheet having a narrow imperforate neck narrower than the pocket extending from the pocket, the neck having a longitudinal groove-rib separating it into longitudinally extending portions communicating with the pocket and of substantially non-increasing cross section with increasing distance from the pocket; said neck with its groove-rib being stiff and of substantially less depth than the pocket and the groove-rib extending into the pocket beyond its junction with the neck, whereby, when the neck is bent backwardly, rupture substantially at the junction of the neck and the pocket is ensured, with the formation of plural small pour openings.

3. A sealed dispensing packet of bend-to-rupture type comprising a pocketed face sheet of plastic sealed peripherally to a backing sheet, the pocketed face sheet having a narrow imperforate neck narrower than the pocket extending from the pocket, the neck having a longitudinal groove-rib separating it into longitudinally extending portions communicating with the pocket and of substantially non-increasing cross section with increasing distance from the pocket; said neck with its groove-rib being stiff and of substantially less depth than the pocket and the groove-rib extending into the pocket beyond its junction with the neck, and the groove-rib, in the vicinity of the juncture of the neck and the pocket, extending close to the backing to prevent collapse of the plastic during bending, whereby, when the neck is bent backwardly, rupture substantially at the junction of the neck and pocket is ensured.

* * * * *

55

60

65