This invention relates to packages wrapped in Cellophane or equivalent material designed for moisture-proof protection and has for its object more particularly the provision of a ripping cord or tearing strip incorporated within the wrapper in a manner to cause substantially no break in the complete sealing of the wrapper and yet be highly effective in severing the wrapper for its removal from the package. The present application is a continuation in part of my prior application Serial No. 298,297, filed October 6, 1938.

The particular type of package chosen for illustrating the invention is the ordinary cigarette package which may be made up in any of the usual ways for receiving its outer wrapper of Cellophane or the like. The Cellophane wrapper is usually transparent and the ripping cord therefore is preferably of some definite color that can be seen through the wrapper, and is of a material sufficiently tough to break or cut through the Cellophane when pulled. It is customary practice in the wrapping of Cellophane about a cigarette package to produce at one side of the wrapped package a tucked-in portion of the wrapper and overlapped flap portions with corner folds. In the complete sealing of the wrapper these folded portions are sealed down tightly against one another and upon the side of the package. One of the important features of the present invention resides in having the ripping cord disposed around the package with the terminal ends thereof buried in the aforesaid corner folds of the wrapper.

One of the terminal ends is securely anchored in its corner fold and the other terminal end projects outwardly from its respective corner fold so as to be easily grasped. In both cases this disposition of the ripping cord ends within such corner folds practically avoids breakage or interruption of the continuously sealed condition of the wrapped package.

Another feature of the invention consists in so arranging the folds that a pull on the tearing strip has a minimum tendency to cause undesired separation of the adhesively secured flaps. A further feature consists in an arrangement of folds so that while the flap out of which the tearing strip projects is protected by overlying flaps the extending portion of the tearing strip will not be covered.

Further advantages and novel features of the invention will become apparent from the following detailed description taken in connection with the accompanying drawing, in which Fig. 1 is a perspective view showing the relative disposition of the wrapper and ripping cord preliminarily to the first step of folding the wrapper on the package;

Figs. 2 and 3 are perspective views showing successive stages in the formation of a wrapper in accordance with the invention;

Fig. 4 is a perspective view similar to Fig. 3 but looking upwardly to show the upper flap; and Fig. 5 is a perspective view of the finished package.

The disposition of the rip cord or tearing strip within the wrapper and around the package will be more clearly understood by reference to the successive steps of the wrapping operation as shown in the accompanying drawing. In Fig. 1 the Cellophane wrapper 1 and the rip cord 2 are shown in the position as initially presented to what may be termed the bottom of the package 3 for being wrapped about the same. It will be noted that the rip cord 2 is of the same length as the wrapper 1, but is displaced or in staggered relation lengthwise of the wrapper as shown so that one end 4 of said rip cord projects beyond its edge 5 of the wrapper and the other end 6 is short of the other edge 7 of the wrapper. The rip cord may be adhesively secured to the wrapper in any desired manner and mechanism for feeding a wrapper and rip cord in the relation here shown is disclosed in the patent to Melhorn 1,965,524. As indicated in said patent there will be a short slit 8 a cut through the wrapper at the terminal end 6 of said rip cord. It will be noted also that the rip cord 2 is not disposed centrally of the wrapper but nearer to one of the lateral edges 8 thereof as shown and the purpose of this will later appear.

The wrapper and its attached rip cord will act as a unit in being wrapped around the package and succeeding wrapping steps will bring the same to the position wherein a tubular extension of the wrapper extends from what may be termed the top of the package and with portions of the wrapper folded against the relatively narrow sides of the package. The subsequent steps of folding down this tubular extension consist in making preliminary tucks 9 and 10 in the wrapper from each of the narrow sides as shown in Fig. 2, and this action produces corner folds 11 and 12 which embrace terminal portions of the rip cord. The relative position of the rip cord and wrapper with respect to these corner folds may be such that the cut slit 6a in the wrapper will be turned to the inner and under side of said corner fold 12. This results in doubling over a short portion of the terminal 6 of the rip cord within the corner fold.
so as to more securely lock or anchor this end 6 of the rip cord. On the other hand the corner fold 11 is so formed, as will be more fully described below, that its slanting edge will be of such slope as not to disturb or fold under the protruding end 4 of the rip cord which will project outwardly therefrom in a substantially straight line as shown in Fig. 4. The making of the corner folds 11 and 12 and corresponding corner folds 13 and 14 at the other side of the package will leave two final flaps 16 and 18 which are eventually folded down upon the top of the package, one upon the other in overlapping relation with the flap 15 underneath, to the finished wrapped condition shown in Fig. 5. If desired the sheet 1 may be initially positioned so that the flaps 15 and 16 will be of differing lengths.

It will be understood that appropriate means will be employed to hermetically seal together all overlapping portions of the wrapper for the finished package, and that it is desirable in these packages to have the rip cord offer the minimum of disturbance or break in the continuous seal. This is accomplished with the present disclosed arrangement by having said rip cord buried within the corner folds of the last folded side of the package as above described.

In the operation of the rip cord for removing the Cellophane wrapper from the package, the end 4 is grasped and pulled outwardly from the top around the three sides of the package to sever the same as far as to anchored end 6. While this severing operation of the rip cord on the wrapper does not make a complete circuit around the package yet it will be sufficient for removal of the wrapper. To facilitate the starting of the ripping operation it is desirable, although not necessary, to make short cut slits 17 and 18 from the edge 5 of the wrapper, one at each side of the protruding end 4 of the rip cord as shown in Fig. 1. Also to make more easy the tearing off from the package of the unanswered in-tuck portion 16 of the wrapper when the rip cord completes its severing action, this in-tuck 16 may have a series of weakening cuts 19 therein. These weakening cuts 19, however, will lie beneath the folded down corner flaps 11 and 14 in the finished wrapped package and therefore will not make any interruption in the continuously sealed condition of said package.

The nature of the cellulose wrapper is such that, particularly if the cut slits 17 and 18 are omitted, there may be a considerable initial pull on the flap 15 when the tearing operation is started. In order to give a substantial reinforcement to this flap so that it will not be pulled loose, it is preferably folded first as in Fig. 3, the opposite flap 15 being folded down in adhering relation on top of it. When the extending end 4 of the tearing strip is pulled the flap 15 will not merely be peeled loose from the underlying folds as it might be were the flap 15 to be on the outside, but will be held by the straight pull exerted by the overlying flap 16.

This manner of arranging the folds, however, adds another problem which is solved by the present invention. It is impractical to have the tearing strip located exactly at the edge of the package; and as it is moved away from the edge its free end, which it will be remembered emerges from the inner flap adjacent one lateral bounding edge would be covered by the outer flap 16 were not special provision made to avoid this. In accordance with the preferred form of the invention the flaps are so formed that the end 4 of the tearing strip will be located to the side of the opposed triangular corner fold 12, or in other words slightly beyond the slanting lateral bounding edge of the outer flap 16. For this purpose the tucks 8 and 10 are made adjacent one lateral bounding edge, the corner fold 12 and 14 creased, and being formed loosely against the flap 15 with the corner folds 11 and 13 left initially uncreased. When the flap 15 is folded up a sliding pressure of the usual plow folder from left to right in Fig. 2 will cause the corner fold 12 to be turned down and flattened in substantially the same way as the opposite fold 14, whereas the corner fold 11 (or the lateral bounding edge of flap 15) will be caused to extend much more nearly parallel to the edge of the package than would otherwise be the case. As seen in Fig. 5 this brings the point of emergence of the tearing strip well outside the opposed fold 12. For convenience the extending end 4 of the tearing strip is preferably bent at right angles.

1. A wrapped package comprising an article having a wrapper folded around five of its six sides and folded down upon said sixth side with opposed tucks and intervening overlapping flaps, a tearing strip adherently secured to the wrapper and extending around the article in a plane perpendicular to said sixth side, and close to one adjacent side of the article, the tearing strip terminating short of one margin of the wrapper a distance sufficient to cause that end of the strip to lie substantially at one lateral bounding edge of the outer overlapping flaps and the other end of the strip projecting past the opposite margin of the wrapper and emerging from the inner overlapping flap substantially adjacent a lateral bounding edge thereof.

2. A wrapped package comprising an article having a wrapper folded around five of its six sides and folded down upon said sixth side with opposed tucks and intervening overlapping flaps, a tearing strip adherently secured to the wrapper and extending around the article in a plane perpendicular to said sixth side, and close to one adjacent side of the article, the tearing strip terminating short of one margin of the wrapper a distance sufficient to cause that end of the strip to lie substantially at one lateral bounding edge of the outer overlapping flaps, and the other end projecting past the opposite margin of the wrapper and emerging from the inner overlapping flap substantially adjacent a lateral bounding edge thereof, the inner overlapping flap from which the tearing strip projects having the angle between its adjacent lateral bounding edge and the adjacent corner of the package substantially less than the angle between the corresponding bounding edge of the outer overlapping flap and the same corner of the package.

3. A wrapped package of the type in which an article of prismatic form is enclosed in a wrapper folded over one side and two adjacent faces of the article and folded in overlapping folds upon the lateral surfaces adjacent the first side, said wrapper having opposed tucks formed against a second side of the article opposite the first side and overlapping flaps folded against said second side, each having a triangular portion adjacent the tuck: characterized by a tearing strip adherently secured to the inside of the wrapper in a plane parallel to one of said lateral surfaces and closer thereto than the extent of the adjacent tuck across said second side and
extending beyond the edge of the wrapper from one of the last-named overlapping flaps, the free corner of the triangular two-ply portion of said flaps being positioned between the plane of the tearing strip and said lateral surface with the strip initially emerging from it in said plane.

4. A wrapped package of the type in which an article of prismatic form is enclosed in a wrapper folded over one side and two adjacent faces of the article and folded in overlapping folds upon the lateral surfaces adjacent the first side, said wrapper having opposed tucks formed against a second side of the article opposite the first side and overlapping flaps folded against said second side, each having a triangular two-ply portion adjacent the tuck; characterized by a tearing strip adherently secured to the inside of the wrapper in a plane parallel to one of said lateral surfaces and closer thereto than the extent of the adjacent tuck across said second side and extending beyond the edge of the wrapper from the inner of the last-named overlapping flaps, the free corner of the triangular two-ply portion of said flap being positioned between the plane of the tearing strip and said lateral surface with the strip initially emerging from it in said plane, and being bent beyond its point of emergence to project beyond said lateral surface, the second of said overlapping flaps being secured to the outer surface of the first of said flaps and having the free corner of its triangular two-ply portion positioned on the side of the tearing strip remote from said lateral surface.

5. A wrapped package including an article of prismatic form and a wrapper folded over one side and two adjacent faces of the article, said wrapper having a tearing strip adherently secured to its inner surface and located closely adjacent one lateral surface of the article bounded by said side and faces, the wrapper being folded in overlapping folds upon the lateral surfaces and having, against the side opposite the first-mentioned sides, inturned tucks and overlapping trapezoidal flaps beyond the inner of which the tearing strip projects, that one of said tucks adjacent the tearing strip being asymmetrical to bring the free corner of the inner trapezoidal flap from which the tearing strip projects closer to the adjacent lateral edge than the tearing strip and the corresponding corner of the other trapezoidal flap further from the adjacent lateral edge than said tearing strip.

6. A wrapped package including an article of prismatic form and a wrapper folded over one side and two adjacent faces of the article, said wrapper having a tearing strip adherently secured to its inner surface and located closely adjacent one lateral surface of the article bounded by said side and faces, the wrapper being folded in overlapping folds upon the lateral surfaces and having, against the side opposite the first-mentioned sides, inturned tucks and overlapping trapezoidal flaps beyond one of which the tearing strip projects, the tuck adjacent the tearing strip being on at least one side at a sufficient angle to the adjacent package edge to position the adjacent free corner of the trapezoidal flap between the tearing strip and the adjacent lateral surface of the article to permit direct emergence of the tearing strip from said flap.

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