

Oct. 15, 1946.

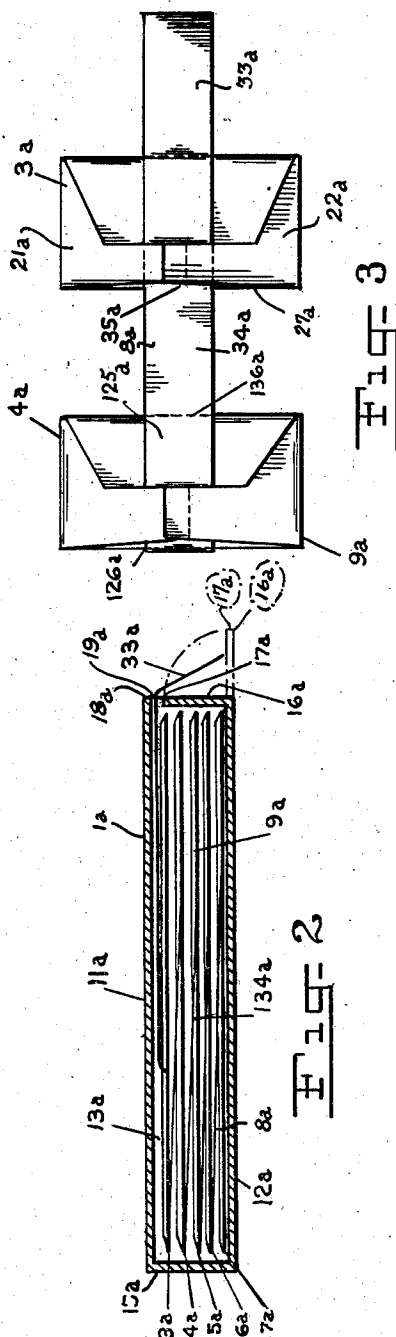
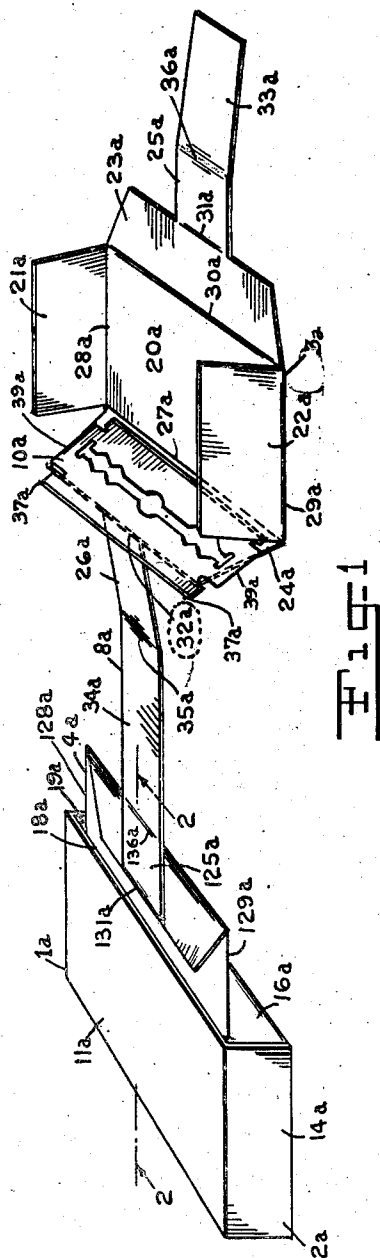
M. KLEINMANN

2,409,362

PACKAGE

Filed Jan. 1, 1942

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

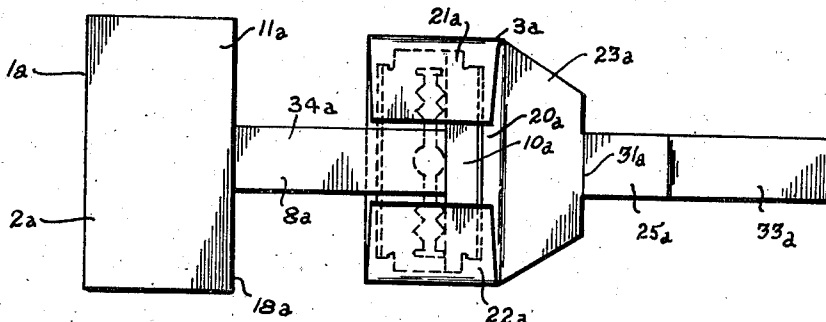


Fig-4

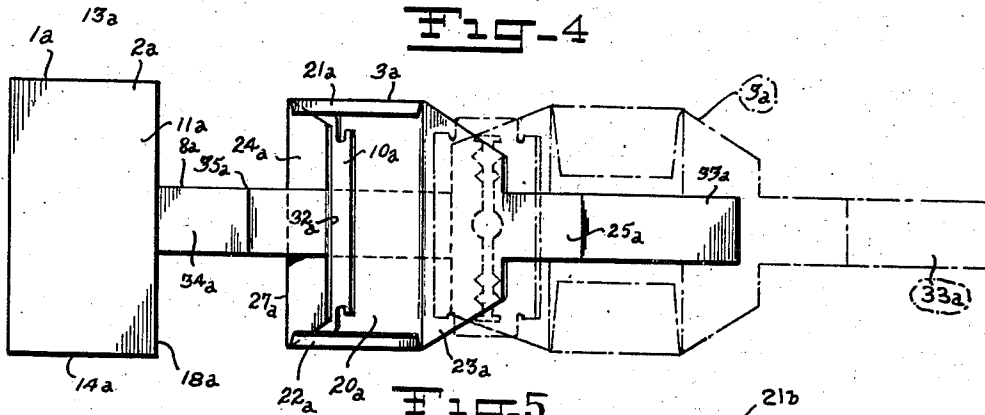


Fig-5

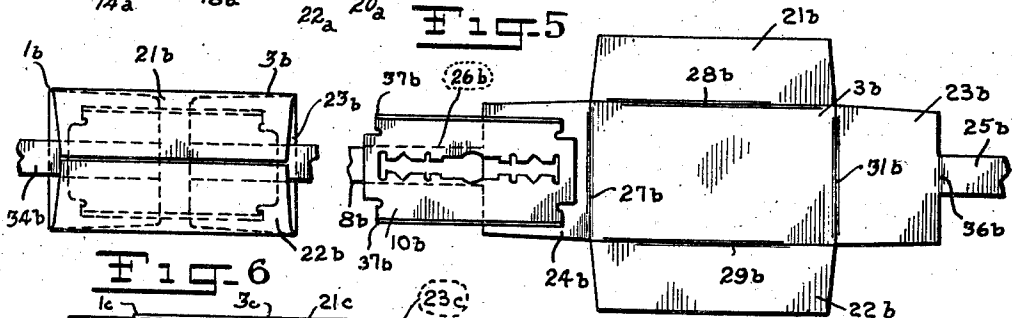


Fig-6

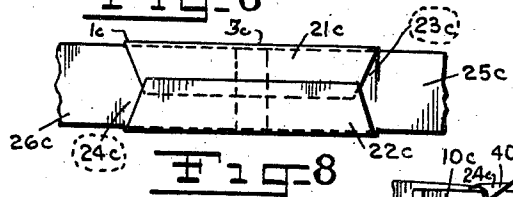


Fig-7

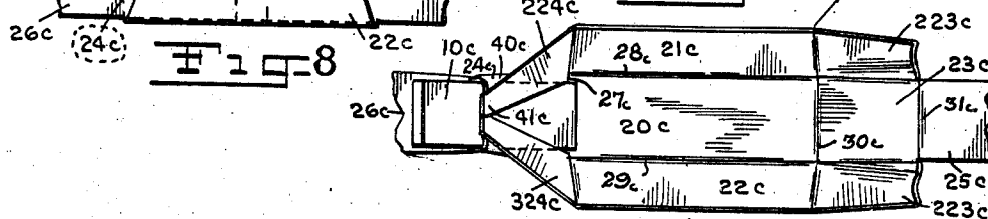


Fig-8

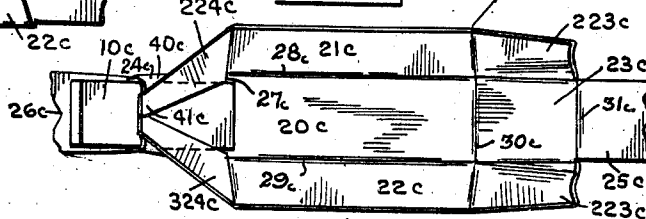


Fig-9

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2,409,362

PACKAGE

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Application January 1, 1942, Serial No. 425,295

2 Claims. (Cl. 206—46)

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This invention relates generally to the field of the packing and placing in containers therefor of various articles for handling and transportation in the commercial sale and use thereof, and more particularly to novel article packaging and dispensing.

Among the objects of the present invention lies the provision of novel packaging and dispensing structure which permits the automatic feeding of a series of individually packaged articles in succession, either singly or in groups, from a container for all of them.

Another object herein lies in the provision of a packaging for an individual article which, upon simple manipulation, undresses the article and makes the same conveniently available for use.

Another object herein lies in the provision of an article package which, upon simple manipulation, not only undresses the article but also moves the article in a predetermined manner, either so as to make the article more easily grasped so that the same may be used, or to deposit the article into some desired container or upon some other thing for which the article itself is an accessory.

Another object herein lies in the provision of a packaging structure which upon simple manipulation undresses the packaged article but maintains the article itself in detachable attachment to the packaging so that the article may be manually removed as desired.

A feature of construction in accordance with the last described object lies in the fact that not only is the article detachably connected to the wrapper or packaging but upon the undressing operation, the article itself is placed in a convenient position for ready grasping by the user.

Another object lies in the provision of means to continuously and successively feed from a principal container a plurality of individually packaged articles in which the individual packages contain structure for undressing, positioning, dispensing, moving and/or depositing the article.

Another object herein lies in the provision of packaging structure for use in connection with articles of a fragile or easily damaged character wherein said articles are positively positioned with relation to certain of the package parts whereby deleterious contact between packaging and said fragile parts is avoided.

Another object herein lies in the provision of packaging structure wherein a series of articles requiring protection from the packaging material itself are maintained in predetermined po-

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sition within the individual packages and in which the individual articles are successively withdrawn from the main container therefor and wherein a continuance of substantially the same manipulation causing the withdrawal of the individual article will result in undressing and depositing the article in a predetermined location.

A feature of the present invention lies in the provision of packaging structure which permits the removal of an individually packaged article from the casing or enclosure therefor and the depositing of the same at some desired location for use of the article without the touching of the article by the human hand.

A feature of the invention lies in the fact that where the article itself is placed and maintained in a predetermined position with relation to the package, that such placing and positioning may be obtained by a deformation of the packaging material itself.

A further object herein lies in the provision of means for mounting an article upon a supporting surface and at the same time preventing undesirable shifting of the article with relation to the supporting surface as well as permitting the ready attaching and detaching of the article to its supporting surface.

These objects and other incidental ends and advantages will more fully appear in the progress of this disclosure and be pointed out in the appended claims.

In the drawings, forming a material part hereof, similar reference characters are given to corresponding parts throughout the several views of each embodiment; and, furthermore, wherein it is considered that the clarity of the disclosure may be enhanced and also for the purpose of avoiding needless repetition, certain of the parts having similarity of structure or function in the different embodiments are given the same reference character with an added alphabetical letter. By reason of the thinness of many of the parts, their thickness in the drawings has been exaggerated, also for purposes of clarity.

In the drawings:

Fig. 1 is a view in perspective showing a first embodiment of the invention.

Fig. 2 is an enlarged vertical, central, sectional view of the first embodiment of the invention as might be seen from the plane 2—2 on Fig. 1, except that all of the individual article packages are within the main container.

Fig. 3 is a plan view showing a stack of individual article packages and with the topmost in-

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dividual article package laterally displaced to the right as seen in said figure.

Fig. 4 is a plan view taken generally similarly to Fig. 3 except that the stack of individual article packages shown on the left in Fig. 3 are located within the main container in Fig. 4, and further, the individual article package on the right of Fig. 3 is partially opened in Fig. 4.

Fig. 5 is a plan view taken similarly to Fig. 4 except that in full lines it shows the individual article package at the next stage in the opening thereof, following that shown in Fig. 4. The dot-dash lines in Fig. 5 show the position taken by the parts of an individual article package and the article contained therein when the same is in a substantially fully opened position.

Fig. 6 is a fragmentary plan view of a second embodiment of the invention showing an individual article package containing an article, said package being in the closed position thereof.

Fig. 7 is a fragmentary plan view of the embodiment shown in Fig. 6, except that the individual article package is shown in an opened position thereof.

Fig. 8 is a fragmentary plan view of a third embodiment of the invention showing an individual article package in a closed position thereof.

Fig. 9 is a fragmentary view in perspective of the third embodiment of the invention with the individual article package in an opened position thereof.

Turning now to the first embodiment of the invention illustrated in Figs. 1 to 5, inclusive, there is shown a form of the invention particularly adapted for the packaging and dispensing of razor blades. As will be obvious to those skilled in the art to which the present invention relates, the adaptation of the packaging of the first embodiment of the invention to razor blades is for the purpose of example only, and by alteration of the sizes of certain of the parts, other articles may be packaged and dispensed by the present construction.

In connection with the packaging and dispensing of articles such as razor blades, it may be stated at this point that several characteristics of a good packaging are requisite. Among these characteristics are (1) physical coverage and protection of the blade; (2) means to prevent contact between the packaging material and the cutting edges of the blade; (3) structure which automatically opens up the packaging requiring no manipulation of the packaging which will bring the fingers of the operator in proximity to the blade; (4) structure which acts to position the blade in a convenient position so that the same may be grasped while avoiding a digital contact with the sharp edges of the blade; (5) structure requiring a minimum of parts for material so that the advantageous features of the packaging may be made available for use with articles in the very lowest price ranges; (6) compactness in that the foregoing characteristics are provided for within the packaging space normally required for containing and protecting the blades without the advantageous features presented by the present invention.

The present construction, therefore, includes the features of economy, protection, sanitation, safety, convenience and compactness.

As disclosed in Figs. 1 to 5 inclusive, the device generally indicated by numeral 1a comprises a main container 2a, individual packages 3a, 4a, 5a, 6a, 7a, and a feeder element 8a. In the first em-

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bodiment, a razor blade is shown and indicated by numeral 10a.

The container 2a has the general shape thereof governed by the size and shape of a stack 9a of the articles 10a which it is desired to store within the main container and includes a top wall 11a, a bottom wall 12a, side walls 13a and 14a, a rear wall 15a, and a front wall 16a. The upper edge 17a of the front wall 16a is spaced from the forward edge 18a to leave a slot 19a of a thickness or width slightly greater than the thickness of a single package such as 3a, when the same is in a folded and loaded condition. The upper wall 16a is preferably rigidly maintained in position in any suitable manner by the connection of the side edges thereof with the forward edges and/or inside surfaces of the side walls 13a and 14a.

For best operation it is desirable that the main container 2a be of substantially rigid construction, though a certain amount of flexibility in the parts will not deleteriously affect such operation; thus the main container 2a may be made of heavy paper, light cardboard, plastic sheet, or thin sheet metal, as is well known in the razor blade packaging art. The main container 2a, therefore, is a substantially closed container having an exit aperture or slot through which the individual packages 3a—7a may be withdrawn as will be set forth hereinbelow. While five individual packages have been shown as disposed within the main container (Fig. 2) obviously by increasing the height of the side walls 13a and 14a, the rear wall 15a and the front wall 16a, any desired number of individual packages in a stack may be disposed therewithin.

Since all of the individual packages 3a—7a are substantially identical, a description of one in detail will suffice for all and will thereby avoid needless repetition. The individual package 3a is preferably formed from thin flexible sheet material having a certain amount of stiffness, as for example, paper, wax paper, thin plastic sheet such as Cellophane, metal foil and similar materials, and comprises a base 20a, a first side flap 21a, a second side flap 22a, a third front flap 23a and a fourth rear flap 24a. The flap 23a is provided with an outwardly projecting front handle portion 25a and the rear flap 24a is provided with a rear handle portion 26a. The article or blade 10a is detachably attached to the inner surface of the rear flap 24a in any suitable manner such as by means of readily frangible adhesive. A desirable method for properly installing the article 10a upon the flap 24a may be, for example, by fabricating the package 3a from waxed paper and by locally heating the flap 24a at predetermined points, causing the wax therein to fuse and adhere to the surface of the article 10a lying thereagainst. This method is well known in the razor packaging field and for that reason is considered as not requiring further detailed description.

In making the package 3a, preferably after the blade 10a has been secured as previously described, to the rear flap 24a, the latter is folded inwardly of the device about a first fold 27a, until the blade 10a rests upon the base 20a. The rear handle 26a is folded rearwardly about the fold 32a. Next, preferably, the side flaps 21a and 22a are folded inwardly about the second and third folds 28a and 29a, respectively, with the inner surfaces of the said side flaps overlying the outer surfaces of the rear flap 24a, as well as the rear handle portion 26a. Next, the front flap 23a is folded rearwardly about the fourth fold 30a to overlie the outer surfaces of the side flaps 21a

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and 22a. The handle portion 25a is bent forwardly about the fifth fold 31a so that the starting tab 33a extends forwardly of the device.

As will be apparent from the description hereinafter, where desired the front flap 23a may lie between the outer surfaces of the rear flap 24a and the inner surfaces of the side flaps 21a and 22a and the device will also operate.

After the folding operations just described have been completed, the individual package 3a will take the appearance shown in Fig. 3. The rearmost part of the rear handle 26a is connectively associated with the handle portion 125a on the package 4a by means of the feeder element interportion 34a which may be described as lying between the folds 35a and 136a (Figs. 1 and 3). When the individual packages 3a-7a are stacked above each other as seen in Fig. 2, the feeder element interportions 34a and the additional feeder element interportions corresponding thereto will lie in successive order between the several said individual packages.

When the device 1a is purchased by the consumer, it may, of course, be enclosed in an additional wrapper (not shown) but the starting tab 33a projects outwardly through the slot 19a. The starting tab 33a is in reality the first in the total series of feeder element interportions designated by numeral 34a and the fold 36a sets the inner or rear limit of the starting tab 33a as best seen in Fig. 1.

Operation of first embodiment

As presently understood, one manner of operation of the device is as follows: the main container 2a is preferably grasped between the thumb and forefinger of the left hand of the operator with the thumb contacting the side wall 14a and the forefinger contacting the side wall 13a. The projecting starting tab 33a is grasped between the thumb and forefinger of the right hand and the starting tab is pulled to the right as seen in any of the Figs. 1 to 5, inclusive. This will result in the individual package 3a being laterally displaced out through the slot 19a. As soon as the individual package 3a has moved out of the main container 2a far enough to allow the free edge of the front flap 23a to clear the edge 18a, said front flap will open forwardly about the fold 30a to take a position substantially in the same plane as the base 20a.

Continued withdrawal of the package 3a will move the same to the position in which it is shown in Fig. 4. This will, of course, have caused an inversion of the feeder element interportion 34a.

Further movement of the tab 33a to the right will cause the unfolding of the rear flap 24a about the fold 27a. The then outer corners 37a of the blade 10a in swinging about the fold 27a as an axis, contact the inner surfaces of the side flaps 21a and 22a causing them to open about the folds 28a and 29a, respectively. The parts will then have a position shown in Figs. 1 and 5 in full lines. Continued movement of the tab 33a to the right will cause the parts to take the position indicated by the dot-dash lines in Fig. 5. As presently understood, movement of the next or then topmost individual package 4a within the main container 2a is prevented by reason of a certain amount of friction existing between the outer surfaces of the folds 128a and 129a against the inner surfaces of the side walls 13a and 14a and a certain amount of friction existing between the fold 131a and the undersurface of the top wall 11a, as well as the resistance to bending offered

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by the next feeder element interportion 134a (Fig. 2) since said feeder element interportion must make a rolling fold upon itself. As may be clearly seen in Fig. 1 at the time that the flap 24a unfolds, the blade 10a is placed in a position which is very convenient for the manual grasping thereof by the thumb and first finger of the right hand which may now have released the starting tab 33a. Since the lateral or dull edges 39a are fully exposed, they may be readily grasped without danger of cutting the hand of the user, and by reason of its connection to the package through the feeder element interportion 34a, the flap 24a is maintained in relatively fixed position so that the blade may be readily stripped therefrom by severing the previously described detachable connection between the two. The handle portion 26a may now be easily torn from the feeder element interportion 34a along the fold 35a, thus leaving the interportion 34a projecting from the container 2a to form a new starting tab corresponding to the old starting tab 33a.

If desired, the severance along the fold 35a may be performed prior to the stripping of the blade 10a from the flap 24a, in which case the handle portion 26a may be held by the left hand of the user doing the stripping operation.

While the removal of the individual package 3a from the container 2a and the movement of the various flaps has been described in detail, requiring considerable time, in actual operation the movements follow in extremely rapid succession so that from the initial tug on the starting tab 33a until the blade 10a is in position to be manually stripped from the rear flap 24a, is a matter of only a split second.

It may be noted at this point that while the blade 10a is within the package 3a and all of the flaps are closed, the blade is fully protected from contact. The distance between the fold 27a and the fold 30a on the base 20a is preferably slightly greater than the distance between the cutting edges on the blade 10a, and the blade 10a is secured to the flap 24a with a space existing between the innermost cutting edge of said blade and the adjacent fold 27a. Thus, there is no packaging material surface contacting the cutting edges of the blades perpendicularly thereto.

While the feeder element 8a has been shown as being integrally connecting the several individual packages, it will, of course, be obvious that where desired each of the individual packages may include only the base 20a and the surrounding four principal flaps 21a, 22a, 23a and 24a. In this case, the feeder element 8a comprising the feeder element interportions 34a, 134a, etc., the handle portions 25a, 125a, etc., and the handle portions 26a, 126a, etc., may take the form of an individual strip, string, cord, or other flexible, substantially non-extensible element, either as a continuous element fastened therein to each of the individual packages or as separate elements interconnecting in a successive series the rear flap of one individual package with the front flap of the next individual package.

It may be noted in connection with the first embodiment that the container 2a may be of a size and form substantially identical with the size and form of containers presently in use for packaging razor blades. And, furthermore, this same package construction may be adapted to other articles and by reason of the compactness of this construction will not require main containers of greater size than those heretofore used for a given quantity of contents.

As previously mentioned in the folding of the individual packages, it has been considered desirable to have the forward flap 23a topmost when the package was located within the main container. Satisfactory operation, however, will be obtained when the side flaps 21a and 22a are topmost.

The flaps 21a, 22a and 23a may each or all be eliminated from the present construction with a corresponding loss in their covering functions. Positive operation of opening of the last or bottom-most individual package within the main container has been found to be facilitated by the securing within the package of the inner-most end of the feeder element 8a.

Turning now to the second embodiment of the invention illustrated in Figs. 6 and 7, the construction of the first embodiment is shown as altered to permit the feeding of the individual packages 3b out of the end of the main container (not shown). Thus, as contrasted with the first embodiment of the invention, the front flap 23b is preferably only slightly greater in width than the blade or article 10b, and the side flaps 21b and 22b are preferably slightly longer than the length of the article 10b. In all other respects, the operation of the second embodiment is substantially as the first and for the purpose of avoiding needless repetition, certain of the parts corresponding to those of the first embodiment are given the same reference characters with the suffix "b".

Turning now to the third embodiment of the invention marked in Figs. 8 and 9, this construction is shown in a form which is especially adapted for the packaging of articles such as chewing gum sticks. With slight variations, however, it may be readily utilized with other articles as well. In the broader aspects thereof, the third embodiment of the invention functions in a manner very similar to that of the first embodiment. A few differences may be noted, however. Among these differences are the lateral extension of the front flap 23c so as to be equal in width to the combined width of the base 20c and the side flaps 21c and 22c. These extensions of the front flap 23c are indicated by numeral 223c. The rear flap 24c includes similar extensions 224c and 324c. The article 10c is not directly, that is to say adhesively, secured to the rear flap 24c but is maintained within a sleeve-like retainer generally indicated by numeral 40c which is formed by the extensions 224c and 324c, being interconnected at the point 41c. When the package 23c is in folded or closed condition, the side flaps 21c and 22c overlie both the front and rear flaps 23c and 24c as well as the handle portions 25c and 26c. The handle portion 25c may have connected thereto a starting tab similar to the starting tab 33a previously described, while the handle portion 26c may have connected thereto a feeder element interportion corresponding to the portion 34a previously described.

In all other principal respects, the operation of the third embodiment is substantially the same as that of the first embodiment. When the package 3c is removed from a suitable main container, the flaps open up and the package takes a position, when viewed in plan, as seen in Fig. 9. The article 10c, such as a stick of gum, may then be readily grasped and pulled out of the container 40c. By reason of the position taken by the article, the same may be grasped between the teeth or between the lips of the user without touching the article with the hands at all.

This result, therefore, is an extremely convenient and especially sanitary packaging for an article which is intended for internal consumption.

In the third embodiment, certain of the parts corresponding to the first embodiment are given the same reference character with a suffix "c", for the purpose of avoiding needless repetition.

In connection with those embodiments of the invention which include a feeder element in the form of a member adapted to consecutively remove from the main container the individual article packages, it may be noted that the length of the feeder element is in certain respects affected by the length of the articles themselves or the individual article packages within which they are contained. The length of the feeder element is, however, also affected by the distance it is desired that the individual article packages be projected from the main container when the feeder element is actuated. Thus, where the feeder element interportions, that is to say, the portions of the feeder element existing between the points of attachment thereof to the individual article packages, are equal to the length of an individual article package, upon proper manipulation of the feeder element, the individual article package will be completely ejected from the main container and it may be said that practically the distance which the individual article package is ejected from the container is controlled by the length of the interportion.

While various embodiments of the invention have been described either in the form of single packages or in the form of interconnected packages, it will be understandable to those skilled in the art that certain of the packages may be combined in a series either with an integral or attached feeder element so as to have the feeder element for a main container adapted to maintain a plurality of separate article packages and, conversely, certain of the article packages illustrated as being integrated with feeder element structure may be utilized as single packages.

It will be also understood that although the invention has been illustrated by way of example in connection with the packaging of certain articles, other articles may be substituted therefor which have similar characteristics in size, shape or configuration, permitting containing or co-action thereof by or with the package therefor.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described for obvious modifications will occur to a person skilled in the art.

I claim:

1. A package adapted to be opened and closed for use with a substantially thin flat article, said package comprising a base panel member, a second panel member hingedly attached along one side to said base member and movable to and from a position overlying said base member, a third thin flat handle member hingedly attached to the opposite side of the second member and adapted to be pulled for opening the package, said third member being movable to and from a position overlying said second member, a fourth thin flat handle member hingedly attached to said base member at the opposite side from that of said second member, said article being disposed between said base and second members when the package is closed and means for detachably attaching said article to the inner face of said second member for movement therewith whereby when the said third member is pulled to open the

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package it will cause said article to be clear of said base member to facilitate its removal.

2. A packaging device for a plurality of independent substantially thin flat articles comprising a plurality of individual packages each adapted to be opened and closed and to contain one of said articles, each of said packages comprising a base panel member, a second panel member hingedly attached along one side to said base member and movable to and from a position overlying said base member, a third thin flat handle member hingedly attached to the opposite side of the second member and adapted to be pulled for opening the package, said third member being movable to and from a position overlying said 15

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second member, a fourth thin flat handle member hingedly attached to said base member at the opposite side from that of said second member, said article being disposed between said base and second members when the package is closed and means for detachably attaching said article to the inner face of said second member for movement therewith whereby when the said third member is pulled to open the package it will cause said article to be clear of said base member to facilitate its removal, the said third handle member of one package being integral with the said fourth handle member of the adjacent package to form an interconnected series of said packages.

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