This invention relates generally to packaging of small articles, and is especially concerned with a unique and highly improved package for packets of pills and the like.

While the package of the present invention has been primarily developed and employed for use in packaging of pharmaceutical tablets or pills, and will be illustrated and described hereinafter with particular reference thereto, it is appreciated that the advantageous features hereof are capable of many varied applications all of which are intended to be comprehended herein. For simplicity of terminology the word "packet" as used hereinafter may be considered as a package element or unit of convenient size for use, several of which packets are releasably retained in an organized relationship in a package of the present invention.

In the distribution of pharmaceutical tablets or pills, there is considerable time and effort expended in separation, arrangement and packaging of pills in numbers and quantities convenient for individual use. For example, busy physicians cannot be expected to sort, count and pack pills for patients. Indeed, the time and effort involved in retrieving even unpacked pills from a large quantity is prohibitive.

Therefore, is is an important object of the present invention to provide a simple package wherein several prepacked quantities or packets of pills are neatly organized for quick and easy removal of any desired number of packets, wherein the remaining packets need not be disturbed, and which permits of imprinting necessary and attractive copy readily visually accessible upon removal of the packets.

It is a further object of the present invention to provide a highly improved package for pills and similar small objects wherein the above objectives are advantageously achieved, which is capable of being employed as a mailer without damage to the contents, and which can be economically produced for sale at a reasonable price.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

In the drawings:

FIGURE 1 is a perspective view showing a mailer package of the present invention in its condition for mailing;

FIGURE 2 is a perspective view of the package of FIGURE 1 in an open condition;

FIGURE 3 is an exploded perspective view, somewhat enlarged, showing components of the package of FIGURE 2;

FIGURE 4 is a front elevational view of the package of FIGURES 1–3, with a packet being removed;

FIGURE 5 is an exploded perspective view showing the components of a packet of the present invention;

FIGURE 6 is a sectional elevational view generally along the line 6–6 of FIGURE 2;

FIGURE 7 is a sectional view taken generally along the line 7–7 of FIGURE 2;

FIGURE 8 is a front elevational view showing a slightly modified package of the present invention in open condition;

FIGURE 9 is an enlarged fragmentary view of the package of FIGURE 8;

FIGURE 10 is a partial sectional view taken generally along the line 10–10 of FIGURE 9;

FIGURE 11 is a front elevational view showing another slightly modified package of the present invention in its open condition.

Referring now more particularly to the drawings, and specifically to FIGURES 1 and 2 thereof, a package of the present invention is shown in FIGURE 1 and generally designated 20, there being illustrated in the form of a mailer and in condition to be mailed. The package 20 of FIGURE 1 is shown in FIGURE 2 in its open condition including a holder 21 and a plurality of packets 22 arranged and held in an organized relation by the holder 21.

The construction of a packet 22 is best seen in FIGURE 4 as including a generally flat card or board 25 which may be rectangular-outline configuration and subdivided by a fold line or score 26 into a pair of card portions 27 and 28 foldable into overlying relation. The card portion 27 is provided on one side with a series of or row of hollow protruberances or pockets 29 each adapted to contain a small article or table 30. The card portion 28 advantageously provides substantial space for copy, such as outlined in dash-and-dot lines 31.

More particularly, see FIGURE 5, the packet 22 may be constructed of the generally rectangular backing sheet or card 25 subdivided by the score 26 into card or sheet portions 27 and 28. The sheet portion 27 may be provided with a series of thru openings or apertures 32. A closure sheet or film 33 may be arranged on a forward side of the sheet portion 27 overlying and closing the several apertures 32. A packet sheet 34 is arranged over the closure sheet 33 and formed with a series of pockets or bubbles 29, each in respective registry with an opening 32. A tablet or other small article of contents 30 is inserted in each pocket 29 during assembly. Overlying the pocket sheet 34 is a cover or face sheet 35 having a series of thru holes or openings 36 receiving respective protruberant packets 29. The face sheet 35 may be secured to the sheet portion 27 to maintain therebetween the sheets 33 and 34 in firm sandwich relation.

The holder 20 has its construction exposed in the exploded view of FIGURE 3, there including a carrier sheet 40, a backing sheet 41 and an interposed patch sheet 42. The carrier sheet 40 may be of generally rectangular-outline configuration, formed with a crease or score 43 subdividing the carrier sheet into relatively foldable portions 44 and 45. The carrier sheet portion 44 is cut to form the material thereof a series of pairs of tabs, with the tabs of each pair extending toward and terminating short of each other. For example, in the illustrated embodiment there are shown three pairs of tabs, namely tabs 46, tabs 47 and tabs 48. The tabs of each pair are in end-to-end spaced alignment with each other, while the several pairs are adjacent to and spaced from each other in a row.

The tabs 46 are each defined by a relatively long side cut 50 extending from an arcuate terminal portion 51 to the free end of the respective tab. The free end of each tab 46 is defined by an end cut 52 extending transversely from the side cut 50. The other side of each tab 46 is defined by an opening or cutout 53 extending from the end cut 52 generally parallel to the side cut 50 and being shorter than the latter or only partially coextensive therewith. The elongate cutout 53 is bounded on its longitudinal sides by a cut edge 54 of the tab 46 and a cut edge 55 of the carrier sheet. It will now be apparent that the pair of tabs 46 have their upper edges or cuts 50 (as seen in FIGURE 3) in substantial alignment with each other, as are their lower sides or edges, as defined by the cutouts
Further, the upper sides 50 of tabs 46 are longer than the lower tabs sides 54, for purposes appearing presently. As the free ends of tabs 46 are spaced from each other, there remains therebetween a carrier-sheet portion 56. Formed generally centrally of each tab 46 may be a thru opening or hole 70. The pair of tabs or ears 47 may be substantially identical to the pair of tabs or ears 46, each including a relatively long side defined by a cut 60 extending from an arcuate inner end 61 to the free tab end. The free tab end is defined by a cut 62 extending transversely from the side cut 60 to an elongate cutout 63 extending inward from the end cut 62. The cutout 63 is generally parallel to and shorter than the side cut 61, so as to terminate at its inner end short of the latter cut, and is bounded on its longitudinal sides by side edge 64 of the tab 47 and side edge 65 of the carrier sheet. The side cuts or edges 60 of the pair of tabs 46 are each in substantial alignment with each other and adjacent to and spaced from a respective pair 44 of the upper tabs 46. Also, the lower tab sides 68 and their cutout 66 of tabs 47 are in substantial alignment with each other, the tab ends 62 being spaced apart to leave an intermediate carrier-sheet portion 68. Formed generally centrally of each tab 48 is a thru opening or hole 74.

The lower lower pair of tabs or ears 48 are each defined along their upper sides by a cut 70 extending from an arcuate terminus or end region 71 to the free tab end, the upper sides or cuts 70 of the pair of tabs 48 being substantially aligned. Each tab 48 is further defined by an end cut 72 extending generally normally from the end of the respective side cut 70 and terminating in an arcuate region 73. The lowermost pair of tabs 48 may not be formed with lower sides. Centrally of each tab 48 there is advantageously provided a thru opening or hole 74.

The carrier-sheet portion 85 separated from the carrier-sheet portion 44 by the fold 43 is adapted to contain advertising and other desired copy, as in space 78. The backing sheet or layer 41 is formed with a crease or score line 76 subdividing the sheet into a backing-layer proper 77, and a covering portion 78. The backing-layer proper 77 may be formed with a thru opening or slot 77 while the covering portion 78 may carry on its distal edge a backing flap 80, see FIGURE 2, insertable into the slot 75 in closed condition, see FIGURE 1. At upper and lower edges of the backing-sheet proper 77 there may be provided foldable extensions or flaps 81 and 82.

In assembly, the carrier-sheet portion 45 is secured in engaging relation with the backing-sheet proper 77 in a manner leaving the tabs or ears 46, 47 and 48 free of the backing sheet. In practice, the carrier-sheet portion may have its peripheral margin adhesively secured to the peripheral margin of the backing-sheet proper 77. The patch sheet 42 may be sandwiched between the secured sheet portions 44 and 77, either frictionally or adhesively, as desired, for covering the slot 79.

As thus assembled, the carrier sheet 40, backing layer 41 and patch sheet 42 constitute the holder 21. A plurality of packets 22 may be inserted in the holder 21. In particular, a packet 22 is inserted downward between the carrier sheet 40 and a pair of tabs, say the pair 48, the lower edge of the card part 27 engaging downward past the upper tab edges 70 into limiting engagement with the end portions 73 of cuts 72. At this position, the end protruberances 29 are engaged through and retained within respective tab openings 74. Similarly, an additional packet 22 has its lower edge inserted downward past the upper edges 60 of tabs 47, lying between the carrier sheet 40 and tabs, until the lower packet edge is in limiting engagement with the carrier edges 65 defining the cutout 63. In this fully inserted position, end protruberances 29 are releasably retained in respective tab openings 67.

An additional packet 22 is engaged in the same manner beneath upper tabs 46. The flaps 82 may be folded to overlie the carrier sheet 49, as in FIGURE 2, and the carrier-sheet portion 45 folded to overlie the sheet portion 44 and its held packets 22. The backing-sheet portion 76 may then be folded over the carrier-sheet portion 45 and the locking tab 80 engaged through slot 79 to complete the closed package of FIGURE 1.

In this closed condition, the several packets 22 are effectively retained in the hereinafore described arrangement. Downward movement of each packet by is limited by engagement of the lower packet edge between the backing-sheet edges defining the lower sides of the tabs 46 and 47, and the lower ends of cuts 72. This may be seen in FIGURE 6. In addition, upward movement of the packets 22 is limited by engagement of the upper packet edge or fold 26 with the lower tab sides 54; of course, the retaining engagement of protruberances 29 in the tab apertures 57, 66 and 74, as well as the folded flaps 81 and 82, all serve to insure retention of the packets in next, attractive and easily accessible relationship.

When desired, the packets 22 may be quickly and easily removed from their retained positions, by mere upward withdrawal from beneath the respective holding tabs.

In the embodiment shown, the holder is generally designated 21a and includes a carrier sheet 40a provided with a plurality of pairs of aligned tabs extending toward and terminating short of each other, as at 46a. The tabs 46a are each formed from the material of carrier sheet 40a, being defined by a relatively long upper-side cut 54a extending from an upwardly arcuate end 51a to the free end of the tab. An end cut 52a extends transversely from the side cut 51a to a lower-side cut 53a which extends parallel to and partially coextensively with the upper-side cut 50a, being shorter than and terminating prior to the latter in an upwardly curved terminal portion 58. The upper-side cuts 50a of each pair of tabs 46a are in substantial alignment with each other, as are the lower-side cuts 53a. However, the upper sides of the tabs 46a are longer than the lower sides of the tabs, by reason of the upper-side cuts 50a being longer than the lower-side cuts 53a.

Each packet 22 is engaged between the carrier sheet 40a and a pair of tabs 46a, a lower edge of the packet card part 27a engaging downward beneath the upper tab sides 50a for limiting abutment with the carrier-sheet edges defined by cuts 53a. This is best seen in FIGURES 9 and 10. It will also be apparent that the upper packet edge or fold 26 of each packet 22 is adapted to provide inadvertent upward movement from beneath its holding tabs 46a by engagement with the lower tab edges 53a of the next adjacent upper pair of tabs. Of course, a packet 22 may be removed, as desired, upon deliberate upward withdrawal in front of the next adjacent upper pair of tabs 46a.

In the embodiment of FIGURE 11 is illustrated a package 20b including a holder 21b and a plurality of held packets 22. The holder 21b may include a carrier sheet 40b having a carrier-sheet proper 44b and a covering sheet portion 45b secured to the carrier-sheet proper by a fold or score 43b. In this embodiment, the carrier-sheet portion or cover 45b is hingedly connected by the fold 43b along the upper edge of the carrier-sheet proper rather than at a side of the latter.

The carrier-sheet proper 44b is formed with a plurality of pairs of aligned tabs 46b, which may be constructed in the manner of tabs 46 or 46a, as desired. In the embodiment of FIGURE 11, the pairs of tabs 46b are disposed in a pair of vertical rows. Of course, many other arrangements of tab pairs may be employed, as desired.

From the foregoing, it is seen that the present invention provides a package construction for holding packets of pills and like small articles in an orderly and organ-
nized relation, while permitting of shipment, handling, and the like without disarray, and affording extreme rapidity and ease of removal when and as desired.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. A pill-packet package comprising a carrier sheet of resiliently flexible material, said carrier sheet being cut to form on the carrier-sheet material a plurality of pairs of tabs with the tabs of each pair extending toward and terminating short of each other in the plane of said sheet, said tabs each having a thru opening, the tabs of each pair being longer on one side than the other, and a plurality of generally flat pill packets having protuberant pill pockets at spaced locations on one side, said packets each being of an external dimension small enough for insertion between said carrier sheet and a respective pair of resiliently deflected and undeformed tabs past the longer tab sides and large enough for retention beneath the shorter tab sides, said packets each having a medial portion between said pockets overlying the sheet region between the respective pair of tabs and having its remote portions underlying the respective pair of tabs, and said pill pockets being engageable in said tab openings.

2. A pill-packet package according to claim 1, said pairs of tabs being arranged in adjacent spaced relation for retaining-edge engagement of the shorter tab sides with the packet beneath the adjacent pair of tabs.

3. A pill-packet package according to claim 1, said carrier sheet including a back layer mounted in unsecured underlying relation with said tabs.

References Cited by the Examiner

UNITED STATES PATENTS

1,879,952 9/1932 Rosen 206—79
2,210,385 8/1940 Saltsberg 206—45.31
2,745,545 5/1956 Dunning 206—78
2,780,353 2/1957 Volckening 206—42

FOREIGN PATENTS

721,679 12/1931 France.

THERON E. CONDON, Primary Examiner.
WILLIAM T. DIXSON, Assistant Examiner.