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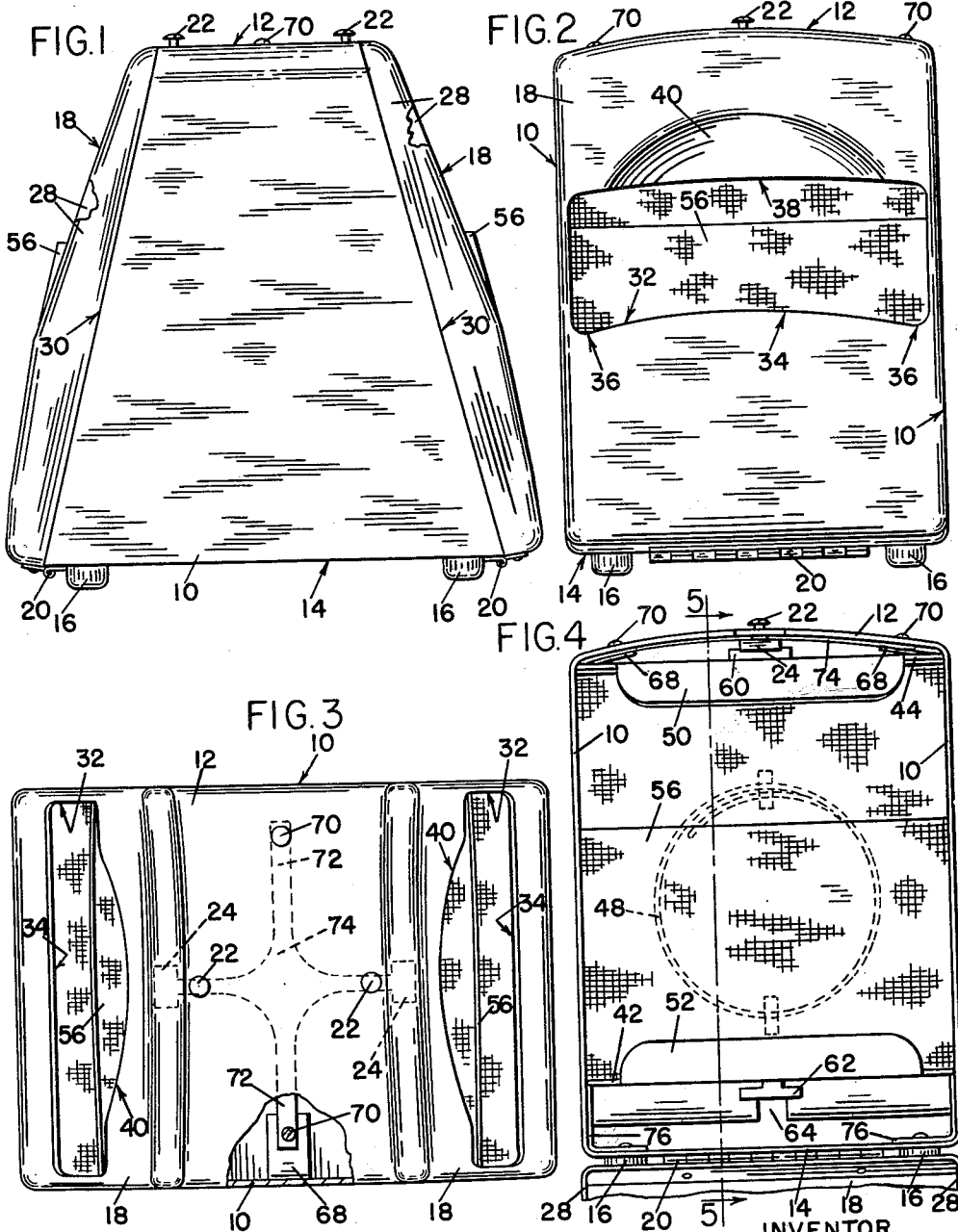
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3,071,289

DISPENSER FOR PAPER PRODUCTS

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2 Sheets-Sheet 1



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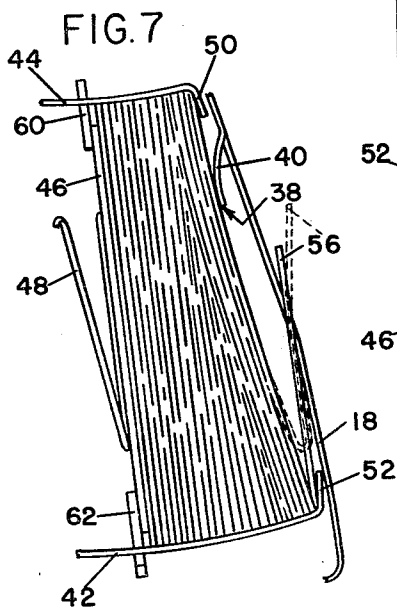
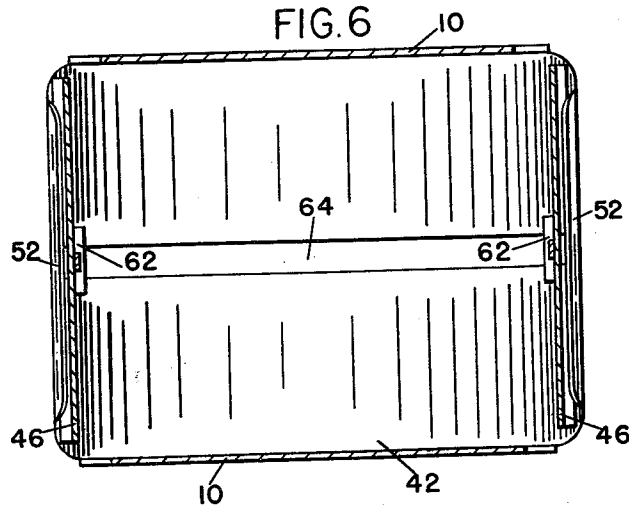
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FIG. 6



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DISPENSER FOR PAPER PRODUCTS

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4 Claims. (Cl. 221-59)

This invention relates to a new and improved dispenser for paper products, and the principal objects of the invention reside in the provision of a novel dispenser having a construction which provides for easier, quicker and less damaging single-item dispensing of articles such as paper napkins; a free-flowing follower-plate for said napkins which is easier to move rearwardly when filling the dispenser and which pushes the napkins outwardly to the dispenser opening in a novel face plate without binding or catching in any way by reason of the novel construction thereof; and the provision of new and improved spaced retaining lips which position the stack of paper products in such a way as to present a "break" in a protruding end of each article dispensed so that it may be quickly and easily grasped by the fingers of the user without having to pinch or squeeze the paper product in any way to get it out of the dispenser.

Further objects of the invention include the provision of an improved follower action both for loading and dispensing the paper products due to and comprising curved top and bottom guides for the follower-plate, said top and bottom guides causing the follower-plate to assume an inclined position with relation to the horizontal, whereby the dispenser is enabled to be made in a truncated triangular form particularly for the use of paper napkins which are folded upwardly from the bottom edge thereof, presenting a finger-tab by which the same may be grasped, said finger-tab embodying a tab or fold which extends but part way up the vertical length of the napkin as it appears in the holder; the provision of the improved follower-plate in combination with the aforesaid lips which automatically project the terminal portion or end edge of said tab or fold outwardly in a position to be quickly and easily grasped by the fingers; the provision of new and improved guides including plastic trolleys for the free-flowing follower-plate; and the provision of a new and improved face plate which is distinctly functional in several different ways as for instance providing for extraction or dispensing of the paper products without any bunching, tearing, squeezing or "roping" of the contents thereof and which assists in allowing the user to easily extract but a single paper product, i.e., napkin, at a time.

The invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly set forth in the appended claims.

Reference is to be had to the accompanying drawings, in which

FIG. 1 is a view in side elevation of the new dispenser;

FIG. 2 is a view in front elevation thereof;

FIG. 3 is a top plan view thereof, with parts broken away;

FIG. 4 is a view similar to FIG. 2 but showing the face plate open;

FIG. 5 is an enlarged section taken along the line 5-5 of FIG. 4;

FIG. 6 is a section taken along the line 6-6 of FIG. 5; and

FIG. 7 is a diagrammatic view illustrating the operation of the dispenser.

In carrying out the present invention, the same is preferably applied to dispensers for napkins which have a transverse fold intermediate the ends thereof, said fold

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being closer to one end than the other, forming a dispensing "tab," fold, or the like, having an edge intermediate the napkin ends for grasping by the user. This tab or fold is a part of the napkin and causes a stack of napkins to be doubled along a portion of the area of the stack and one-half this thickness in the remaining portion thereof. Such napkins are old and well known in the art and are pre-folded in various ways.

Referring now to FIG. 1, it will be seen that the general contour of the new dispenser is in the nature of a truncated triangle. The dispenser has side plates indicated at 10, 10 which are similar but of course reversed, being joined by a top member 12 and a bottom member 14, completing a casing open at both ends and narrower at the top than at the bottom so that the same assumes a truncated triangular effect. This housing or casing is of course conveniently made of one or more pieces of sheet metal or the like, or any other suitable material, and the same is true of most of the rest of the parts of the dispenser with one important exception as will appear more clearly hereinafter.

On the bottom wall there are provided a series of four rubber feet which are indicated at 16 for table or counter use of the dispenser. At each open end of the dispenser, there is provided a pivoted face plate. These face plates are alike but of course face in opposite directions and therefore like numerals have been used to indicate like parts of these two face plates which are themselves indicated generally by the reference character 18. These face plates are hinged by any type of conventional hinge 20 to the bottom wall 14 and may be opened as best illustrated perhaps in FIG. 5 in order to load the dispenser with a new stack of paper products, i.e., the napkins referred to above.

The top wall 12 of the dispenser is provided with free push-buttons 22, one for each face plate, and these operate T-headed catches 24 which hold the respective face plates in closed position by engaging a pair of projections thereon in a manner well known in the art. These projections are indicated at 26 in FIG. 5.

Each face plate has a substantially straight edged pair of side flanges 28, 28 which conform to the edge conformation 30 of side walls 10. The edges 30 may be indented slightly in order to smoothly receive the edges of the flanges 28 when the face plates are closed as in FIGS. 1, 2 and 3. Each face plate is provided with a central transverse opening generally indicated at 32 through which the paper products may be dispensed. The shape of this opening is very important, particularly along the line at the lower edge thereof at 34 which will be seen in FIG. 2 to gently rise on a curve to its highest point in the center and then to dip in a rounded, reverse curve at the corners as at 36, 36, forming a non-roping or binding contour for the extraction of the napkins. The width of the opening 32 is also important as it is slightly less than the width of the napkins and thus prevents extraction of the napkins from the ends of the opening.

The upper edge of opening 32 is substantially straight although it may have a slight upward curve at 38 but its most important feature is that it is indented at the area 40 which provides for a better and more uniform holding of the stack of napkins. The indented portion at 40 extends rearwardly or inwardly with relation to the lower portion of the face plate which is terminated by the edge 34. This lower portion is in the area where the plies are double, and it will be seen that the indented portion is in the area where the thickness of the plies is less. Thus the folded napkins are equally held at top and bottom insofar as the face plate is concerned.

There is a follower-plate assembly preferably permanently located within the dispenser and this comprises

a lower curved guide-plate 42 and a correspondingly curved upper guide-plate 44. These serve to guide along a curved path the two follower-plates 46 which again are alike but reversed with respect to each other. Between the two plates 46 there is provided spring means of any kind 48 which tends to push the plates apart and outwardly into contact with the upper retaining lips 50 on upper guide-plate 44 and lower retaining lips 52 on the lower curved guide-plate 42. These lips are respectively downwardly and upwardly directed as clearly indicated in FIGS. 4 and 5. These lips confine the paper between the same and the respective plate 46 as perhaps best seen in the diagrammatic illustration in FIG. 7.

It will be observed that the downwardly extending upper lip 50 is located inwardly with respect to the upwardly extending lip 52 on the lower guide-plate 42, and this of course positions the stack of napkins in inclined relationship with respect to a horizontal, again as indicated in FIG. 7. This arrangement of course adequately provides for the increased thickness of the lower portion of the stack of napkins as indicated in FIG. 7 with respect to the thickness of the stack of napkins at the upper portion of the dispenser and this fact, taken in cooperation with the curved guide-plates 42 and 44, provides an extremely smoothly acting dispenser both as to the follower-plates and the action of the user in extracting napkins through the aperture in the face plates.

This construction also has a very important effect which is that it naturally causes the forwardmost upwardly turned flap which is indicated at 56 to naturally break away from the pile or stack and be extended outwardly in such a way (see FIGS. 1 and 7) as to be easily and quickly grasped by the thumb and forefinger of either hand of the person using the same. In prior art dispensers, it has been necessary for the fingers to fumble about trying to find the edge of the fold, and very often persons merely forcibly grasp a half-a-dozen or so napkins and yank them all out at the same time. In the present case, the construction clearly shows a great advantage in the case of obtaining the paper product and also in the use and economy thereof.

The follower-assembly is caused to even more smoothly operate due to the fact that it is suspended at both top and bottom on plastic trolleys which are indicated at 60 and 62. These are T-headed members which extend through corresponding slots in the top and bottom curved guide members, these slots being centrally located in the plates being indicated by the reference character 64. The plastic trolleys are secured in any way desired to the rear surfaces of the respective plates 46. By reason of the fact that the trolleys are plastic, as for instance nylon or Teflon, they form their own bearing surfaces and quickly and easily slide along the edges of the slots without liability of sticking or catching in any way. This is characterized as a free flowing, non-restricted follower assembly device and all of the parts of it contribute to its free-flowing effect, i.e., the curvature of the guide-plates, the frictionless trolleys, suspending and maintaining the follower plates in desired position relative to the guide-plates, and causing substantially equal motion at top and bottom of the respective plates 46.

The upper guide-plate 44 may be conveniently assembled in position by providing it with a pair of side edge bent-up tabs 68. These may be riveted as at 70 into the cross pieces 72 of a diamond-shaped or cross-shaped spring member 74, the opposite edges of which are provided integrally with the catch members 24, see FIG. 3. This provides a riveted construction which does not weaken the top member 12 and uses a minimum number of rivets or whatever other fastening means may be desired to be used. The operator button 22 is freely movable and need not be connected to the catch in order to depress the same to release it.

The bottom guide-plate 42 may be conveniently fixed in position by means of downwardly and inwardly turned

legs 76 which are conveniently riveted or otherwise fastened with the same fasteners which secure the rubber feet 16 in position with respect to the bottom plate 14, or by any other means such as fasteners which may be used to hold the fixed leaf of hinge 20.

Unlike prior art dispensers, the present dispenser does not have central stops which limit the follower plates 46 in the inward motion thereof in the housing. Thus the follower plates of the new dispenser are both movable from end-to-end of the housing, and the dispenser need not be evenly loaded at either side. The prior art dispensers must be evenly loaded, i.e., with approximately the same number of napkins at each side of the center thereof. By not having the conventional stop, the danger of damaging the pusher mechanism from overloading is eliminated, and in fact it is virtually impossible to overload either side of the dispenser because the napkins must be placed back of lips 50 and 52. It will be clear, for instance looking at FIG. 5, that any load of napkins can be pushed into the dispenser from one end, thus pushing the respective follower plate 46 not only to a central location, but past it. Then the other end of the dispenser may be filled to whatever its capacity might happen to be, limited by the then position of the already loaded follower plate.

The lips 50 and 52 serve several important functions. They hold the napkins in place during the filling operation, making the loading the simplest and most convenient method there is, and by retaining the napkin pile behind the lips the napkin cannot be pinched in the latch assembly heretofore common in prior art dispensers.

The lips have other important functions and have been made large enough to perform the function of holding the napkin pile, but at the same time small enough to reduce and practically eliminate the normal friction between the napkins in the pile. This is a vitally important function because in all prior art dispensers the napkins are held firmly against the face-plate, i.e., against the plates 18, and this is not true in the present case. When a napkin is withdrawn from a prior art dispenser, there is friction caused by the second napkin pressing the napkin being withdrawn to the face-plate, and this friction causes the second napkin to follow the first napkin, often rising out of place, so that half of the second napkin hangs out of the dispenser. This action is even imposed upon following napkins.

The friction between napkins has always been a problem in dispensers of the class described but with the use of the lips of the present case, in combination with the face-plate and the free-flowing follower, it is now possible to provide what amounts to an expansion chamber, see particularly FIG. 7, there being therefore a space between the first napkin and the face-plate 18. This expansion area allows the napkin being withdrawn in free form from the pile of napkins without disturbing the second napkin or those coming after, so that after the short movement required to draw it from behind the bottom lip 52, it eliminates all possibility or liability of the next napkins to follow it. Single napkin dispensing throughout the entire pile of napkins is positive and this action is illustrated particularly in dotted lines in FIG. 7.

The pusher-plate assembly has been provided with the plastic trolleys so that the pusher-plates are free to assume any position the napkin pile requires. There is no fixed axis of swing, etc., as in the usual dispenser and the new follower plates 46 are arranged to turn on any horizontal axis between the trolleys and on a rather indeterminate upright axis passing through the trolleys, thus being free to assume any position that the pile of napkins may require. This makes the following assembly free-flowing with uniform pressure applied to the entire area of the folded napkin in contact with the retaining lips 50 and 52. Because these follower plates may turn or assume any angle dictated by the napkin pile, even

napkins which have been wrinkled or mis-folded during the filling operation will not interfere with perfect single napkin dispensing as above described. Even though the pusher-guide plates should be pushed back at either the top or the bottom, or in any particular location when the dispenser is empty, the same will not bind in any way, no matter how they are positioned in the housing.

It will be seen that the new dispenser accomplishes all the objects of the invention in a relatively simple and inexpensive manner, and provides an easily filled device which allows single napkins or other items to be quickly and easily abstracted without tearing, roping, etc.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. A dispenser for paper products comprising a housing open at one end, a pair of vertically spaced substantially horizontal and equally curved slotted guide-plates mounted therein, a follower plate suspended between said guide-plates, plastic trolleys one at each end of the follower plate, said plastic trolleys extending loosely through corresponding slots in the guide-plates, and means urging the follower plate to position paper products for extraction, said follower plate being free-flowing both when loading the dispenser and when operating the same for dispensing purposes by reason of said plastic trolleys, and means against which the follower plate positions the paper products in position for extraction from the housing.

2. A dispenser for paper products comprising a housing open at one end, a pair of spaced curved slotted guide-plates mounted therein, a follower plate suspended between said guide-plates, lips on the guide-plates, substantially frictionless trolleys, one at each end of the follower plate, said trolleys extending through corresponding slots in the guide-plates, means urging the follower plate along a path defined by the guide-plates to position paper products against the lips, an apertured face plate on the housing, the paper products being extracted through the aperture one-by-one, the remaining products being held against the lips by the follower.

3. A dispenser for paper products comprising a housing having an open end through which paper products may be inserted, means for releasably holding the paper products in said housing, said means comprising a follower-plate assembly, said follower-plate assembly com-

prising an upper guide-plate having a lower convex surface and a lower guide-plate having an upper concave surface, said guide-plates being vertically spaced, a follower-plate suspended between said guide-plates and movable to and from the open end of the housing, means to urge the follower plate toward the open end, the paper products being supported on the concave surface of the lower guide-plate, means on said guide-plates adjacent the open end for holding paper products at the edges thereof against the outward thrust of the follower plate, a face plate for said housing closing the open end thereof and covering the paper products held between the follower plate and said paper-holding means, said face plate having an aperture therein through which the paper products may be extracted, said paper product holding means comprising oppositely-extending spaced lips against which the opposite edges of the paper products are held by said follower plate, said guide-plates being provided with slots, and means on the follower plate extending through said slots and supporting said follower plate between the guide-plates.

4. The dispenser recited in claim 3 wherein the means on the follower plate comprises non-friction T-head plastic trolleys, said trolleys extending through said slots and supporting said follower plate between the guide-plates.

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