

[54] SHEET DISPENSING UNIT

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[52] U.S. Cl. **206/57 R**, 206/DIG. 8, 211/59, 248/205 A, 248/309

[51] Int. Cl. **B65d 71/00**, B65d 85/00

[58] Field of Search 206/57 R, 57 A, 39, DIG. 8, 206/DIG. 18; 220/94 R; 40/120, 121; 281/15; 248/301, 308, 205 A; 211/59

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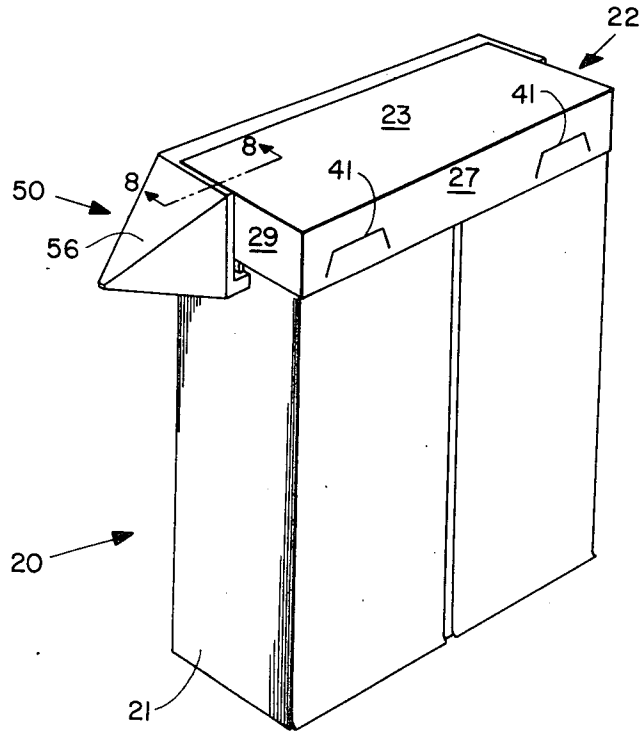
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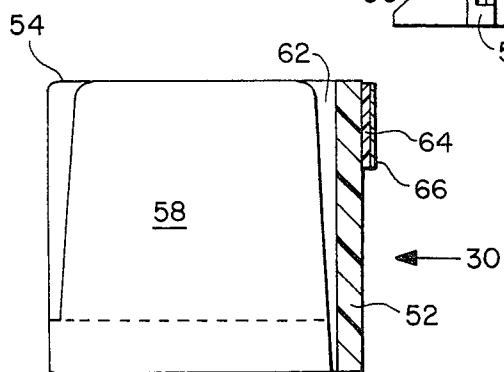
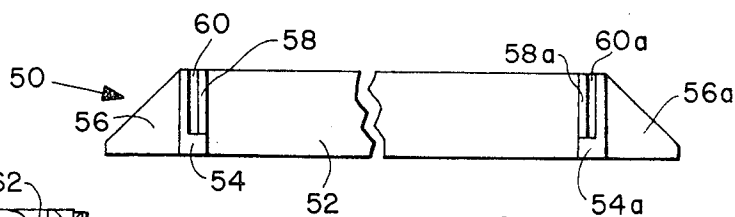
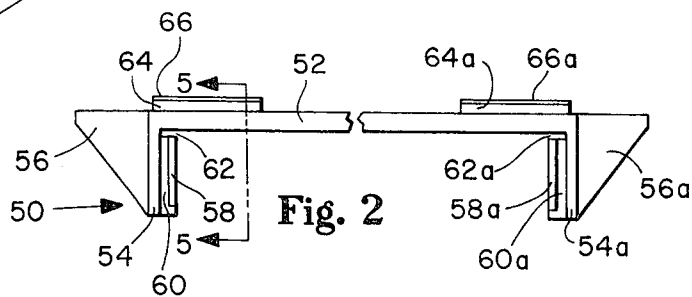
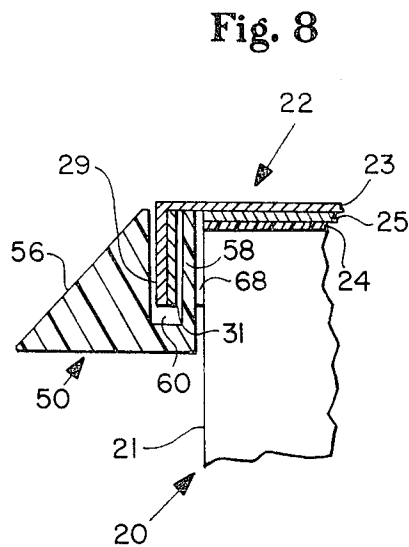
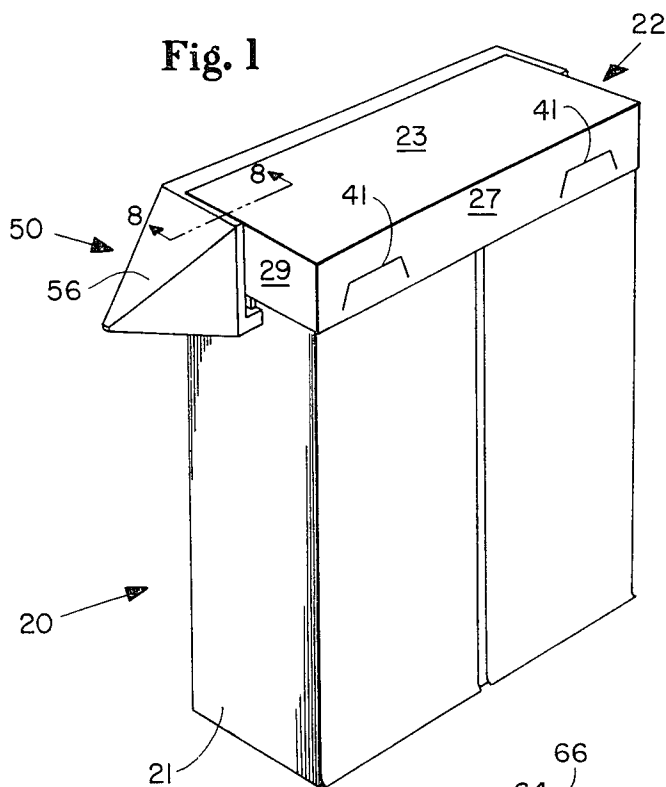
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[57] **ABSTRACT**

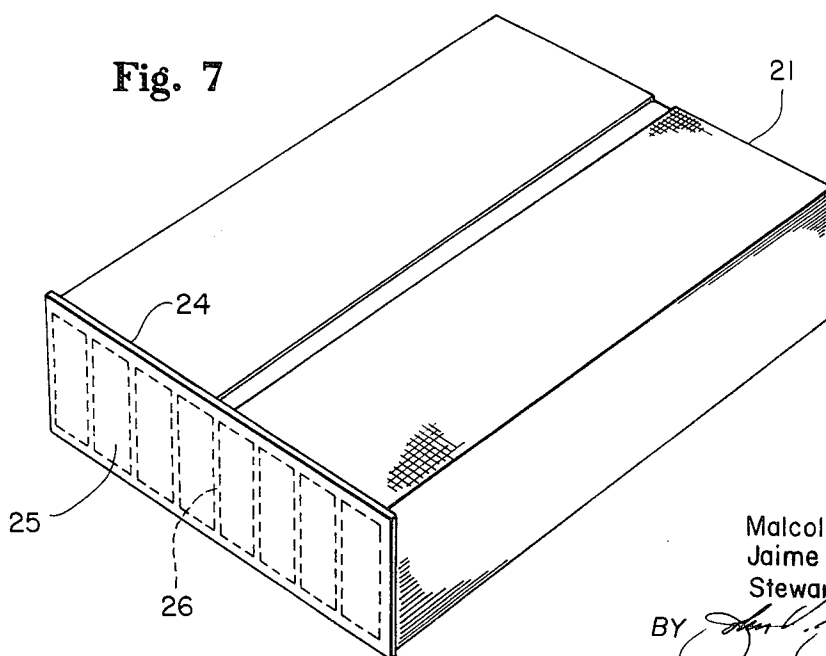
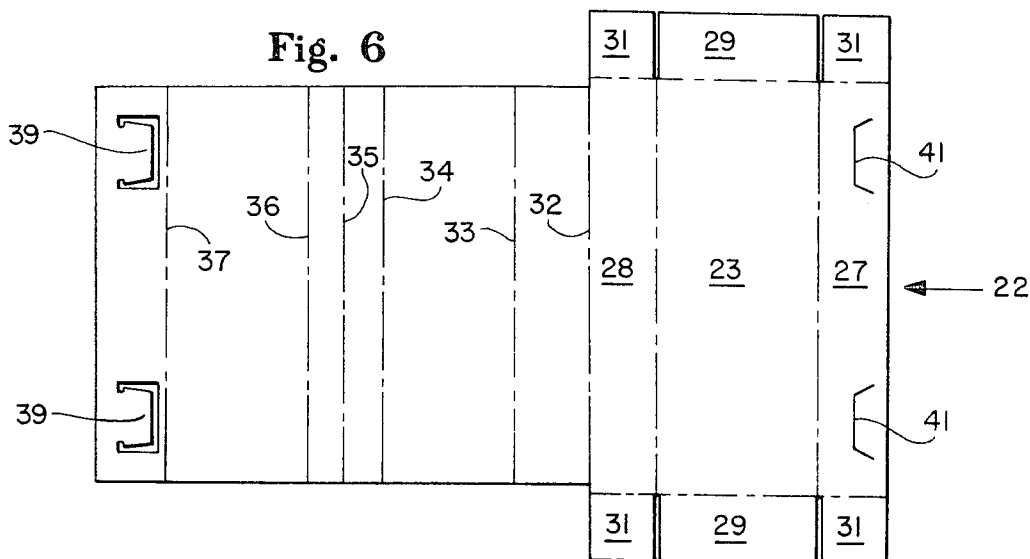
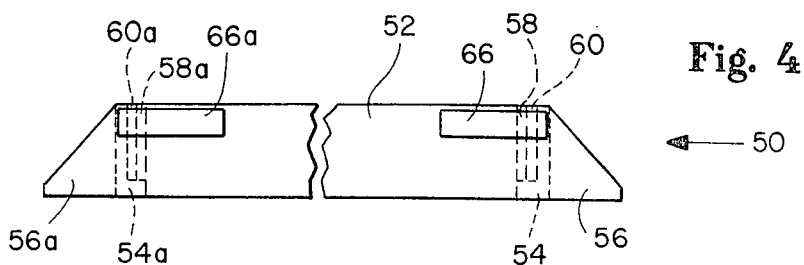
A sheet dispensing unit in which a stack of sheet materials is adhesively fastened along one end to a rectangular header piece having a depending skirt along its periphery. The header piece is in turn suspended by a pair of oppositely disposed, spaced hanger blades adapted to enter slots intermediate the sides of the stack and the side portions of the skirt.

8 Claims, 8 Drawing Figures





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SHEET DISPENSING UNIT

FIELD OF THE INVENTION

This invention relates to a dispensing unit for sheet materials and more particularly to a surface mounted holder adapted to support a package containing a stack of paper towels or the like.

The present invention is an improvement to and provides an alternative means for supporting the sheet material dispenser package of copending application Ser. Number 848,775, filed Aug. 11, 1969, by Robert E. Trunick. The aforesaid Trunick application, which is assigned to the assignee of the present invention, relates to a package comprising a stack of sheeted materials adhesively fastened along one end by a header piece which is provided with flexible extensions adapted to form a hanging support so as to permit the package to be hung from a support rod, such as a bathroom towel bar.

Although the suspending of such packages from existing fixtures appeals to many people, others desire to use such existing supports for the purposes originally intended, e.g., a towel bar for the support of cloth towels, and prefer to install an attractive, conveniently located additional fixture specifically intended for supporting and dispensing flat sheets of materials such as paper towels. Presently available dispensing units include those in which flat-folded and interlaced paper towels are delivered from the bottom face of metal dispensing containers and similar types of products enclosed in paperboard cartons with a dispensing opening in the top and/or side faces. These units have not attained widespread use in the home, since, for example, the metal dispensing container carries with it the image of a public restroom. The paperboard cartons, on the other hand, occupy too much vanity-top or shelf space and are highly susceptible to undesired wetting of the product or carton by splashing or spilling when placed in a convenient location adjacent to a lavatory.

OBJECTS OF THE INVENTION

It is an object of the present invention to provide an attractive and convenient unit for dispensing sheet materials in the home.

It is a further object of the present invention to provide a wall-mounted dispensing unit for sheeted materials which employs a stack-form package of sheet materials and can accept such packages possessing the alternate capability of self suspension from an existing common household support fixture.

These and other objects of the invention will be apparent by reference to the following description, claims and accompanying drawings.

SUMMARY OF THE INVENTION

In accordance with one aspect of the present invention there is provided a sheet dispensing unit having a package in which a stack of flat sheets is attached to a rectangular header piece. The header piece has a depending extension connected to each of its four edges, the edges joined and collectively encircling the stack. The side extensions are spaced outwardly of the stack and thus form a slot at each end of the package. There is also provided a package holder with a pair of spaced, generally parallel oppositely disposed hanger members attached to the ends of a support. The hanger members each have on the side nearest the other a vertically extending hanger blade at about right angles with the support. The hanger blades are each cantilevered from its lower end in laterally spaced relation to the balance of the hanger member and in outwardly spaced relation to the support, such spacing being at least as large as the thickness of the header extensions. The hanger blades have a thickness no larger than the width of the slots in the package and are spaced from one another by an amount approximately equal to the width of the stack.

BRIEF DESCRIPTION OF THE DRAWINGS

While the specification concludes with claims particularly pointing out and distinctly claiming the subject matter which is regarded as forming the present invention, it is believed that the invention will be better understood from the following description taken in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of one embodiment of the dispensing unit of the present invention;

FIG. 2 is a fragmentary plan view of the top of the package holder of FIG. 1;

FIG. 3 is a fragmentary front elevation view of the package holder of FIGS. 1 and 2;

FIG. 4 is a fragmentary rear elevation view of the package holder of FIGS. 1-3;

FIG. 5 is an enlarged vertical sectional view of the package holder of FIGS. 1-4, taken along line 5-5 of FIG. 2;

FIG. 6 is a plan view of the flat blank from which the cap of the package of FIG. 1 is formed;

FIG. 7 is a perspective view illustrating the way in which the stack of sheet material of FIG. 1 can be attached to an intermediate adhesive sheet; and

FIG. 8 is an enlarged fragmentary sectional view taken along line 8-8 of FIG. 1.

Referring to FIGS. 1 and 8 there is shown a dispensing unit of the present invention in which a package, generally designated as 20 is suspended in a package holder 50. As will be described with greater particularity hereinafter, package 20 includes a header piece cap 22 to which a stack of flat sheets is attached and which is adapted to cooperate with the holder 50, whereby the stack of sheets can be hung in a convenient location.

The holder 50, as shown in FIGS. 2 through 5, comprises a rear support 52 to the ends of which are attached a pair of spaced, generally parallel, oppositely disposed hanger members 54, 54a. The outer portions 56, 56a of hanger members 54, 54a are of pyramidal configuration for ornamental purposes and can be solid or, alternatively, hollow with downwardly facing opening for economy in material usage. Structurally, the outer portions 56, 56a serve to reinforce and stiffen the balance of the hanger members 54, 54a.

On the facing sides of the hanger members 54, 54a are vertically extending hanger blades 58, 58a which are oriented approximately perpendicularly to the support 52. Each of the hanger blades 58, 58a is cantilevered from its lower end, thereby being supported by the lower portions of the respective hanger members 54, 54a. Each of the hanger blades 58, 58a is laterally spaced from the balance of its respective hanger member 54, 54a and is spaced outwardly of the support 52. Thus, slots 60, 60a are formed in planes about perpendicular to the support 52, between the hanger blades 58, 58a and the balance of the respective hanger members. Similarly, slots 62, 62a are formed between the hanger blades 58, 58a and the support 52. The combined slots 60-62 and 60a-62a are adapted to receive the depending skirt of the header piece cap 22, in a manner shown in FIG. 8 and which will be more clearly understood from a later description of dimensional relationships.

The holder 50 can be constructed of any suitably rigid materials which can be assembled in manners well known to those skilled in the art, but is preferably made of a moldable thermoforming material for economy and attractive appearance. Injection molding the holder 50 of high impact polystyrene has been found to be particularly satisfactory in view of this material's strength and low cost. In addition, by so-producing the holder 50, it can be made as a single integral unit, eliminating assembly problems which would be inherent if the holder 50 is constructed of a plurality of pieces.

For ease in molding and later assembly of the package 20 in holder 50, the hanger blades 58, 58a taper inwardly in width toward their distal ends, so that the top surfaces thereof are

narrower than the lower ends. Although not critical, the taper on each side can be about 1.5°.

The support 52 is provided with means by which the holder 50 can be affixed to a vertical surface; for example, to a wall near a lavatory in a home. As shown in FIGS. 2 through 5, such means can comprise a pair of strips of double-faced pressure sensitive tape 64, 64a placed along opposite ends of the upper portion of the rear face of support 52. The tapes 64, 64a are covered with release papers 66, 66a in a manner well known in the art to prevent the tapes 64, 64a from premature undesired attachment. The particular type and specifications of the tapes 64, 64a can be varied as desired, bearing in mind the weight of the package 20 and holder 50 to be affixed, but one satisfactory such material is 20 mil thick double coated plastic film sold by Minnesota Mining & Manufacturing Co., St. Paul, Minn., under the code designation Y-9002.

To mount the holder 50 having tapes 64, 64a for attachment, the surface, preferably a ceramic tile wall, is cleaned and dried thoroughly. Then the release papers 66, 66a are removed and discarded and the holder is firmly pressed against the surface in the desired location. Alternatively, other means can be employed for attachment to the vertical surface. These could comprise adhesives, screws and the like.

The package 20 comprises a stack 21 of flat sheets of material such as paper towels, napkins, tissues and the like, one end of which stack 21 is adhesively fastened to the header piece cap 22. The material comprising the sheet materials stack 21 is desirably a fibrous material having a tensile strength in the range of from about 200 to about 1,000 grams per inch of width, preferably from about 800 to about 1,600 grams per inch for paper towels and from about 200 to about 700 grams per inch for facial tissues. These tensile strengths are measured in the direction perpendicular to the plane of the header piece. Sheet material tensile strength measured in the direction parallel to the plane of the header piece has a range of from about 400 to about 800 grams per inch of width for paper towels and from about 100 to about 350 grams per inch for facial tissue. Within these ranges such sheets are easily dispensed, will not tear along a vertical line leaving a portion of the sheet adhered to the header piece, and yet possess sufficient strength to avoid accidental premature dislodgement.

Although, as stated above, the stack of flat sheet materials 21 can comprise paper towels, facial tissues, napkins, or any other similar type of product desired, that illustrated in FIGS. 1 and 7 comprises a stack of paper towels folded into a form commonly called a "C" fold. Whether or not the sheet materials are folded and, if folded, the manner in which this is accomplished, are not critical. One satisfactory paper towel stock which can be used in connection with the present invention, for example, is a two-ply structure manufactured in accordance with the disclosures of U.S. Pat. Nos. 3,301,746 and 3,414,459.

The towel stock can be supplied in continuous lengths and folded, if desired, vertically aligned and cut into individual stacks, by means of any convenient apparatus and process. For example, supply rolls of towel stock equal in number to the number of towels in stack 21 can be provided and the webs of stock fed simultaneously in superposed relation so as to combine to form the appropriate number of sheets in the stack 21. If the sheets are to be folded, each web is passed, prior to superpositioning, through an individual folder producing the required fold, for example, that shown in FIGS. 1 and 7. The combined towel webs can be held in position relative to one another by a vertical-force clamp placed close to the leading ends of the webs and the webs immediately thereafter sawed or sheared off adjacent the leading edge of the clamp. A second vertical-force clamp can be placed the desired towel length from the first clamp along the longitudinal axes of the webs and the stack similarly sawed or sheared. The thus-separated portions of the webs comprise a stack 21 which is maintained as a stack unit with no relative slippage between towels by means of the first clamp until one end of the stack is

firmly adhered to the desired object, for example, the header piece 23 or intermediate sheet 25, in the manner hereinafter described. The clamping and sawing process can be repeated to consecutively produce any number of clamp-controlled stacks ready for placement in the package of the present invention.

The words "adhere", "adhered", "adhesive" and the like as used herein in connection with package 20 cover the use of any one of the following: water-soluble glues, water-resin emulsions, solvent-based adhesives, hot melt adhesives, and thermoplastic films such as polyethylene, polypropylene, polyvinylchloride, etc., softened or melted by the application of heat and solidified by subsequent cooling.

The header piece cap 22 of one preferred embodiment is shown in FIG. 6 as a flat blank, cut and scored from paperboard, using techniques well known in the carton industry. The blank 22 is folded into the rectangular cap form of FIG. 1 and ears 31 are sealed to side extensions 29 using well known adhesive application, folding and compressing systems. Front and back extensions 27 and 28, the extension 28 being elongated and including several score lines which will be later described, are integrally connected to adjacent ears 31 along the score lines illustrated. This is similar to the form of header piece cap for the package disclosed in the aforesaid Trunick application which is capable of self-suspension from existing standard household fixtures. With respect to the manner of assembly, the ears 31 can optionally be specially contoured and locked into slots in the side extensions 29 to form and hold the rectangular parallelepiped cap shape without gluing.

One suitable paperboard material for the header piece cap 22 is solid bleached sulfate board which is capable of giving high strength to the different structural elements which are described later. Cylinder board with bleached top and bottom liners or having a top laminate such as opaque polyethylene, are illustrative of alternative paperboard materials suitable for use in forming the header piece cap 22. The paperboard thickness suitable for the header piece cap 22 ranges from about 0.015 to about 0.040 inch, preferably from about 0.018 to about 0.025 inch, the thinner board being used for packages containing small-size sheets and fewer sheets, the increased rigidity of thicker board being required for the larger-size sheets and greater number of sheets.

The extensions 27, 28 and 29 in their formed position, as shown in FIG. 1, stiffen the header piece 23 to hold it substantially planar. Due to the resilient properties of the paperboard, some deviation from a true plane occurs and it is necessary to assure that such deviation is not too large. The maximum deviation from a true plane should not exceed about one-fourth inch, and should preferably not exceed about one-sixteenth inch. A deviation greater than one-fourth inch causes problems in the attachment of the towel stack 21 to the header piece 23, as will be understood from subsequent description, and places initial separating forces on the adhesive bonds between the towel ends and the header piece. These forces can cause premature dropping of the towels from the header piece 23.

The stack of towels 21, in FIG. 1, is attached to the header piece 23 and in the preferred embodiment an intermediate sheet 25, shown most clearly in FIGS. 7 and 8, is used for ease of assembly. Sheet 25 is a laminate of paper and thermoplastic and is generally coextensive with the end of the towel stack 21. The thermoplastic coating or ply 24 of intermediate sheet 25 is oriented on the side of sheet 25 adjacent the stack of towels 21. Although many thermoplastic materials are suitable, one which is highly satisfactory is polyethylene having a thickness of between about 0.0015 inch to about 0.003 inch (i.e., weighing from about 15 pounds to about 30 pounds per 3,000 sq. feet). If the polyethylene coating is too thin, upon heat activation, insufficient penetration of it into the stack of towels results and towels will detach prematurely. If the polyethylene coating is too thick, upon heat activation, its penetration into the stack of towels can be too deep and a towel will tear vertically at such a high strength point of attachment.

The paper ply of sheet 25 can have a dry basis weight which ranges from about 20 pounds to about 45 pounds per ream of 3,000 square feet. The paper ply of sheet 25 requires sufficient tensile strength (which is generally proportionate to its thickness) to maintain the stack of towels 21 as a subassembly unit while it is being attached to the header piece 23. A heated, thermostatically controlled sealing bar, not a part of the present invention, and containing narrow protruding sealing ribs perpendicular to the plane of the towels is pressed against the paper side of sheet 25 melting the polyethylene 24 and causing adhesion of the towel ends to sheet 25 along narrow lines 26 which are generally perpendicular to the plane of the towel sheets 21. For example, the sealing ribs can be maintained at about 650 ° F., the time of contact with the sheet 25 can be about 0.3 seconds and the rib pressure can be about 10 No./sq. in. The width of these lines of adhesion can range from about one sixty-fourth to about one-fourth inch and preferably is about one thirty-second to about one-eighth inch. The adhesion lines can be spaced from about one-fourth apart to about 1 inch apart, preferably from about three-eighths to about five-eighths apart.

The subassembly comprising the stack of towels 21 adhered to sheet 25 is, as shown in FIG. 8, attached to the inside surface of header piece 23 by any suitable means such as a thin layer of adhesive between intermediate sheet 25 and header piece 23. Any one of a large number of commercially available adhesives such as dextrin glue, polyvinyl acetate, polyvinyl alcohols, ethylene vinyl acetate, etc., and mixtures thereof can be used for this purpose. These can be applied cold or hot according to well known adhesive use techniques. Alternatively, the attachment can be effected by means such as staples, clips or the like.

Towel stack 21 can be alternatively attached directly to header piece 23, omitting intermediate sheet 25, using one of the aforementioned commercial adhesives applied to at least about 15 percent of the header piece 23 inside surface. Where the adhesive does not cover the entirety of the inside surface of header piece 23, it can be applied in the form of stripes, dots, or other regular pattern, being sure that each towel end is contacted at several spaced locations by the adhesive. For example, a polyvinyl acetate emulsion adhesive applied over the entirety of header piece 23 to a thickness of from about 0.005 inch to about 0.15 inch is satisfactory. Below the lower limit of adhesive thickness, premature dropping of individual towels can result and above the upper limit of adhesive thickness, tearing of an individual towel along a vertical line can result, thus preventing removal of the whole towel. The towel stack ends can be held against this adhesive coated header piece for from about 30 seconds to about 2 minutes to effect the drying and setting of the adhesive. Within this range the specific time for drying depends upon the kind of adhesive, its moisture content, its thickness and the pressure utilized to hold the header piece against the towel stack ends. Application of heat to the exterior of the header piece 23 can hasten the setting of the adhesive.

Due to the fact that the towels are secured in stack form only by bonding of the ends thereof to the intermediate sheet 25 and/or the header piece 23, each is individually releasable in substantially its entirety when a pulling force is exerted on it. The only vestige of the towel remaining on the package subsequent to the towel's removal is a very minor amount of fibers which remain bonded to the sheet 25 and/or header piece 23 and which are torn free of the sheet during the removal process. Such fibers have a fuzz-like appearance and amount to an extremely small portion of the original sheet.

To remove a towel from the package shown in FIG. 1, it is merely necessary to grasp and exert a downward pull on the towel. This pull is resisted by from one to about four points of adhesion, 26, FIG. 7, of the towel to the intermediate sheet 25 at a given instant of time. The full release of the towel occurs as a sequence of point, or group of points, releases. The pulling force required to release one towel from one to about four points of adhesion ranges from about 50 to about 1,000 grams, preferably from about 200 to 500 grams. Like pulling

forces for facial tissues can be about 50 percent of those for paper towels. The range of the pulling force is lower than the low limit of the sheet material tensile strength previously described and delineated. This is necessary in order that the separation of the individual towel occur at a point immediately adjacent to the header piece. If the pulling force for a specific package was greater than the sheet material tensile strength, rupture could well occur at a point distant from the header piece and a torn towel result. If the pulling force required is below the minimum stated above, premature separation of the sheeted materials from the header piece can occur.

The back extension 28, FIG. 6, can be longer than the other three extensions to serve the self-suspension function described in the aforesaid Trunick application. In this connection, the back extension 28 can be traversed by six score lines 32-37, inclusive, in a direction parallel to the end of the stack of towels 21. The purpose of these score lines is to make it easier for the dispenser package user to form extension 28 into a loop around an existing support bar, if desired. Tabs 39 and slots 41 are provided for fastening the looped extension if that method of suspension is preferred. For the purpose of this invention, however, the portion of extension 28 which depends downwardly beyond score line 32 is reduced in width so as not to exceed the approximate width of stack 21. This is accomplished by offsetting the side edges of such portion equally inwardly from the ends of the cap-forming portion of extension 28. When so-configured the package 20 can be applied to holder 50 of the present invention more easily than could be accomplished if the extension 28 was of uniform width throughout, as shown in the said Trunick application.

If it is not desired that the package 20 possess the dual capability of self-suspension, then the tabs 39 and slots 41 can be omitted and extension 28 can be shortened so that the distal end thereof lies along the score line 32. The header piece cap 22 would then be folded and glued as described previously, resulting in a structure in which the depending extensions 27, 28 and 29 are all of equal height.

The dimensions of the various portions of the dispensing unit of the present invention are fixed in accordance with the size of the stack 21 of sheets to be suspended. In general, the narrow dimension of header piece 23 will approximately match the thickness of the stack 21 while its length (and the width of extensions 27 and 28) exceeds the width of the stack 21 by from about one-eighth to about one-half inch, so that the side extensions 29 (which lie along the width of the header piece 23, approximately perpendicular to the planes of the sheets of stack 21) are spaced outwardly of the stack 21 so as to form about a one-sixteenth to about one-fourth inch wide slot 68, FIG. 8, intermediate each side of the stack 21 and its adjacent side extension 29. Within this range of slot widths the package 20 is easily applied to the holder, economical and attractive in appearance. The height of the depending skirt-like extension 29, 27 and 28 (to the score line 32, FIG. 6) preferably ranges from about ½ to about 1½ inch, although this is not critical so long as the header piece cap 22 thereby formed functions adequately in use.

The facing surfaces of hanger blades 58, 58a of hanger members 54, 54a are spaced apart a distance equal to or slightly greater than the width of stack 21 and the thickness of the hanger blades 58, 58a and the other dimensions of the hanger members 54, 54a are adjusted so that the side extensions 29 and the ears 31 attached thereto can be telescoped within the slots 60, 60a as the hanger blades 58, 58a enter the slots 68 at each side of the package 20, see FIG. 8. For example, the hanger blades 58, 58a should be thinner than the width of slots 68 and the widths of slots 60, 60a and 62, 62a should exceed the thickness of corresponding portions of the extensions telescoped therein so that the package 20 and holder 50 can be easily assembled.

The height of the hanger blades 58, 58a should preferably be at least about as great as the height of side extension 29 whereby the top surfaces of the hanger blades 58, 58a bear on

the internal surface of the header piece 23 when the dispensing unit is assembled. This means that in-use stresses will be directed to portions of the package 20 best suited to receive them and assures that the package 20 will hang properly. Also in connection with the design and sizing of the hanger blades 58, 58a, these should have top surfaces which are substantially flat and have a width which is adapted to support the package 20 adequately, yet permit easy assembly. Preferably, this width should fall in the range of from about 40 to about 95 percent of the width of the header piece 23 (the length of side extensions 29) in order to achieve these objectives.

In use, following the mounting of the holder 50 to the wall as previously described, the package 20 is held vertically, with the header piece cap 22 uppermost, at a level such that the distal ends of extensions 29 are slightly above the top surfaces of the hanger blades 58, 58a. The so-oriented package 20 is then moved horizontally so that the stack 21 is received between the hanger blades 58, 58a and the extension 28 is contiguous, touching, the outer surface of support 52. Then the package 20 is lowered whereby the side extensions 29 thereof enter the slots 60, 60a of the holder 50 and the hanger blades 58, 58a a telescope within the slots 68 of the package 20 until the top surfaces of the hanger blades 58, 58a touch the lower or internal surface of the header piece 23.

While this invention is directed primarily to an improved dispensing unit for paper towels and facial tissues, it is also suitable for cloths of a woven or nonwoven nature, either plain or impregnated with chemicals. The latter cloths have applications in silverware cleaning, auto and furniture polishing, for example.

Many modifications of the above invention may be used and it is not intended to hereby limit it to the particular embodiments shown or described. The terms used in describing the invention are used in their descriptive sense and not as terms of limitation.

What is claimed is:

1. A package holder comprising a pair of spaced, generally parallel, oppositely disposed hanger members attached to opposite ends of a support to form a U shaped configuration, said support being adapted to be affixed to a vertical surface with said hanger members projecting outwardly, said hanger members each having, on the side thereof nearest the other, a vertically extending hanger blade oriented approximately perpendicularly with respect to said support, each said hanger blade being cantilevered from its lower end in laterally spaced relation to the balance of said hanger member and outwardly spaced relation to said support, thereby forming upwardly opening slots for the reception of a depending skirt of said package, said holder being unobstructed in the region directly overlying said blades and slots to facilitate top loading and removal of said package.

2. The package holder of claim 1 in which the width of said hanger blades is tapered so that the top end thereof is nar-

rower than the lower end.

3. The package holder of claim 2 in which the package holder is injection molded from high impact polystyrene.

4. The package holder of claim 3 in which the support is provided with a double-faced pressure sensitive tape along the upper portion of the side thereof opposite the side from which said hanger members project.

5. A sheet dispensing unit having in combination:

A. a package comprising a stack of flat sheets, one end of which is attached to a header piece, each of said sheets being individually releasable from said package, said header piece being rectangular and having a depending extension connected to each of its four edges, adjacent extensions being joined along their abutting ends and collectively encircling said stack of sheets at said one end, the side extensions which lie along the width of said header piece at about right angles with the planes of said sheets being spaced outwardly of said stack whereby to form a slot intermediate each side of said stack and the adjacent side extension, and

B. a package holder comprising a pair of spaced, generally parallel, oppositely disposed hanger members, said hanger members being attached to opposite ends of a support adapted to be affixed to a vertical surface with said hanger members projecting outwardly, said hanger members each having on the side thereof nearest the other, a vertically extending hanger blade oriented approximately perpendicularly to said support, said hanger blades each being cantilevered from its lower end in laterally spaced relation to the balance of said hanger member and in outwardly spaced relation to said support, said lateral and outward spacing being at least as large as the thickness of corresponding portions of said extensions on the header piece of said package, said hanger blades having a thickness no larger than the dimension of said slots of said package between the sides of the stack and the adjacent side extension, said hanger blades being spaced from one another by an amount at least about as large as the width of said stack, said hanger blade being telescoped within said slots in said package.

6. The sheet dispensing unit of claim 5 in which the said hanger blades have a height at least about as great as the height of said side extensions.

7. The sheet dispensing unit of claim 6 in which the top surfaces of said hanger blades of said package holder are flat and have a width in the range of from about 40 percent to about 95 percent of the width of said header piece.

8. The sheet dispensing unit of claim 5 in which the extension attached to one of the edges which is parallel to the sheets of said stack is of substantially greater dimensions than said side extensions, whereby its lower portion extends downwardly beyond the lower limit of said side extension, said lower portion being reduced in width so as not to exceed the approximate width of said stack.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,667,596 Dated June 6, 1972

Inventor(s) Malcolm B. Lucas, Jaime P. Villanueva, Stewart Rowe

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

In the cover sheet, left column, Assignee Section, "Proctor" should read --Procter--.

Column 3, line 30, "1,000" should read --1,800--.

Signed and sealed this 17th day of October 1972.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents