Nov. 19, 1940. L. M. HARVEY 2,222,072

PACKAGE

Filed Sept. 12, 1938

Fig. 1.

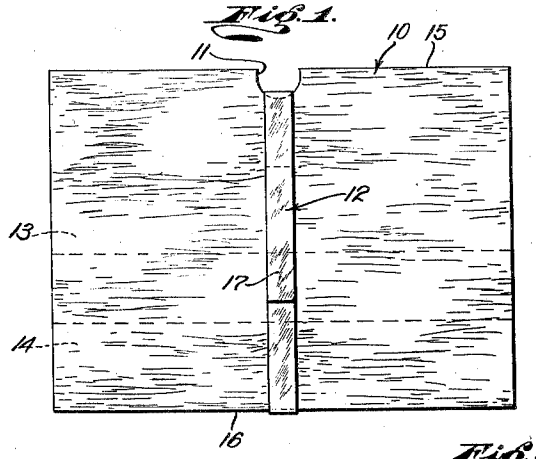


Fig. 2.

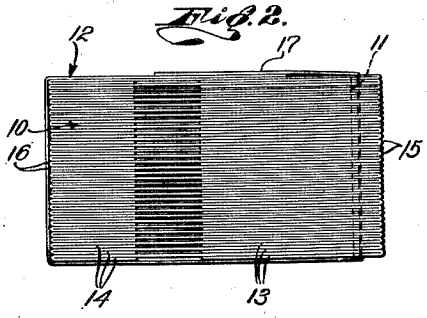


Fig. 3.



Fig. 4.

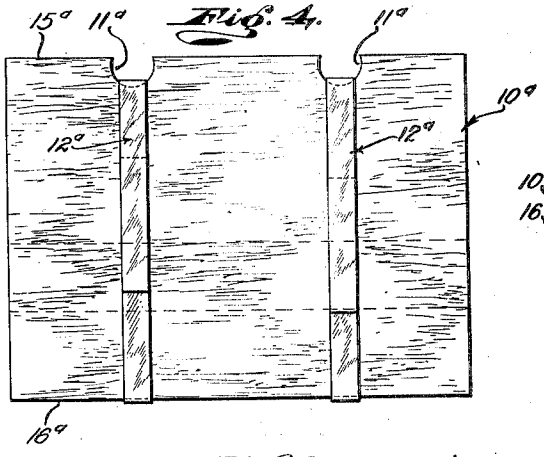


Fig. 5.

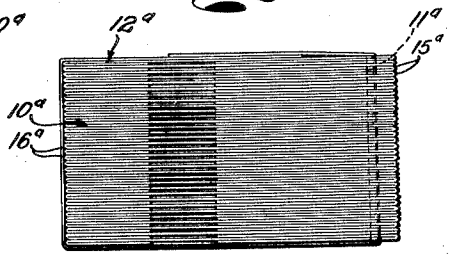


Fig. 6.

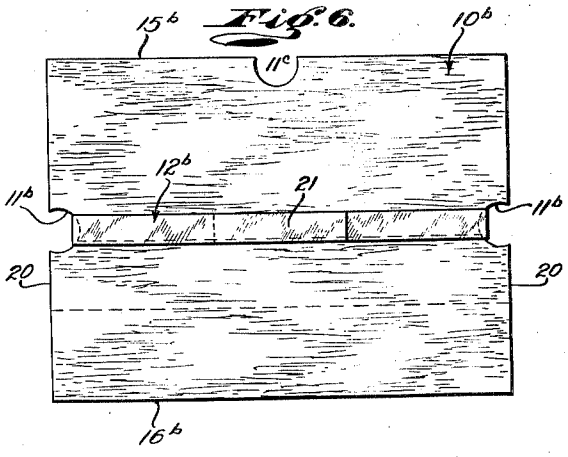
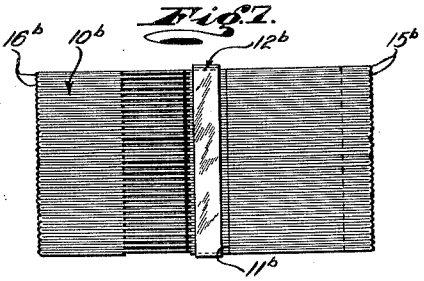


Fig. 7.



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Patented Nov. 19, 1940

2,222,072

UNITED STATES PATENT OFFICE

2,222,072

PACKAGE

Leo M. Harvey, Los Angeles, Calif.

Application September 12, 1938, Serial No. 229,445

1 Claim. (Cl. 206—57)

This invention relates to articles of sheet material and relates more particularly to bales, bundles, or packages of sheet articles such as paper towels, toilet paper, etc. A general object of this invention is to provide a simple, inexpensive and practical package of the character mentioned.

Another object of this invention is to provide a package formed of a multiplicity of paper towels or similar sheet articles that is convenient to handle, ship, market, etc. and that may be readily used in a dispensing device such as a towel cabinet, or the like.

Another object of this invention is to provide a package of the character mentioned that requires only one narrow, readily removable strip or band of paper, or the like, to retain the sheets or towels in seriate or packaged order for convenient handling and ready insertion in a towel cabinet, or the like. The package of the present invention involving the simple narrow binding strap or band is cheaper to manufacture and easier to install and open than prior packages embodying wide bands or crossed bands.

Another object of this invention is to provide a package of the character referred to in which the sheets or towels are notched to receive the retaining or binding band in such a manner that the band cannot slip or become displaced and so that the individual sheets cannot slip or project from the package or become separated from the package.

Another object of this invention is to provide a package of the character mentioned that may embody two or more spaced bands cooperating with preformed notches in the edge portions of the towels or sheet articles to dependably maintain the sheets or articles in the packaged order.

A further object of this invention is to provide a package of the character mentioned in which the sheet material elements or sheets remain flat or in their original condition and are not racked, bent or distorted by the retaining band or bands.

The various objects and features of my invention will be fully understood from the following detailed description of typical preferred forms and applications of my invention, throughout which description reference is made to the accompanying drawing, in which:

Fig. 1 is a plan view of one form of package of the invention. Fig. 2 is an end or side view of the package illustrated in Fig. 1. Fig. 3 is an enlarged edge view of one of the sheet articles of the package illustrated in Figs. 1 and 2. Fig. 4 is a view similar to Fig. 1 illustrating another form of the invention. Fig. 5 is a side or end view of the package illustrated in Fig. 4. Fig. 6 is a view similar to Fig. 1 illustrating still another form of package of the invention, and Fig. 7 is a side or end view of the package illustrated in Fig. 6.

The present invention may be embodied in packages of paper articles and sheet material articles of various natures, for example, it may be embodied in packages of paper towels, toilet paper, disposable facial tissues, paper handkerchiefs, paper napkins, etc. In the following detailed disclosure I will describe several typical paper towel packages of the invention, it being understood that these embodiments and applications of the invention are merely typical and illustrative and are not to be construed as limiting or restricting the invention beyond the scope of the claim.

The package of the invention illustrated in Figs. 1, 2 and 3 of the drawing may be said to comprise, generally, a seriate group or stack of sheets 10 having marginal openings or notches 11 and a retaining or binding band 12 engaged around the stack of sheets 10 and cooperating with said notches 11.

In accordance with the broader aspects of the invention the sheets 10 of the package may be varied greatly in shape, proportions, mode of manufacture, etc. For example, it may be considered that the sheets 10 are in the nature of paper towels formed of absorbent fibrous material or paper and intended primarily to be dispensed from towel cabinets or similar dispensing devices. The sheets 10 are preferably alike in size and shape and are generally rectilinear members having straight margins or edges. The several sheet articles or sheets 10 are arranged in corresponding positions in the group or package. In the preferred illustrative form of the invention the sheets 10 are folded to make the package small and compact and to facilitate the handling and dispensing of the sheet articles or towels. Each sheet 10 is folded along two spaced substantially parallel lines to have two flaps or folds 13 and 14. The folds 13 and 14 lie flat against the bodies of the sheets 10 and in the case illustrated the two folds 13 and 14 of a sheet lie against the same face of the sheet. The folds 13 and 14 are preferably of substantial width so that the major portions of the sheets are of double thickness. This assures the substantially parallel relationship of the sheets 10 in the package and makes the package or stack of uniform thickness or height. The formation of the folds

13 and 14 provides each sheet 10 with two opposite double edges or folded edges 15 and 16.

The openings or notches 11 are characterizing features of the sheets 10 of the package. In the particular form of the invention being described there is one notch 11 in one edge or margin of each sheet 10. The notches 11 are provided in the strong double or folded edges 15 or 16 of the sheets 10 in preference to the weaker and more readily torn plain or unfolded edges of the sheets. In the case illustrated the notches 11 are provided in the folded edges 15 of the sheets 10. The notches 11 are preferably, though not necessarily, spaced midway between the ends of the folded margins or edges 15. While the notches 11 may be of any selected shape I prefer to make the notches 11 partially round in plan view. The notches 11 may be formed or produced in the sheets 10 in any selected manner. In practice the notches 11 may be formed by punching or making openings in the bodies of the sheets 19 at points where the sheets are to be folded to have the folds 13 so that the planes or lines of the folded edges 15 cross or intersect the openings and the folding back of the folds 13 converts the openings into the notches 11. The size or extent of the notches 11 may, of course, be varied at will; however, it may be preferred to relate the folded edges 15 and the openings in the sheets 10 in such a manner that the walls of the notches 11 extend for more than 180° and the lines of the folded edges 15 are tangent to small circles concentric with the central axes of the notches. It is to be noted that the notches just described may be inexpensively made by merely punching simple round openings in the several sheets 10 of the package.

The band 12 is provided to retain or bind the sheets 10 together in the stacked or packaged relation so that the multiplicity of sheets may be handled as a unit. The band 12 may be formed of any suitable material, for example, it may be constructed of twine, cord, fabric tape, paper tape, or the like. It is preferred that the band 12 be tearable or breakable to be easily removed from about the package when the package is to be opened. In the present case it will be assumed that the band 12 is formed of fibrous material or paper of sufficient strength to dependably retain the sheets 10 in the packaged relation and capable of being easily intentionally parted or torn to open the package. The retaining or binding band 12 is continuous to extend around the pack or group of sheets 10. As illustrated in the drawings, the band 12 may be formed of a length or strip of paper whose end parts are overlapped and adhesively secured together as 17 to constitute a continuous band.

In accordance with the invention the band 12 is arranged about the pack or stack of sheets 10 to be received in or passed through the groove formed by the registering or aligned notches 11. Thus where the notches 11 are located as above described the band 12 extends about the package in transverse relation to the folds 13 and 14. The band 12, of course, extends completely around the group or stack of sheets to engage the upper and lower sides of the package, to engage in the notches 11 and to engage the margins or folded edges 16. It is preferred to make the band 12 quite tight to firmly engage about and conform to the package and to tightly engage in the notches 11. The walls of the notches 11 engaged by the band 12 are convergent and the band tightly engages these converging walls so that a wedging action is produced to better hold the band and the parts of the package against movement. The engagement of the band 12 in the notches 11 positively prevents endwise shifting of the sheets 10. Thus the engagement of the band 12 in the notches 11 serves to securely retain the sheets 10 in the stacked or packaged order and the band 12 need not be of substantial width in order to hold the package against racking, twisting and separation.

It is believed that the utility and practicability of the package of the invention illustrated in Figs. 1 and 2 of the drawing will be readily apparent from the foregoing detailed description. The notches 11 are easily and inexpensively provided in the folded sheets 10 and the binding element or band 12 is simple and easily secured about the package. The band 12 may constitute the sole means for maintaining the multiplicity of sheets 10 in the stacked or packaged condition and as above described the band may be a simple flexible element such as a length of twine, a strip of paper, or the like. The engagement of the band 12 in the notches 11 serves to effectively prevent the slipping of the band 12 on the bundle or package and prevents shifting of the sheets 10, racking of the package and endwise separation of the sheets of the package. The provision of the notches 11 does not materially complicate the manufacture of the sheets 10 and adds little to their cost. The band 12 being narrow is less expensive than the wider bands heretofore employed and may be more readily removed from the package. The band 12 may be easily parted or broken and slipped from about the stack of sheets 10 without disturbing or shifting any of the stacked sheets.

The form of the invention illustrated in Figs. 4 and 5 of the drawing may be said to comprise, generally, a stack or multiplicity of sheets 10^a each having spaced marginal openings or notches 11^a and binding elements or bands 12^a engaging about the stack and cooperating with the notches 11^a.

The sheets 10^a may be similar to the sheets 10 described above, that is, they may be rectilinear members each provided with two end folds to have two folded or double-thickness edges or margins 15^a and 16^a. The sheets 10^a are arranged in a pile or group in corresponding positions so that the package is a rectangular object or unit. The notches 11^a are preferably provided in one of the double-thickness or folded edges 15^a or 16^a. In the case illustrated the notches 11^a are provided in the margins or edges 15^a of the sheets 10^a. There may be any selected or required number of notches 11^a provided in the edge 15^a of each sheet 10^a. As illustrated in the drawing there are two spaced openings or notches 11^a in the edge 15^a of each sheet 10^a. The notches 11^a are in corresponding positions in the several sheets 10^a so that the aligned or registering notches 11^a of the stack of sheets 10^a form spaced grooves in the sides of the package. The notches 11^a may be formed in the same manner as the notches 11 and may be of the same shape.

The bands 12^a are the binding or retaining elements of the package and serve to hold the sheets 10^a in the packaged relation. The bands 12^a may be similar to the above described band 12, that is, they may be lengths or strips of paper having their end portions secured together in overlapping relation. Where there are two notches 11^a in each sheet 10^a there are two bands

12[a] engaging about the pack of sheets. The binding elements or bands 12[a] are arranged about the package in such a manner that each band 12[a] cooperates with one row or aligned set of notches 11[a]. The bands 12[a] may be rather tightly engaged about the stack of sheets 10[a] to dependably hold the sheets against relative movement and separation.

The engagement of the bands 12[a] in the notches 11[a] serves to dependably hold the bands 12[a] against shifting and disengagement from the package and serves to prevent shifting of the individual sheets 10[a] in directions transverse of the bands 12[a]. The bands 12[a] wrapped or engaged around the stack or package of course serve to prevent the shifting of the sheets in the other direction. In accordance with the invention the bands 12[a] are such that they may be readily parted or broken to provide for the removal or dispensing of the towels or sheets 10[a]. Where the character of the sheet articles or the mode of handling, shipping or marketing the package makes it desirable or necessary to more securely bind the package the two spaced bands 12[a] are employed in preference to the single band 12 utilized in the previously described form of the invention.

The embodiment of the invention illustrated in Figs. 6 and 7 of the drawing may be said to comprise, generally, a pack or stack of sheets 10[b] having notches 11[b] in their opposite ends and a band 12[b] engaged about the stack and cooperating with the notches 11[b].

The sheet articles or sheets 10[b] may be the same in shape and construction as the above described sheets 10, that is, they may be rectilinear sheet or paper articles folded back upon themselves from opposite ends to have two folds and to have two opposite double-thickness edges 15[b] and 16[b]. The sheets 10[b] are arranged in the package or stack in corresponding positions and are preferably alike in size and shape. The plain or unfolded edges 20 of the sheets 10[b] may be provided with the notches 11[b] as illustrated in the drawing, although the invention contemplates the provision of the notches 11[b] in the opposite folded double-thickness edges 15[b] and 16[b]. In the construction illustrated there is one notch 11[b] in each edge 20 of each sheet 10[b]. The notches 11[b] may be of any selected or suitable shape. In the simple case illustrated the notches 11[b] are partially round or half round marginal openings. The notches 11[b] are directly opposite or are aligned and are preferably spaced substantially midway between the edges 15[b] and 16[b] of the sheets 10[b].

The binding element or band 12[b] is provided to hold the sheets 10[b] together in a stacked or packed order. The band 12[b] may be in the nature of a continuous length of cord, twine, tape, or the like. In the case illustrated the band 12[b] is in the nature of a continuous paper strip or band. The band 12[b] may be constructed by overlapping and adhesively connecting the opposite end portions of a paper strip. This construction is illustrated at 21 in Fig. 6. The band 12[b] is preferably such that it may be easily parted or broken when it is desired to open the package. In accordance with the invention the band 12[b] is arranged about the package or stack to engage in or cooperate with the notches 11[b] in the opposite ends of the sheets 10[b]. The band 12[b] is preferably tightly engaged about the stack of sheets 10[b] to securely hold the sheets together.

The cooperation of the band 12[b] with the opposite notches 11[b] holds the opposite end or side parts of the band 12[b] so that the band cannot slip or become displaced from the package and securely holds the sheets 10[b] against relative shifting and displacement. The band 12[b] is received or housed in the grooves formed by the registering notches 12[b] so that the portions of the band at the opposite ends of the package are not liable to be caught, torn or broken by engagement with cartons, obstructions, or the like, during shipment and handling of the package. Where the character of the sheets 10[b] or package, or the mode of shipment of the same makes it desirable or necessary, a band may be arranged about the package to engage in notches 11[c] in the double thickness edges 15[b] and to cross the above described band 12[b]. It is to be understood that such a cross band (not shown) is not ordinarily necessary and for this reason has not been illustrated in the drawing. However, the notches 11[c] may be provided in the sheets 10[b] to permit the use of such a cross band when required.

Having described only typical preferred forms and applications of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art or fall within the scope of the following claim.

Having described my invention, I claim:

A package of the character described comprising a stack of sheet articles, each article being folded to have a double-thickness margin, there being a notch in said margin of each article, the notches of the several articles being in registration, and a binding element engaging about the stack to hold the articles in the stacked relation and to prevent relative shifting of the articles in one direction and cooperating with said notches to prevent relative shifting of the articles in a direction at right angles to the first mentioned direction.

LEO M. HARVEY.