July 26, 1949. W. H. WEST 2,477,223

PAPER TOWEL

Filed Jan. 19, 1948

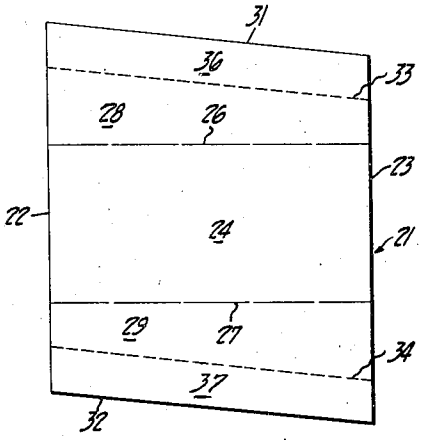


FIG. 1.

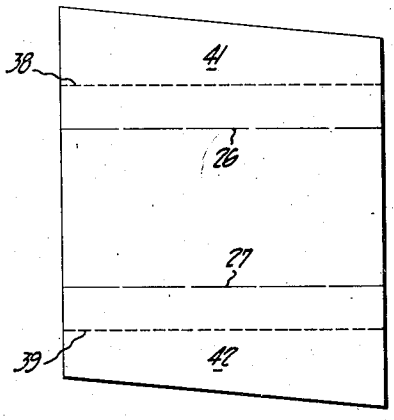


FIG. 3.

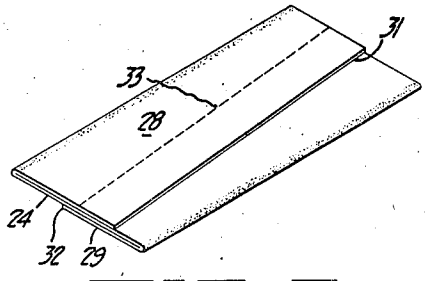


FIG. 2.

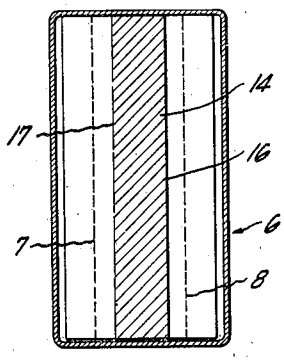


FIG. 5.

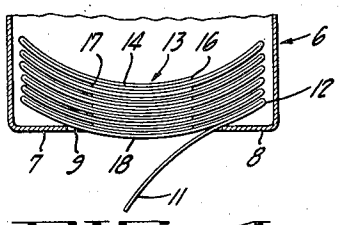


FIG. 4.

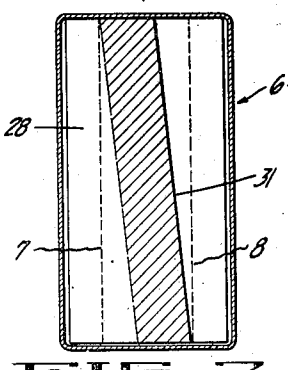


FIG. 7.

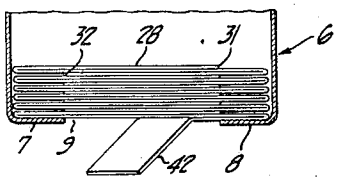


FIG. 6.

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PAPER TOWEL

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Application January 19, 1948, Serial No. 3,032

5 Claims. (Cl. 206—57)

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My invention relates to paper towels in the form of individual sheets especially designed to be dispensed from cabinets, particularly the sort usually found in public washrooms. A cabinet for this purpose and the present paper towel are shown in my co-pending application, Serial Number 751,068, filed May 28, 1947, and entitled Towel dispensing cabinet. This application is a continuation in part of the identified application.

In paper towel dispensing structures the arrangement is usually such as to supply towels which previously have been interleaved or interfolded so that the withdrawal of one towel starts the withdrawal of succeeding towels. In the interest of economy, not only in the dispensing of towels, but also in recharging the dispenser and in towel manufacture, I provide a towel which is not interfolded or interleaved with the adjacent towel, but rather is merely folded upon itself and is placed next to the accompanying towel. The general shape and characteristics of my new towel are such as to render it usable in present dispensers as well as in the special dispenser shown in my co-pending application.

It is an object of my invention to provide a paper towel especially designed for use in towel dispensing cabinets, not only of the customary kind, but likewise of the kind shown in my pending application.

A further object of the invention is to provide a paper towel in which economy of dispensing and economy of servicing are improved.

Another object of the invention is to provide a paper towel in which the towel tends to remain in the cabinet unless forceably withdrawn therefrom by a user.

Another object of the invention is to provide a towel which maintains its shape so that more towels can be installed in a given cabinet.

Another object of the invention is to provide a paper towel having improved characteristics but which is readily manufactured by present machinery and is readily interchangeable with present paper towels.

Another object of the invention is in general to improve paper towels.

Other objects together with the foregoing are attained in the forms of paper towel described in the accompanying description and illustrated in the accompanying drawings, in which

Figure 1 is a plan of an unfolded paper towel constructed in accordance with my invention.

Figure 2 is an isometric perspective disclosing the towel of Figure 1 in folded condition.

Figure 3 is a plan of a modified form of towel constructed in accordance with my invention and in unfolded condition.

Figure 4 is a cross section on a transverse vertical plane through the lower portion of a standard towel dispensing cabinet showing the customary towels therein.

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Figure 5 is a cross section on a transverse horizontal plane through a standard towel cabinet showing standard towels disposed therein.

Figure 6 is a cross section on a vertical transverse plane showing a standard towel cabinet in a manner similar to Figure 4 but with my improved paper towels therein.

Figure 7 is a cross section on a transverse horizontal plane similar to the showing in Figure 5 but disclosing a standard cabinet containing towels in accordance with my invention.

While the paper towel of my invention is susceptible to embodiment in numerous different forms depending on various incidental conditions, it is generally embodied as shown herein to include a sheet of paper having side edges that are generally parallel and end edges that are parallel to each other but that slant with respect to the side edges. The towel is designed to be folded upon itself in opposite directions to provide a rectangular central portion and a pair of trapezoidal end portions. In addition, the end portions are provided with scores extending across the sheet to weaken portions thereof in order that they may readily fall by gravity from the remaining part of the towel. The central section of the folded towel is made up of three thicknesses of material, the three thickness section being generally an acute angled parallelogram in contour, or outline.

As illustrated especially in Figures 4 and 5, the customary towel cabinet 6 includes a box of a suitable shape and size to contain a plurality of interfolded towels or a plurality of separate, folded towels. The bottom is comprised of a pair of inturned flanges 7 and 8 leaving a central rectangular opening 9 through which the lowermost fold 11 of a towel 12 may extend. Superposed upon the lower towel 12 is a plurality 13 of additional, similar towels confined within the walls of the cabinet. Usually the towels are folded in such a way as to provide a central section 14 (Figure 5) generally rectangular in outline, the ends of the towels being cut off to form edges 16 and 17 perpendicular to the side walls of the towel. In the pile of towels there is a central section made up of three thicknesses of material per towel and two side sections of only two thicknesses of material per towel.

The weight of the bundle of towels is concentrated in the central section which is normally of considerably lesser width than the opening 9. Thus, normally, the towels sag, as shown in Figure 4, and make it easy for a user not only to withdraw the lowermost towel 12 by means of the flap 11 but permits him readily to remove additional towels at once by grasping the depending portion 18 of the towel packet. This does not

result in an economical use of the towels, since they are too readily available. Furthermore, since the towels tend to sag into a curved configuration, as shown in Figure 4, not as many towels can be installed at any one time within the cabinet 6 and this makes more frequent servicing necessary.

In accordance with my invention, I provide a paper towel comprised of a sheet 21 (Figure 1) of paper towel stock which has parallel side edges 22 and 23. The sheet is divided into a central portion 24 of generally rectangular contour, defined not only by the side walls 22 and 23, but also by fold lines 26 and 27 which may be simply locations or may actually be scored or marked on the towel itself. Adjacent the central portion 24, I provide a pair of end portions 28 and 29, respectively. In contradistinction to usual practice, the end sections 28 and 29 are not rectangular but rather are trapezoidal, being bounded, in addition to the boundaries formed by the sides 22 and 23 and by the fold lines 26 and 27, by edges 31 and 32 established by cuts from a lengthy roll of paper towel material. The edges 31 and 32 although parallel to each other, are not perpendicular to the side edges 22 and 23 but rather slant with respect thereto at a substantial angle.

In addition, the sheet is formed with score lines 33 and 34 in one form of the invention extending parallel to the end edges 31 and 32 to provide end tabs 36 and 37 of non-rectangular or acute angle parallelogram contour. In the modification shown in Figure 3, the general outline of the towel is identical with that shown in Figure 1 but the score lines 38 and 39 are disposed transversely on the sheet and in parallelism with the fold lines 26 and 27, in order to provide trapezoidal end portions 41 and 42.

After the sheet has been fabricated, as shown in Figures 1 and 3, it is folded upon itself at the reverse fold lines 26 and 27 into a folded towel having a central section 24 which on one side is overlain by an end portion 28 and on the other side is underlain by an end portion 29. The result is a bias or slanting central section comprised of three thicknesses of material and trapezoidal side portions comprised of two thicknesses of material. Yet since the end portions 28 and 29 terminate on slanting edges, they provide in plan, as shown in Figure 7, a relatively stiff supporting section which does not sag between the side edges of the opening 9 but rather extends approximately diagonally across the opening 9. Extending nearer to the edges of the opening, the central section is stiffer, precludes sagging, and provides a generally flat support for the superposed towels. Thus, a full complement of towels can be disposed in the cabinet at each servicing and, more important, the towel pack does not bulge, making it difficult for a user to extract more than one towel at a time. That is, when installed in the cabinet, towels with the slanting central sections extend sufficiently far across the normal opening to provide a relatively stiff beam support so that the towels remain substantially flat within the cabinet. Still, the score lines 33 and 34 or 38 and 39 weaken the material of the towel sufficiently to permit a flap 42 to depend for ready withdrawal of the towel.

I claim:

1. A paper towel comprising a sheet of paper having parallel side edges and parallel end edges slanted with respect to said side edges, having reverse folds perpendicular to said side edges, and having transverse scores adjacent said end edges.

2. A paper towel comprising a sheet of paper having parallel side edges and parallel end edges slanted with respect to said side edges, having reverse folds perpendicular to said side edges, and having transverse scores adjacent and parallel to said end edges.

3. A paper towel comprising a sheet of paper having parallel side edges and parallel end edges slanted with respect to said side edges, having reverse folds perpendicular to said side edges, and having transverse scores adjacent to and perpendicular to said side edges.

4. A paper towel comprising a paper sheet having parallel side edges and parallel end edges slanted with respect to said side edges and folded upon itself to provide a rectangular central portion and two trapezoidal portions on opposite sides of said central portion, the trapezoidal portions being of lesser width than said central portion.

5. A paper towel comprising a paper sheet having parallel side edges and parallel end edges slanted with respect to said side edges and folded upon itself to provide a rectangular outline and a slanted transverse portion of three thicknesses.

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