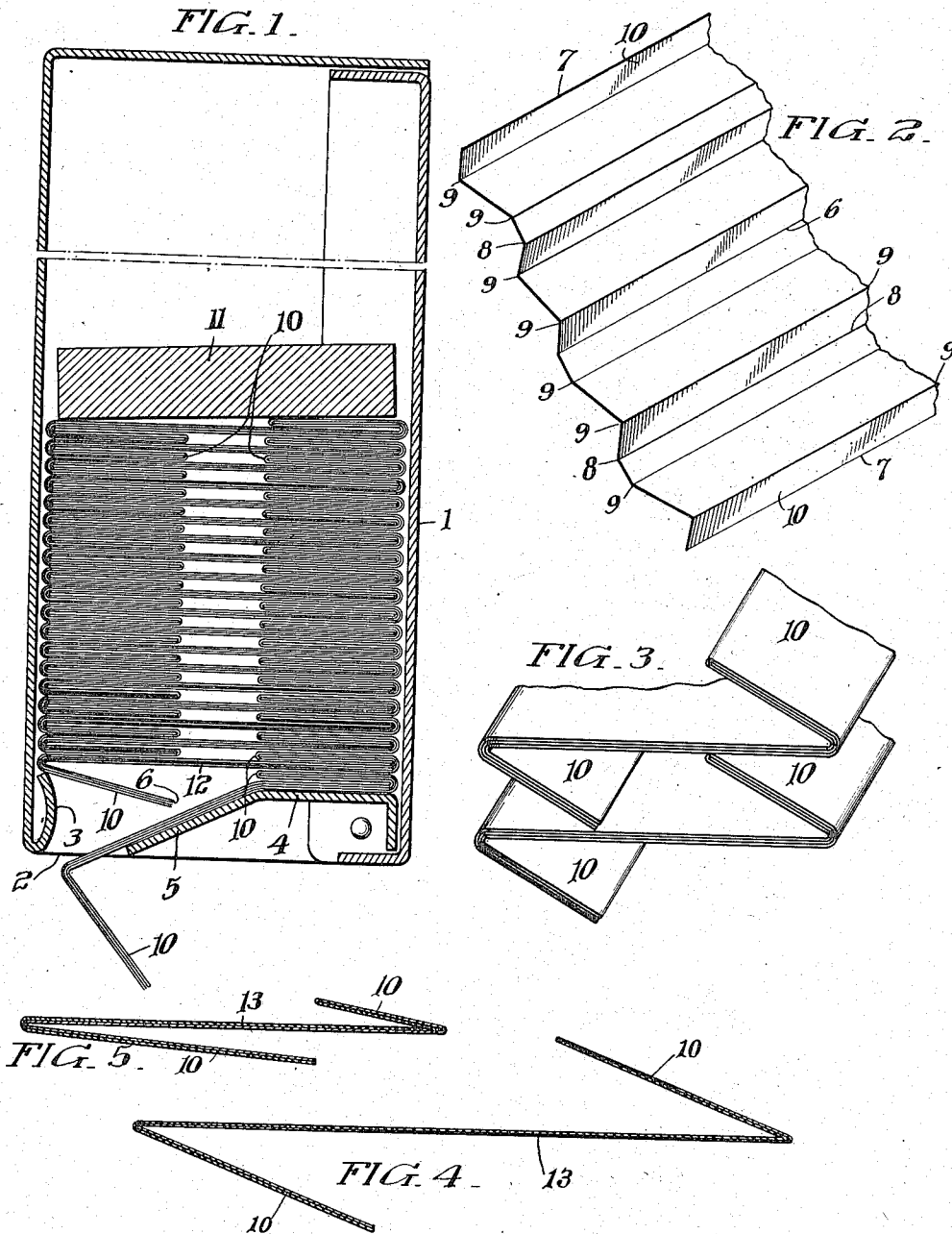


E. A. HAMILTON.
 PACKAGE FOR TOILET PURPOSES.
 APPLICATION FILED MAR. 28, 1914.

1,122,108.

Patented Dec. 22, 1914.



Witnesses

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UNITED STATES PATENT OFFICE.

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1,122,108.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERNEST A. HAMILTON, a citizen of the United States, and resident of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Packages for Toilet Purposes, of which the following is a specification.

My invention has reference to a new and useful improvement in paper packages for toilet or towel uses, and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings forming a part thereof.

My invention has for an object to provide a paper package wherein the sheets of towel or toilet paper comprising the same may be successively withdrawn from the package holding receptacle or cabinet and the removal of one sheet automatically coacts with the next adjacent sheet so that the latter is partially withdrawn whereby it in turn may be grasped and also removed when desired.

It has for a further object to provide a package in which the several superposed sheets are arranged independent and separate from each other but which engage one with another during the removing operation so that the lowermost sheet of the package is always partially projecting from the cabinet in order that it may be readily grasped for removal.

It has for a further object to provide a package wherein the sheets are so folded as to present a projecting portion of multiple ply thickness, thus practically eliminating the likelihood of the paper becoming torn during its removal.

My invention also comprehends details of construction which, together with the features above specified, will be better understood by reference to the drawings, in which:

Figure 1 represents a sectional elevation of a cabinet showing the paper package embodying my invention in position therein; Fig. 2 represents a perspective of one sheet of paper unfolded to show the manner of folding; Fig. 3 represents a perspective of a portion of a package with the sheets suffi-

ciently separated to more clearly show the relative superposed position of the different sheets; Fig. 4 represents a section of a double ply sheet folded in accordance with my invention; Fig. 5 represents a section of a modified form of tab construction.

1 designates a suitable cabinet for containing the package of paper from which the sheets of paper may be delivered singly and successively, and wherein the removal of one sheet causes the next succeeding sheet to partially project from the cabinet so that it in turn may be readily taken hold of and withdrawn. The cabinet 1 is provided with a discharge opening 2 adjacent the lower end thereof, which opening is of substantially the same length as the width of the sheets of paper in order that the latter may be freely removable. At one side of the opening the material of the cabinet is preferably reversely turned to form a support 3 for one edge of the package while the opposite edge of the package seats upon the horizontally disposed shelf or bottom plate 4. This latter member, as here shown, has a downwardly turned inclined portion 5 terminating adjacent the opening 2 and serving to direct and retain the sheet in proper relation to the discharge opening.

Each sheet of paper comprising the package, in the preferred form of my invention, is folded along the median line 6 to bring the ends 7 into superposed relation and forms a two-ply sheet. The folded two-ply sheet is then folded again along the line 8 bringing the new ends together, thus giving a quadruple ply sheet. This multiple sheet is then folded at each end along the lines 9 to form tabs 10, the combined width of which transversely to the fold is approximately equal to or less than the width of the body. Preferably one of the tabs has a width equal to or less than one half the transverse width of the folded body, and therefore in forming the tabs both tabs may be equal to one half the width of the body, or both less than one half the width of the body, or one greater than one half the width of the body while the companion tab is less than one half the width of the body. All these superposed sheets form a uniform, compact package. It will further be noted

that the tab portions 10 of each sheet are oppositely folded, that is, one tab in folded condition is at one side of the sheet, while the other tab is at the opposite side of the sheet, thereby giving the complete folded sheet, in cross section, substantially the configuration of the letter S. In building up the package the desired number of sheets, folded in the manner above described, are positioned in superposed relation as shown in Fig. 1, with the tabs 10 of one sheet resting respectively in contact with the next adjacent sheet and in opposed relation to the tab of the adjacent sheet. Thus, as shown in Fig. 1, with the package arranged within the cabinet, the superposed sheets form a compact, narrow uniform column, one sheet closely contacting with the other and all substantially horizontal with the exception of the lowermost or bottom sheet, which has one of its tabs 10 projecting through the discharge opening 2 while the body part of the sheet rests upon the shelf 4 and inclined portion 5 thereof. The upper tab 10 of the bottom sheet is held by the superposed sheets of material, in addition to which I employ a weight 11 to insure maintaining the proper pressure upon the package. It will be understood, however, that I do not wish to be limited to a weight as the means of producing the proper pressure upon the package, as it is evident that various equivalent pressure means may be employed for that purpose. The sheet, designated by 12, next to the bottom sheet, is supported at the respective sides upon the support 3 and upon the shelf supported bottom sheet but since the bottom sheet has a portion inclined away from the package, the lower tab 10 of the sheet 12 is unsupported at its outer end and assumes the depending position shown in Fig. 1. The result of this construction is apparent as follows: When the bottom sheet is withdrawn from the package its upper or innermost tab 10 has a tendency to adhere by friction or static reasons to the bottom of the sheet 12, and consequently diverges or becomes spaced from the main portion of its sheet sufficiently to engage or interlock with the depending tab 10 on the sheet 12, thereby causing the latter to be drawn in the direction of movement of the outgoing bottom sheet so that it in turn assumes the former position of the depending tab of the withdrawn sheet. In this manner the sheets may be successively withdrawn from the package and as one sheet leaves the cabinet its tab interfits with the tab of the next sheet causing the latter to be automatically drawn into projecting position. Another important feature of construction in connection with the drawing of a sheet, and its

interlocking with the tab of the next sheet, resides in forming a portion of the shelf substantially horizontal or in the same parallel plane of the sheets in that the lateral movement of the sheet upon this portion of the shelf transmits a direct lateral movement to the tab of the sheet which is being withdrawn. In other words, as the bottom sheet is drawn out the horizontal portion thereof tends to shoot the upper tab along the plane of the shelf and into direct engagement with the depending tab of the next adjacent sheet.

In the modification of Fig. 4 I have shown a sheet 13 designed to form a package in which the individual sheets are of double ply thickness, and therefore the said sheet is only folded adjacent its two longitudinal edges to form the tabs 10 and the operation or use of the package is the same as that previously described. This modified package is more particularly designed for use as toilet paper.

In packages as heretofore made up for use wherein the removal of one sheet withdraws a portion of the next adjacent sheet, it has been the practice to fold the sheets of paper in such a manner that one fold of one sheet interfits with another fold of the next sheet, thus making the package a complete structure tied together by the interfitting of the sheets of which it is composed. In order to construct such a package it has been necessary to employ expensive, complicated folding machines, the capacity of which, owing to the intricate folding operations, is decidedly limited, thereby making the operation decidedly costly. By my present invention I have devised a package in which the several sheets are not folded in interfitting relation, but each is separate and independent of the others, and therefore embodies a simple series of folding operations readily accomplished by the ordinary and inexpensive folding machines. Furthermore, it will be noted that the sheets when arranged in the package rest one upon another in parallel planes since the tabs of one sheet fit within the space adjacent the tab of the superposed sheet so that the entire package may be uniformly built up into a neat, compact column and held in position by any well known means for causing a slight pressure to be exerted upon the package. Attention is further directed to the multiple sheet which is the preferred embodiment of the invention, since the material along the line of the tab folds is placed under tension with the result that the tabs have a natural tendency to spring outwardly or away from the body of the sheet and thus materially assist in the proper interfitting action of the sheets during the act of removal. For

example, the tension upon the upper tab of the lowermost sheet acts to hold the tab in frictional engagement with the next adjacent sheet body so that during the movement of the bottom sheet, when being removed, causes this tab to pass across the face of the adjacent sheet and interlock with the lower depending tab of the aforesaid adjacent sheet. Also this spring action tends to hold the lowermost tab of the sheet which is next to the bottom in depending relation and extending a sufficient distance below the sheet so that it is correctly positioned within the path of movement of the tab which is being drawn out by the bottom sheet. Furthermore, the pressure of the weight upon the package normally maintains the desired tension along the fold lines of the tabs and assists in causing the tabs to spring outward at the desired times. It will further be seen that as the bottom shelf of the cabinet has a portion thereof inclined with respect to the normal position of the package that the lower sheet occupies a position partially removed from contact with the sheet above it, thus allowing sufficient clearance for the depending tab while that portion of the sheet which is located upon the horizontal part of the bottom shelf is under pressure of the package and weight and holds the tab under tension as above described.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable, and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that I do not restrict myself to the details, as the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. As an element of a removable package, a sheet of paper for toilet purposes folded to form a multiple ply body, the folds of said body forming a pair of substantially parallel tabs at opposite edges thereof, the tab at one edge being folded to one side of the body of the sheet and the tab at the other edge being folded to the opposite side of said body, each of the said tabs being of a width, transversely to the fold, that their respective free edges shall lie at opposite sides of a plane perpendicular to said body and to the side of said plane adjacent to the folded edge of the respective tabs.

2. As an element of an assembled package, a sheet of paper for toilet purposes folded to form a two-ply body, said two-ply

body being also folded upon itself to form a quadruple ply body, said quadruple ply body being folded on parallel lines to form substantially parallel tabs the combined width of which is approximately the width of the body and said tabs being located at the opposite sides of the sheet body with respect to each other.

3. A package for toilet purposes consisting of a plurality of sheets of paper, each sheet being folded on two parallel lines to form a pair of tabs the combined width of said tabs being approximately equal to the width of the sheet, said tabs being located at opposite sides of the body with respect to each other and all of said sheets being arranged in superposed relation with the respective tabs alined with a tab of the next adjacent sheet and each sheet being independent of adjacent sheets or tabs thereof.

4. A package for toilet purposes consisting of a plurality of sheets of paper, each sheet being folded on its median line to form a two-ply body, said two ply body being also folded upon itself to form a quadruple ply body, said quadruple ply body being folded on two parallel lines to form tabs having a combined width of approximately the width of the quadruple folded body, the tabs of each sheet being located at opposite sides of the sheet with respect to each other and in alinement with respect to a tab of the next adjacent sheet and each sheet being independent of adjacent sheets or tabs thereof.

5. A package for toilet purposes consisting of a plurality of sheets of paper, each sheet being folded on parallel lines to form tabs each of a width lying within the limits of one half the width of the body of the sheet, said tabs being located at opposite sides of the sheet with respect to each other and all of said sheets being arranged in superposed relation with the respective tabs of each sheet alined with a tab of the next adjacent sheet, and the bottom sheet of the package being adapted to partially project from a suitable cabinet and being normally spaced from one tab of the next adjacent sheet whereby said latter tab normally depends into the path of movement of the upper tab of the bottom sheet and interlocks therewith when said bottom sheet is being removed but not otherwise independent thereof.

6. A package for toilet purposes consisting of a plurality of sheets of paper each sheet being folded to form a pair of tabs overlapping the body of the sheet and folded to point in opposite directions, one tab thereof being located at one side of the sheet and the other tab at the opposite side of said sheet, one of said tabs having a length less

than the width of the sheet and all of said
folded sheets above the bottom sheet being
arranged in abutting relation with the tabs
held in folded condition, and the pairs of
5 tabs held between adjacent sheets being ar-
ranged in juxtaposed relation and in the
same plane.

In testimony of which invention, I here-
unto set my hand.

ERNEST A. HAMILTON.

Witnesses:

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ROBERT M. BARR.