

April 19, 1966

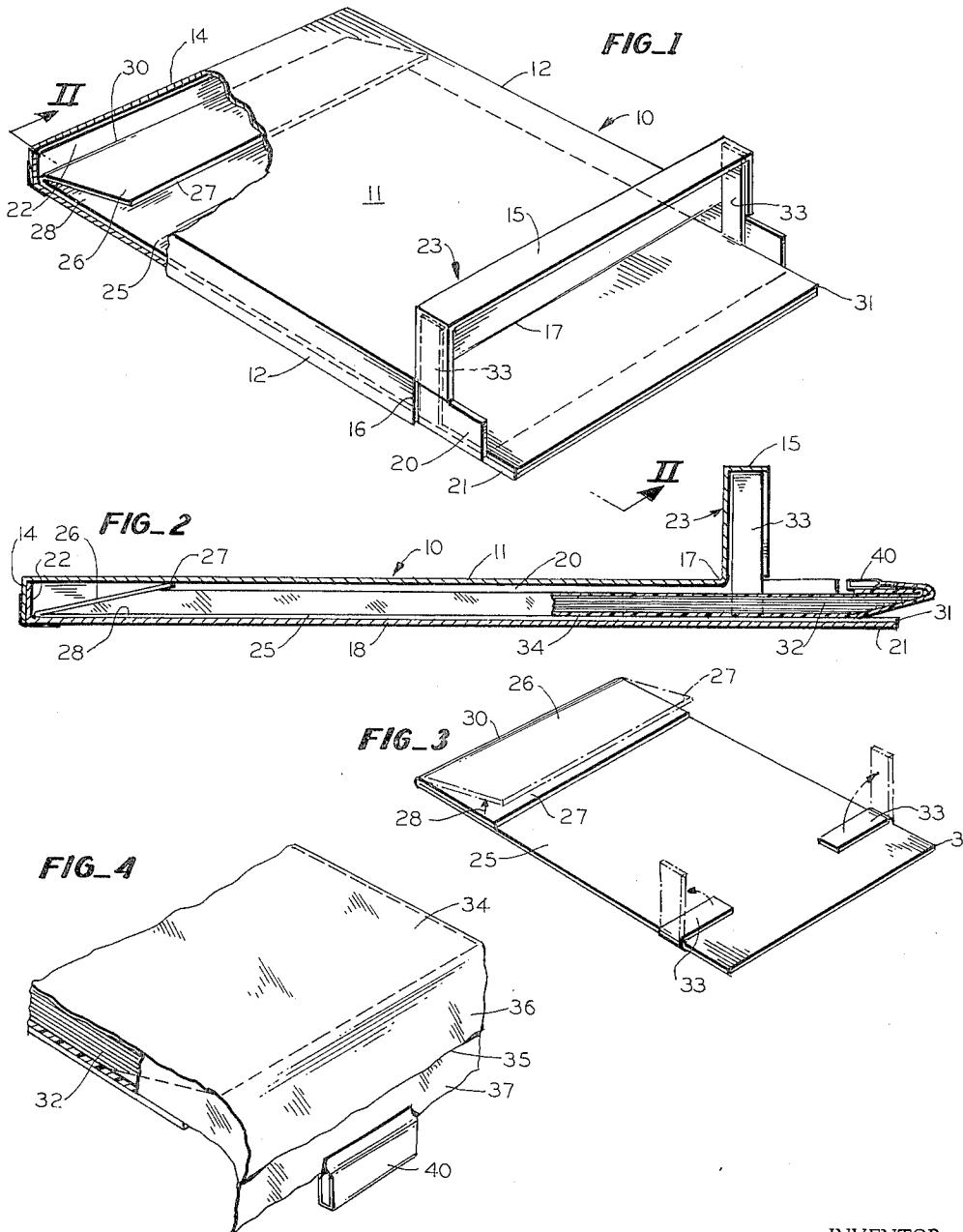
R. F. DOYLE

3,246,741

MEANS FOR DISPENSING SHEET MATERIAL

Filed Jan. 18, 1963

3 Sheets-Sheet 1



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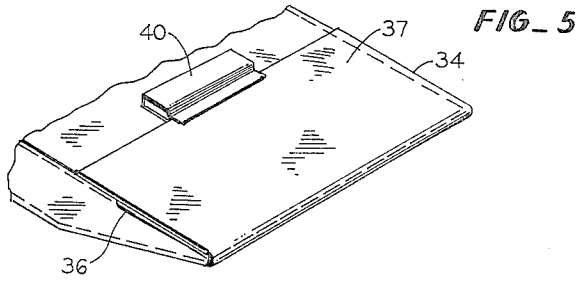
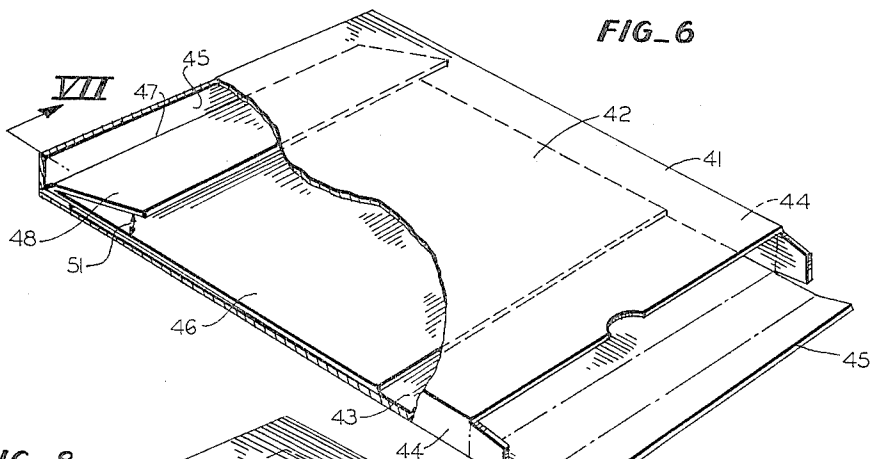
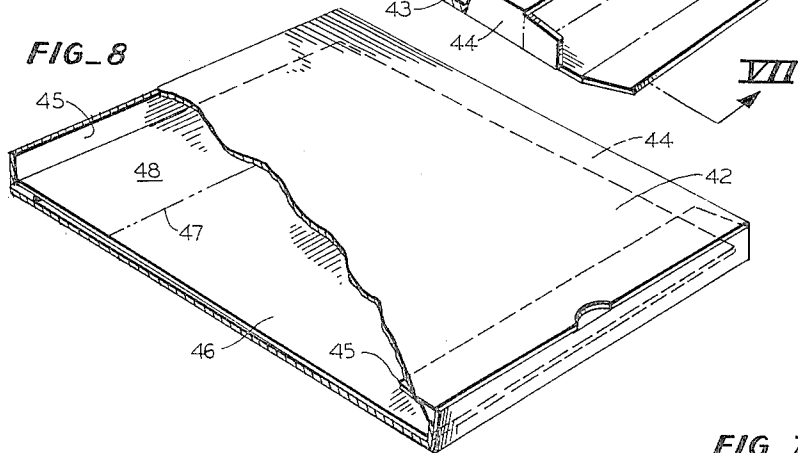
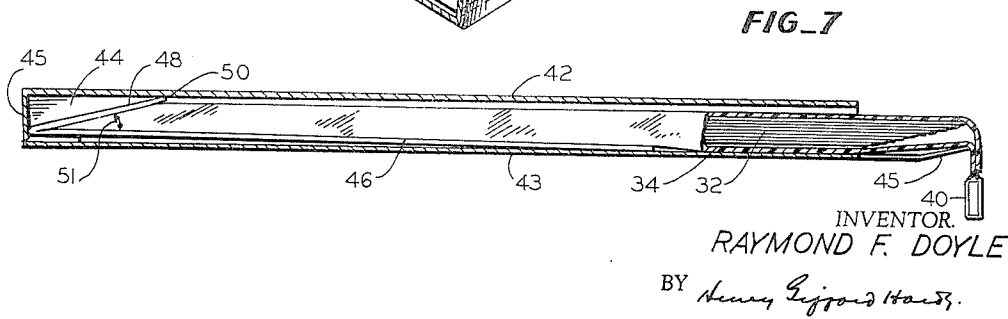
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3 Sheets-Sheet 3

FIG_9

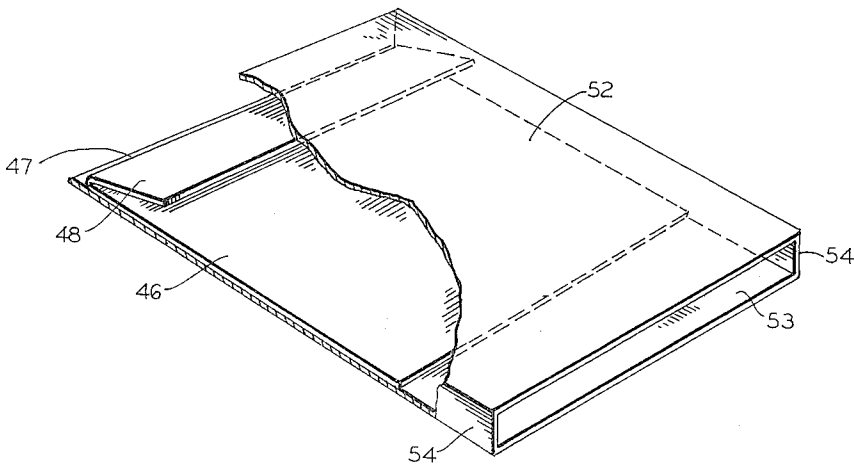


FIG_10

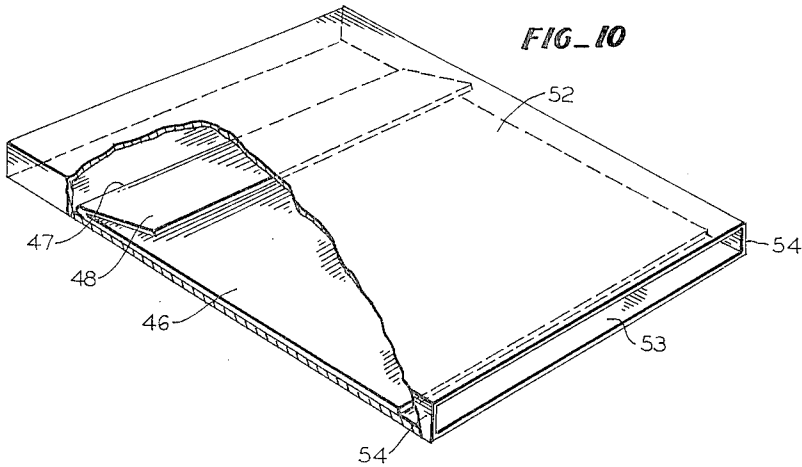
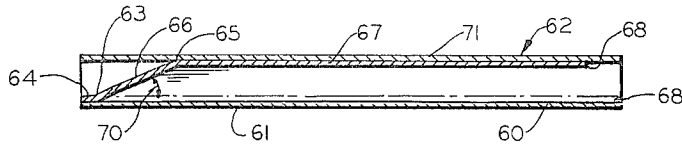


FIG_11



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3,246,741

MEANS FOR DISPENSING SHEET MATERIAL

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4 Claims. (Cl. 206—57)

The present invention is directed to the manual dispensing of sheet material one sheet at a time, and is particularly desirable for extending the usefulness of present original containers wherein the sheet material is packaged with vertical stacking.

It is an object of the present invention to provide a means to accompany the present packages of sheet material either as a part thereof or in conjunction therewith, which will establish and maintain the fanned contents so that the sheet material may be dispensed easily and quickly one sheet at a time.

It is another object of the present invention to provide a fanning insert which is useful in maintaining the fanned disposition of the sheet material within the container whether or not the sheet material is exposed or maintained light-free within a light excluding envelope.

It is a further object of the present invention to provide a weighted means in connection with envelopes containing sheet material so that the envelope can be closed simply by flipping the weighted means upward and backward over the top of the sheet material contained therein with the closure being maintained by gravity and the weight of the said closing means.

It is another object of the invention to convert the several kinds and types of packages for sheet material to an inexpensive and effective dispenser for dispensing the contents one sheet at a time.

Another object is to provide a means for maintaining the sheet contents of a carton in fanned position so that it is possible to select the contents one sheet at a time, whether or not the sheets are contained in a protective envelope.

Still another object is to provide a means for maintaining the fanned arrangement of sheets within the sales carton, which can be moved forward as the sheet material is moved so as to keep the relative position of the next available sheet substantially uniform.

A further object is to provide a fanning retaining and dispensing means for sheet material which permits the use of less costly packaging, as up until the present, the expensive hinge cover, drop front, set-up box has been deemed to be the only satisfactory container.

Further objects are to provide a construction of maximum simplicity, economy and ease of assembly and disassembly, also such further objects, advantages and capabilities as will fully appear and as are inherently possessed by the device and invention described herein.

The invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawings, and while there is shown therein a preferred embodiment thereof, it is to be understood that the same is capable of modification and change and comprehends other details of construction without departing from the spirit thereof or the scope of the appended claims.

In the drawings:

FIGURE 1 is a perspective view of a hinge cover, drop front set-up box, with the hinged cover raised and partly broken away at the rear portion to show the fan insert dispensing means;

FIGURE 2 is a longitudinal section taken on the line II—II of FIGURE 1, showing additionally an envelope containing sheet material in the fanned position with the envelope closed by weighted means;

FIGURE 3 is a perspective view of the fan insert dis-

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pensing means shown in FIGURE 1 but removed from the box and on a smaller scale;

FIGURE 4 is a fragmentary perspective view of the inner envelope containing sheet material ready for distribution, showing the weighted means attached to the edge on one side of the envelope mouth;

FIGURE 5 is a fragmentary perspective showing the envelope closed while the paper within the same remains completely covered and protected in the fanned disposition;

FIGURE 6 is a perspective view of a reverse tuck end carton having the conventional tuck-in flap closing means, partly broken away to show the fan insert dispensing means in position for use;

FIGURE 7 is a vertical section taken on the line VII—VII of FIGURE 6 but showing additionally the sheet paper in fanned position within an envelope and within its dispensing container, with the weighted envelope edge in the open position to hold the tuck-in flap out of the way so as not to obstruct easy access;

FIGURE 8 is a perspective view of a container shown in FIGURE 6 but with the tuck-in flap in closed position, the fan insert dispensing means being shown in the suggested packaged position;

FIGURE 9 is a perspective view of an open end, glued sleeve container, showing the fan insert dispensing means, which is packaged along with the sheet material contents (not shown), folded to the operative position;

FIGURE 10 is a perspective view similar to FIGURE 9 but with the fan insert dispensing means in the forward operative position; and

FIGURE 11 is a longitudinal vertical section of a box illustrating a form of the fan dispensing means made as a part of the box.

Referring now more particularly to the drawings in which like reference numerals indicate like parts in the several views, there is shown in FIGURE 1 a container 10 which is referred to in the trade as a hinge cover, drop front, set-up box, has a top 11, side walls 12 defining the height of the box, and a rear end wall 14 and a front end wall 15. Spaced from the front end wall 15 the side walls 12 are cut up to the juncture with the top 11 as at 16. The top 11 is scored along the line 17 connecting the upper limits of the cuts 16 so that the front end wall, the front portion of the side walls and the front portion of the top, collectively termed the cover, is folded back as a unit 23 as shown in FIGURE 1, to provide access to the merchandise on the interior. Since this is a unitized tray type box it is provided with an inner conforming tray having a bottom 18, side walls 20 and a front end wall 21 and if desired can have a rear end wall 22, although this is not essential. The front end wall 21 folds upwardly to meet the vertical position of the side walls 20 although it is not joined to the same and forms a drop front. When it is folded up in the vertical position so that its extremities meet the butt ends of the side walls 20, a tray is formed so that the closure portion 23 of the top when lowered into its closed position will overlap and form a continuous box-like structure. Such boxes are usually wrapped with a skin of paper or the like, to make it an integral unit which is accessible at the front and are well-known in the art. They are used particularly for dispensing sheet material from the commercial package or container. While this is a comparatively expensive package nevertheless it is widely used for packaging of light sensitive sheets, such as photocopy paper, because of its relatively easy accessibility to the vertically stacked sheets.

In accordance with the present invention a fanning insert 25 is supplied with the commercial container and has an end piece 26 folded or hinged back at 30 upon

its upper surface and is of such a size that the folded flat portion 26 when inserted within the box has its exposed edge 27 in engagement with the under surface of the top 11 to form an angle at 28 of substantially 15°. From the fold 30 to its forward edge 31 the distance equals the interior length of the carton plus the distance of the folded down end flap or drop front 21. The insert 25 may be of any suitable material, such as paperboard, pressboard, plastic or any other suitable material which will retain its shape and function as herein described.

As noted above, such boxes are used as a combination commercial container and dispenser of various types of paper, including photosensitive paper. The paper contents are stacked vertically and are usually contained in a light excluding envelope, from which the paper is selected one sheet at a time. In order to dispense the contents one sheet at a time using the fan insert dispensing means 25, the contents are removed and fanned longitudinally so that the sheets assume the position shown by the sheets 32 illustrated in FIGURE 2 with the sheets angled downwardly and inwardly from the top in stepped relation. The fanned sheets are then placed on the fan retaining insert 25. The flap 26 is folded over so that the fanned edges of the paper engage the under surface of the flap 26. The fan retaining insert 25 with its overlying paper supply 32 is then returned to the container flap 26 first, and then pushed to the rear thereof so that the flap 26 is maintained in the position shown in FIGURES 1 and 2 with the paper contents assuming the fanned angle maintained by the flap 26. It will be observed that when in this position the fan retaining insert will extend far enough forward of the butt ends of the sides 20 to hold the front flap or drop front 21 in a plane approximately that of the bottom and prevent any tendency to have the drop front return to its closed position or any other position than flat. It will be observed that when the sheets are returned to the box in fanned condition on the fan insert 25, the sheets will project from the box in stepped relation making access to the sheets one at a time assured no matter when selected. Thus, the package in which the sheets are purchased is converted into a highly efficient dispenser.

Frequently when the contents are being dispensed, the hinged cover 23 tends to fall downwardly toward the closed position, particularly as the opening and closing continues during use and weakens the fold. But for whatever reason, it tends to get in the way of speedy access to the available top sheet. In order to overcome this problem, two tabs 33 are secured to or made integral with the fan insert dispensing means 25 so that in the closed position they are folded inwardly from the longitudinal edges and lie flat against the upper face of the member 25 (see FIGURE 3). The tabs 33 are spaced a sufficient distance from the front edge 31 of the member 25, so that when they are moved in a 90° arc to a position substantially perpendicular to the surface of fanning insert 25 they will engage the inside side portions of the hinged cover 23. Preferably they are long enough to abut the inside of the end 15. In this manner all movable portions of the dispensing container are positively maintained in proper position and out of the way of any interference with fast access to the contents of the container. The contents of the container will hold the tabs in upright position until the last sheet, or until they are physically returned to the folded position. It is apparent that only one tab 33 will do the holding job quite satisfactorily although not as positively.

The fanning insert 25 may be sold as part of the dispenser or separately as an adjunct to the dispenser. It may also be packaged on the inside or the outside of the container. Where it is packaged on the inside it may be preferable to make it the same size as the sheet to be dispensed, in which event the tabs 33 could be eliminated.

In the operative position the folding back of the portion 26 would reduce the length along the bottom so there could not be sufficient length to hold down the drop front. The insert 25 is primarily useful only as a part of the dispenser because of dimensions, sizes of sheets, depth of container, and the like, and care should be taken that the appropriate operating dimensions are compatible and maintained.

Dispensing containers of this kind and type, as well as other types, are used extensively for the packaging of light or photosensitive paper useful in connection with photography and various system of copying equipment. Because of the light sensitivity the sheets 32 must be protected as far as possible from inadvertent or constant exposure to any degree of light and so the sheets 32 are usually contained within a light-proof envelope 34. Such envelopes are made to completely encompass the sheet material and are relatively flat having an open mouth 35 extending the full width of the sheet with lips 36 and 37 at the top and bottom as viewed in FIGURE 4 or at either side respectively. In many instances the light-proof envelopes are made with the lower lip 37 staggered and much longer than lip 36. The bag is substantially longer than the length of the sheets 32 so as to form a considerable foldover portion and to provide access to the sheets without unnecessary exposure. This provides a sufficient distance so that in the selection of a sheet there is no great risk of inadvertently exposing the other sheets to light. Since there is a sufficient foldover portion, no difficulty is experienced in fanning the sheets within the envelope in the same manner that the sheets are fanned without the envelope.

When the container is opened, the contents fanned and replaced in the container ready for dispensing, there is a sufficient foldover portion so that the top lip 36 will extend downwardly by gravity along with the lower lip 37 to prevent light exposure during use. However, this is subject to dislodgement and improper folding between uses. With reference to FIGURE 4, there is shown a weighted portion 40 which is secured to the edge of the lower or extended lip 37 of the envelope 34. The weighted portion 40 holds the lower lip downward and makes it easier to separate from the upper lip 36. This is true whether it hangs downwardly by gravity as shown in FIGURE 4, or whether it rests horizontally on a table or desk. In addition, as the upper lip 36 is raised to select the top of the fanned sheets one at a time, it will provide sufficient weight to bring the lips back into the position shown in FIGURE 4 and exclude light quicker than any voluntary action. Furthermore, at the conclusion of the use, all that is necessary to do to effectively close the envelope is to grasp the weight 40 and fold it up and over against the top front edge of the paper 32. Such action will at the same time fold the top lip 36 back against itself in the manner shown in FIGURE 2. The weight 40 then holds the envelope in closed position by gravity against the top of the envelope as shown in FIGURES 2 and 5, without any conscious act of folding or great care. This is shown in an enlarged scale more fully in FIGURE 5. All this can be done without the necessity of re-establishing the vertical stacked paper within the container and permits the safe holding of the paper sheets between uses, in the fanned disposition.

In FIGURES 6, 7 and 8, the container 41 is a simpler type of conventional reverse tuck end carton having a top 42, a bottom 43, side walls 44 and tuck-in end flaps generally designated 45. In this type of container the carton is all one piece and like the others, is made to accommodate the size and number of sheets in the package. The folded construction of this carton lacks some of the rigidity of the set-up box referred to above, and up to this time has lacked the quality package indicia. Assuming, for example, that the sheets to be packaged are 8½" x 11" sheets, the fanning retaining insert 46 is made to the precise dimensions of the sheet so that it

can be packaged inside of the container and along with the sheets themselves. This is shown in FIGURE 8. The fanning insert 46 is scored or hinged as before described at 47 leaving a tab 48 which is bent back upon itself. The tab 48 is sufficient in length so that the exposed edge 50 will engage the interior surface of the top 42 to form an angle 51 of substantially 15°. In this manner the fanning insert 46 supplies rigidity to the package which otherwise it would not have. This rigidity is substantially comparable to that of the set-up box. It is apparent that when the paper 32 is taken out of the package for the purpose of fanning, whether contained in an envelope or not, placed upon the fanning holding insert 46 and returned within the container in the fanned condition, that the fanning insert 46 will end a distance approximating the length of the tab from the front portion of the carton. This, instead of being a disadvantage is an advantage. It facilitates reaching the top sheets when the package is full and as the sheets are used the insert may be moved forward in the carton as the sheets are moved so that the leading edge is in approximately the same position at all times. It also provides sufficient space at the top for returning the weight 40 to a closed position which is always below the plane of the top 42.

Where the envelope 34 is used, as shown in FIGURE 7, it may or may not be used with the weight 40 on the lower lip as is the case of the packages shown in FIGURES 1 to 5 inclusive. When the weight 40 is used, then this weight is sufficient, when the envelope 34 is open, to hold down the tuck-in tab so that it does not tend to go toward the closed position and interfere with the access to the sheets. The price of this container is obviously a great deal less than the set-up box.

In FIGURE 9, there is still another form of standard container shown which is called an open ends, paper-board glued sleeve container. This is merely a rectangular tube having a top 52, a bottom 53 and two side panels 54 (see FIGURE 9). It has no closure at the ends which remain open at all times. In addition to the paper 32 which is not shown, and which can either be with or without an envelope 34, there is a fanning insert 46 precisely like that shown and described with respect to FIGURES 6, 7 and 8. The use of the packaging container shown in FIGURE 9 is the same as that described in connection with FIGURES 6, 7 and 8 except that since the container has no end closures it is easier to move or push the fanning insert forward as the paper is used (see FIGURE 10). If the envelope is used it can either be used with or without the weight 40 in exactly the same manner as described for the other forms of containers and for this container without the protective bag. It is equally apparent that the use of the fanning insert brings to this relatively inexpensive package a rigidity which satisfies the rigid requirements for commercial dispensing.

It will be observed that no matter the form of the package, by the use of the fanning insert the contents of the container will be maintained in a fanned condition enabling the sheet material to be dispensed one sheet at a time from the open end of the box with the utmost of accessibility and minimum of interference.

With reference to FIGURE 11 there is shown an embodiment where the fanning insert 60 is affixed to the bottom 61 of the container 62. In this form the fanning insert 60 is precisely the same size as the sheets to be dispensed from the container 62, and overlays the bottom 61 thereof. It is transversely scored at 63 leaving a small tab 64 which is glued or otherwise secured to the interior of the bottom 61 adjacent one end. Further inward it is scored laterally again but on the opposite surface as at 65 to leave a panel portion 66. The width of panel 66 is such that when the loose end 68 is pushed rearwardly so that the fanning insert bends against the weakening of the scoring 63 and 65 to the portion shown in the full lines with the portion 67 lying against the top 71, the angle 70 will be about 15°.

It is apparent that in using the form shown in FIGURE 11 where the fanning insert is secured to the interior of the box or carton, the paper in the container must be removed, fanned and then reinserted in the box after the fanning insert 60 is pressed to the operative position. The use of a protective envelope 34 for the sheets would obviously not bring about any change from the earlier description.

While several different styles of boxes and cartons have been described, the invention in all of its facets is equally applicable regardless of size, shape or materials.

It is to be understood that the container of FIGURES 9 and 10 may be tightly wrapped and sealed with a plastic wrapper at the factory in the conventional manner. This prevents the contents from becoming lost or damaged by sliding out the open ends during the handling from factory to consumer and from the infiltration of dust, dirt and other contaminants. Because of flat folding of such a container it may be printed upon before being stuffed and wrapped. Also, since a paper skin is not required for such a container the cost of producing is less than other types. The use of a transparent plastic wrapping has the advantage of either making the printing on the container visible or providing another surface for decoration or printing.

I claim:

1. In a package for dispensing sheet material one sheet at a time a conventional rectangular glued sleeve container having top and bottom panels, relatively shallow side panels, and both ends open, a dispensing means within said container comprising a sheet transversely divided into a base portion and a tab portion hinged to said base with the terminating end edge of the tab portion bearing against the inner face of said top panel forming an acute angle of substantially 15°, and sheet material in fanned disposition within said package with one fanned end of said sheet material abutting and retained by the angled tab portion within said sleeve and the other end extending beyond the open end of the sleeve container.

2. The conventional sleeve container of claim 1 wherein the sheet material is contained within and dispensed from a protective envelope in fanned disposition, said envelope projecting beyond an open end of said container, said envelope having a transverse opening for the dispensing of the fanned contents, formed with two opposed lips extending well beyond the most extended top sheet projecting from the container and the lower of said transverse lips having a weight affixed thereto.

3. In a package for dispensing sheet material one sheet at a time comprising a container having a top and bottom portion, relatively shallow side walls, and a fanning retaining member overlaying the inner bottom of said package said fanning retaining member being scored transversely on opposite sides at two spaced intervals, one adjacent the inner end thereof providing a small tab and the other inwardly thereof to form a larger panel portion, with the tab portion being secured to the bottom of the container.

4. An end opening container for dispensing sheet material one sheet at a time in combination a container having relatively rigid top and bottom portions substantially the same size as the sheet material therein and relatively narrow side walls, a dispensing means within said container comprising a sheet transversely divided into a base portion and a tab portion hinged to said base with the terminating end edge of said tab portion bearing against the inner face of said container top portion and forming an acute angle of substantially 15°, sheet material in fanned disposition within said container with one fanned end of said sheet material abutting and retained by the angled tab portion within said container and the other end extending beyond the open end of the said container, and a relatively flat bag containing said dispenser and said sheet material in said container without exposure of the contents, said bag having an opening at the

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dispensing end defined by a pair of transverse lips and a weight affixed to the lower of said lips to provide a closure by folding the lips upwardly and back upon themselves so that gravity acting on the weight will hold the closure.

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