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ADJUSTABLE DEPTH FOLDING BOX

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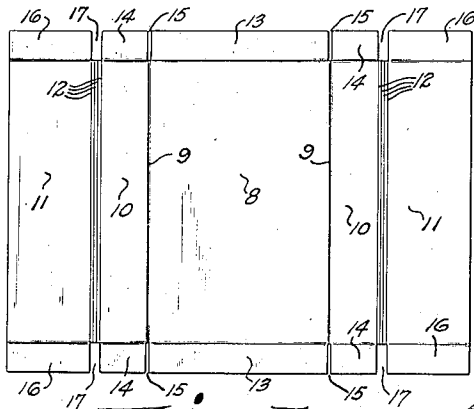


Fig. 1.

Fig. 2.

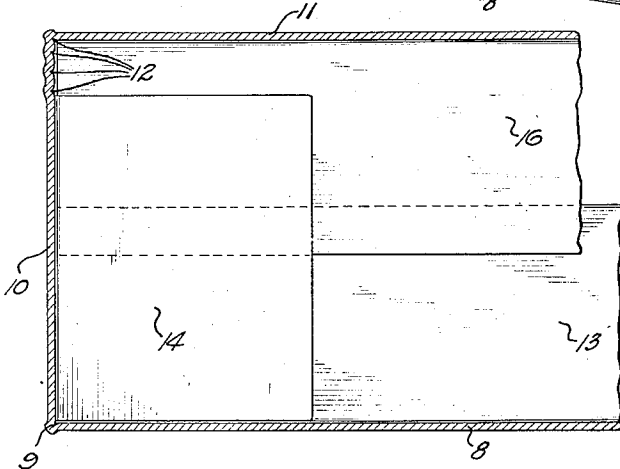
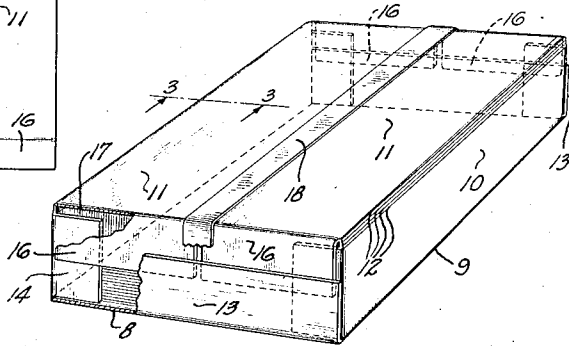


Fig. 3.

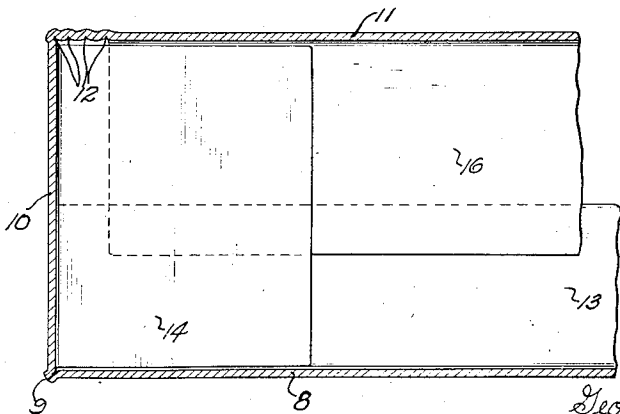


Fig. 4.

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ADJUSTABLE DEPTH FOLDING BOX

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3 Claims. (Cl. 229—33)

This invention relates to improvements in adjustable depth folding boxes, and more particularly to boxes or containers for holding a plurality of reams of paper in tightly packed condition.

5 Certain types of quality paper, such as writing paper, are shipped by weight and grade in containers having therein a definite number of reams. It is a fact, however, that it is an impossibility for all of the sheets of a particular
10 grade to be of exactly the same thickness and bulk. Consequently, in packing a constant number of reams of said paper in containers of predetermined dimensions, there is always some variation in the depth of the pile of paper in
15 the container, with the result that in many instances the paper will not be tightly packed within the container, which is objectionable in transportation.

It is, therefore, the primary object of the present invention to provide a container which
20 may be easily varied as to height or depth to exactly adapt it to the pile of material therein, so that it will tightly encase the material during transportation.

25 A further object of the invention is to provide an adjustable depth container of the character described which may be folded from a one-piece fiber board blank.

30 A further object of the invention is to provide an adjustable or variable height container wherein certain of the walls are selectively foldable with respect to other of said walls on any of a plurality of adjacent fold lines whereby the transverse dimensions of certain of said walls
35 may be varied to adapt said walls to the height of a stack of material disposed within the container.

40 Another object of the invention is to provide a variable height container having a plurality of fold lines for the selective folding of certain of the container walls for height variations, with slots between certain of the other walls to permit non-interfering folding of the same regardless
45 of the lines of fold utilized for the first-mentioned walls.

50 Still another object of the invention is to provide a one-piece variable height folding box wherein spaced-apart fold lines are provided for some of the walls and at the ends of each group of spaced-apart fold lines, as between other walls
55 of the box, there are slots of greater width than the adjacent group of fold lines, permitting neat and non-interfering folding of said latter walls, regardless of which fold lines of the groups are utilized for the other walls, resulting in a neat

compact container for tightly enclosing a pile of material irrespective of slight departures from the standard in the height of said material pile.

A further object of the invention is to provide an adjustable depth container which is of very
5 simple construction, is easily folded and assembled into the required form and depth, is strong and durable and light, is inexpensive to manufacture, and is well adapted for the purposes set forth. 10

With the above and other objects in view the invention consists of the improved adjustable depth folding box, and its parts and combinations as set forth in the claims, and all equivalents thereof. 15

In the accompanying drawing in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a plan view of the open blank from which the improved container or box is folded; 20

Fig. 2 is a perspective view of the box in set-up condition for use, parts being broken away and in section to show details of construction;

Fig. 3 is an enlarged, fragmentary, detail sectional view taken on line 3—3 of Fig. 2; and 25

Fig. 4 is a similar view only showing the variation in height or depth of the container when other fold lines for certain of the walls are utilized.

30 While the invention has been shown and described herein as being specifically applied to a folding box or container of a certain size and proportions, preferably for writing paper, it will be apparent that some of the novel features are capable of more general application, and that
35 the specific disclosure should not therefore be construed as an intent to limit the scope.

Referring now particularly to the drawing, it will appear that the improved box is folded, assembled, or set up from a one-piece blank shown
40 in Fig. 1, preferably formed of fiber board or similar materials.

From the view of the blank it will appear that a bottom 8 has foldably connected to its side edges, by means of scored fold lines 9, a pair of sides
45 10. The other edges of the sides 10 are foldably connected to complementary top members 11 by a plurality of parallel fold lines 12. Each group of parallel fold lines 12 between a side 10 and top member 11 comprises a group of preferably
50 four parallel scored lines, and said top member 11 may be folded at right angles to the adjacent side 10 on any selected fold line of the group. There are foldably connected with the ends of the bottom 8 a pair of bottom end flaps 13, and there 55

are also foldably connected with the ends of each side 10 a pair of side end flaps 14. Between each side end flap 14 and the adjacent end of a bottom end flap 13 there is a narrow slit 15.

5 Each end of the top members 11 has foldably connected thereto a top end flap 16. As appears most clearly from Fig. 1, an important feature of the invention resides in the provision between the adjacent ends of the flaps 14 and 16, a wide

10 slot 17. Each slot 17 in the blank is coextensive with the end of a group of parallel fold lines 12, and the width of a slot 17 is slightly greater than the transverse dimension of a group of said fold lines.

15 The improved container or folding box is set up from the blank in the following manner: The sides 10 are folded vertically at right angles to the bottom 8 and the side end flaps 14 are turned inwardly at right angles to the sides 10. It is

20 next necessary to determine the ultimate height or depth for the container, and this depends upon the depth or height of the pile of material to be packed therein, or disposed on the bottom 8 during the setting up of the container. Assum-

25 ing that it is necessary or desirable to have the container of its maximum height or depth, then the top members 11 are folded with respect to the sides 10 on the outermost fold lines 12 of the two groups. This produces an arrangement such

30 as is disclosed in Fig. 3. In the arrangement of the box, the top end flaps 16 are folded downwardly over the inturned flaps 14, and lastly the bottom end flaps 13 are folded upwardly, overlapping the flaps 16 which in turn overlap

35 the flaps 14. The ends of the box may be secured in this form by conventional means such as stapling the flap portions together, or the same may be taped. The entire container may be closed and sealed by means of a strip of tape 18

40 applied over and along the adjacent edges of the top members 11 and flaps 16. As may be clearly noted from Figs. 1, 2 and 3, when the outermost fold lines 12 are utilized, there is a

45 substantial gap or space between the upper ends of the folded flaps 14 and the ends of the top members 11. This is due to the side slots 17, but said spaces are of no consequence in the final container because they are covered over by the down-turned end flaps 16.

50 It is obvious that a container of less height or depth may be set up by folding the top members 11 relative to the sides 10 on others of the fold lines 12. A container of least possible height or depth with the arrangement disclosed, is

55 shown in Fig. 4, and it is obvious that depths between that of Figs. 3 and 4 may be obtained by using fold lines between the two limits disclosed. The arrangement of Fig. 4 illustrates the special utility of the wide end slots 17. In

60 this case the height of the walls 10 is materially reduced by the transverse dimensions of the groups of fold lines. This is compensated for by the slots 17 whereby the top members 11 fold down evenly onto or adjacent the upper edges

65 of the side end flaps 14 without interference.

The improved container is particularly ad-

vantageous and useful for the shipping of reams of writing paper. When writing paper is produced at a mill, even though it be of a standard grade, the height or depth of a certain number of reams of the same will vary somewhat from the height or depth of another stack of the same number of reams. It is always customary to ship a certain standard number of reams in a package or container, and by virtue of the present invention it is always possible to exactly

10 adapt the container to the height or depth of the pile of paper to be shipped, regardless of any differences in the height or depth. This is of course accomplished by folding the top members 11 relative to the sides 10 on selected fold

15 lines 12, whereby the height of the walls 10 is made to conform with the height of the pile of paper to be shipped. The final package is therefore adapted to tightly enclose the commodity and does not permit of any shifting or looseness

20 in the package which might be detrimental to the paper.

The improved container is economically produced from a one-piece blank of even shape and proportions, and can be readily folded and assembled into the proper enclosing shape. The adjustable depth container is furthermore of simple and novel construction and is well adapted for the purposes described.

What is claimed as the invention is:

1. A variable depth container, comprising a plurality of main wall forming sections foldably connected together and arranged to provide a six-sided enclosure, there being groups of parallel selective lines of fold between certain of said main sections, and other sections foldably connected at the ends of said main sections, there being wide slots between adjacent edges of said other sections with each slot coextensive with and slightly wider than a group of lines of fold.

2. A variable depth container, comprising a plurality of wall forming sections foldably connected together and arranged to provide a six-sided enclosure, there being groups of parallel selective lines of fold between certain of said sections, and other sections foldably connected at the ends of said sections separated by the groups of selective lines of fold, there being wide slots between adjacent edges of said latter sections with each slot coextensive with and slightly wider than a group of lines of fold.

3. A one-piece blank for forming a hollow, variable depth container, comprising a fiber board member having fifteen foldably associated wall forming portions, a group of selective parallel fold lines between certain adjacent pairs of main wall portions, selected fold lines being utilized to vary the ultimate transverse dimensions of certain of said wall portions, and end flaps foldably associated with ends of said main wall portions, adjacent sides of pairs of end flaps being separated by a wide slot, there being a slot at each end of a group of said selective fold lines and the slot being slightly wider than said group of fold lines.

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