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Smith

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[45] **Dec. 18, 1973**

[54] **STORAGE RECEPTACLE-BUNDLER ASSEMBLY**

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[52] **U.S. Cl.** **100/34**, 211/50

[51] **Int. Cl.** **B65b 13/00**

[58] **Field of Search** 100/1, 34; 211/50; 108/25

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Attorney—Ancel W. Lewis, Jr.

[57] **ABSTRACT**

A storage receptacle-bundler assembly for newspapers and the like is made from a flat blank provided with crease lines to be formed at the point of use into the required shape including a box-like receptacle portion with an open top and opposed openings in opposed side sections together with a base portion with support surfaces at opposed positions relative to the side openings lying in a plane above the lower edge forming the side access openings to provide a throughspace for passing a tie line under a collection of newspapers supported on the support surface in the receptacle portion and then up along the top thereof to be tied into a bundle. The flat blank is preferably made of paperboard or a like lightweight, imperforate, disposable material and the receptacle and base portions are made from a single flat blank or separate flat blanks which fit together to form the complete assembly. A line cutting blade and roller support for the tie line is carried by the assembly in a convenient location.

17 Claims, 8 Drawing Figures

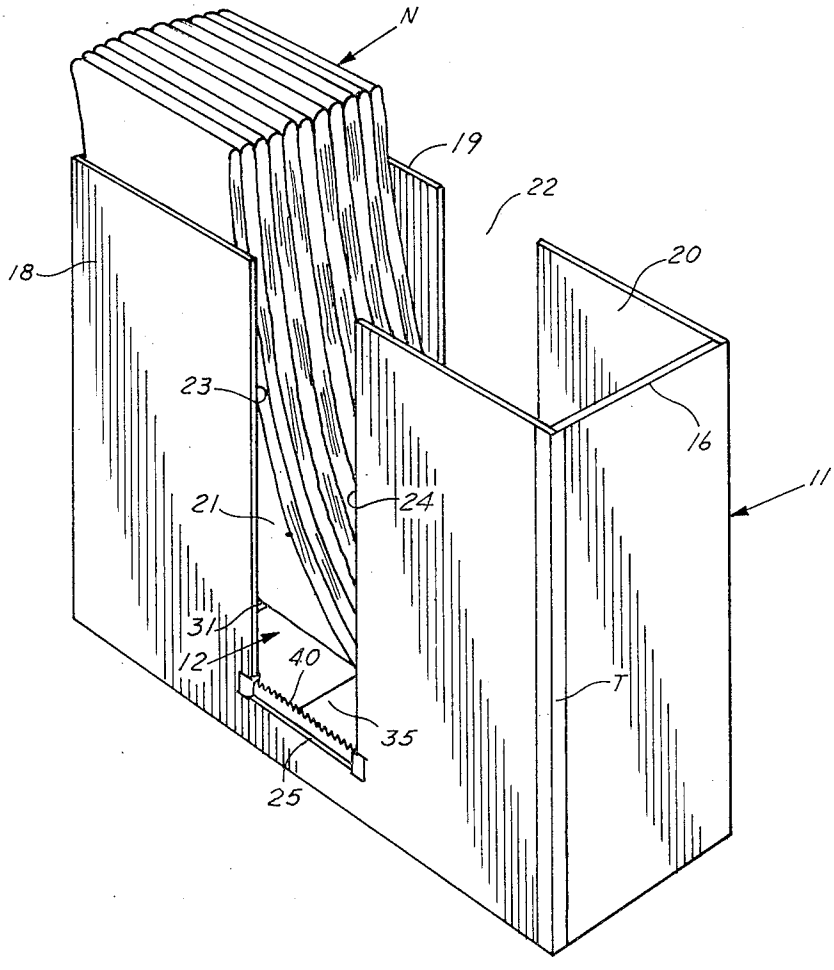


FIG. 1

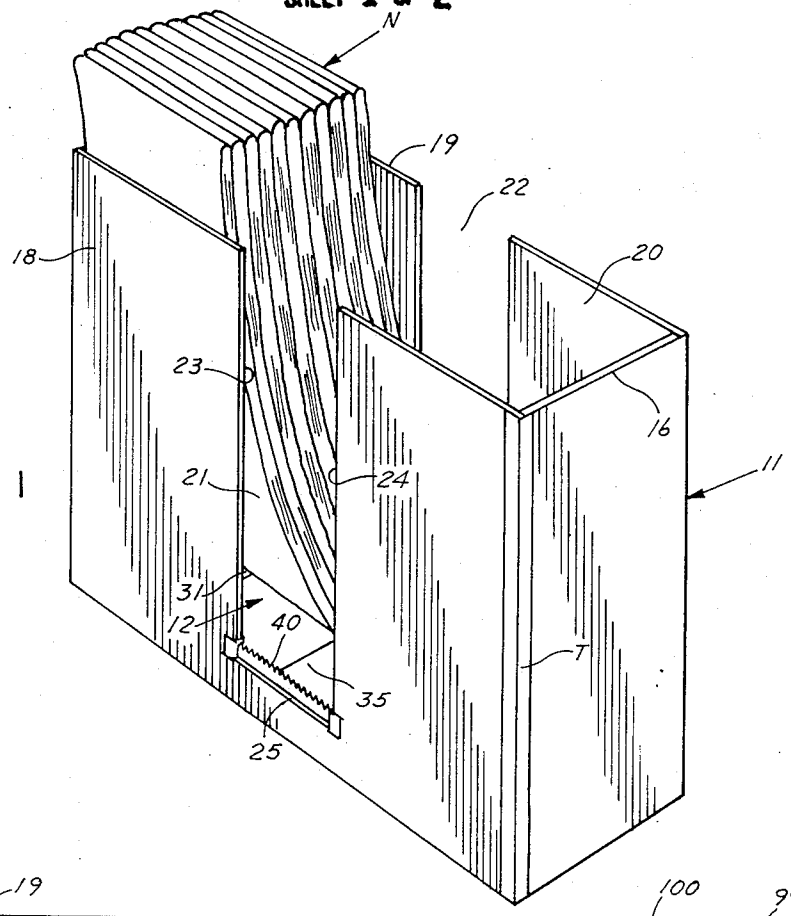
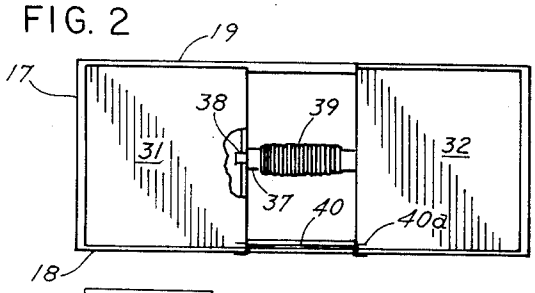


FIG. 2



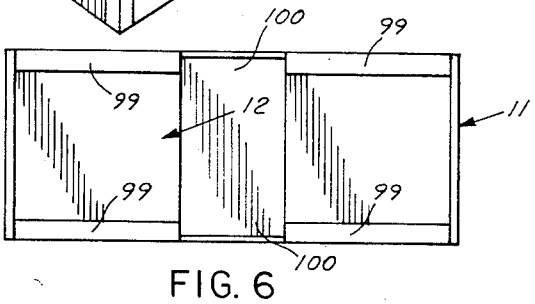


FIG. 6

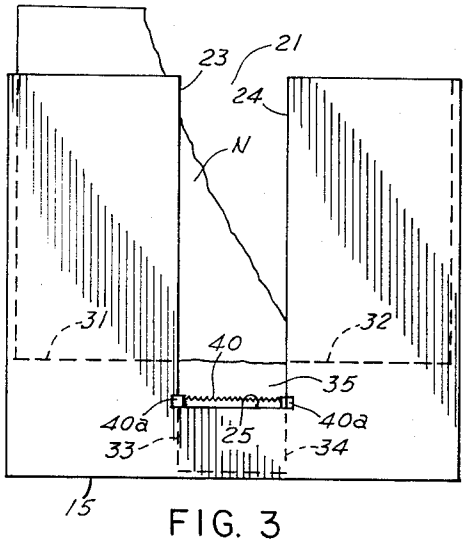


FIG. 3

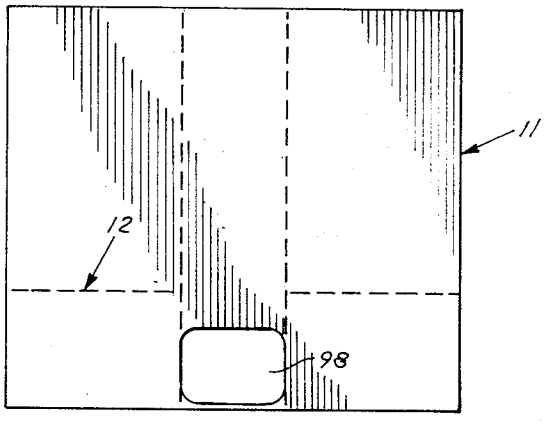


FIG. 7

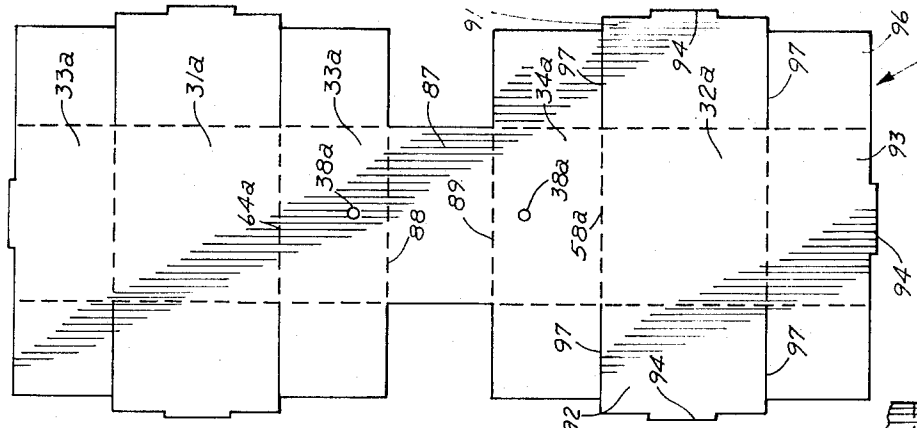


FIG. 5

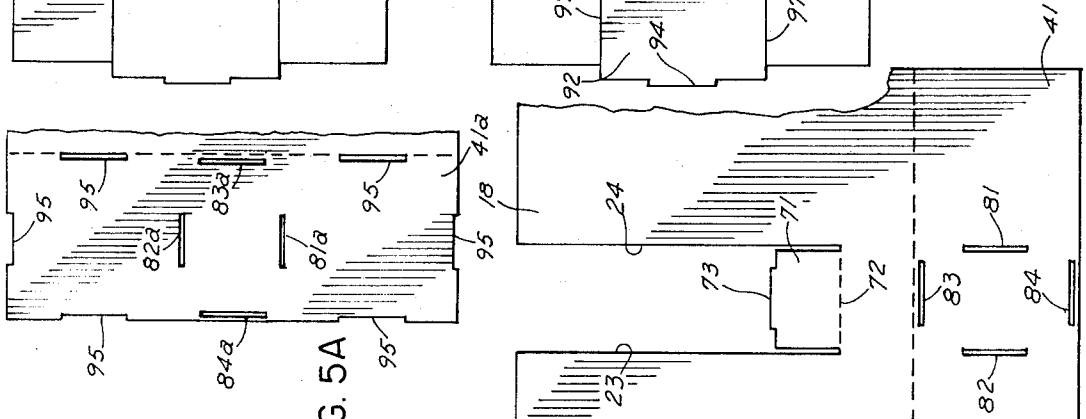


FIG. 5A

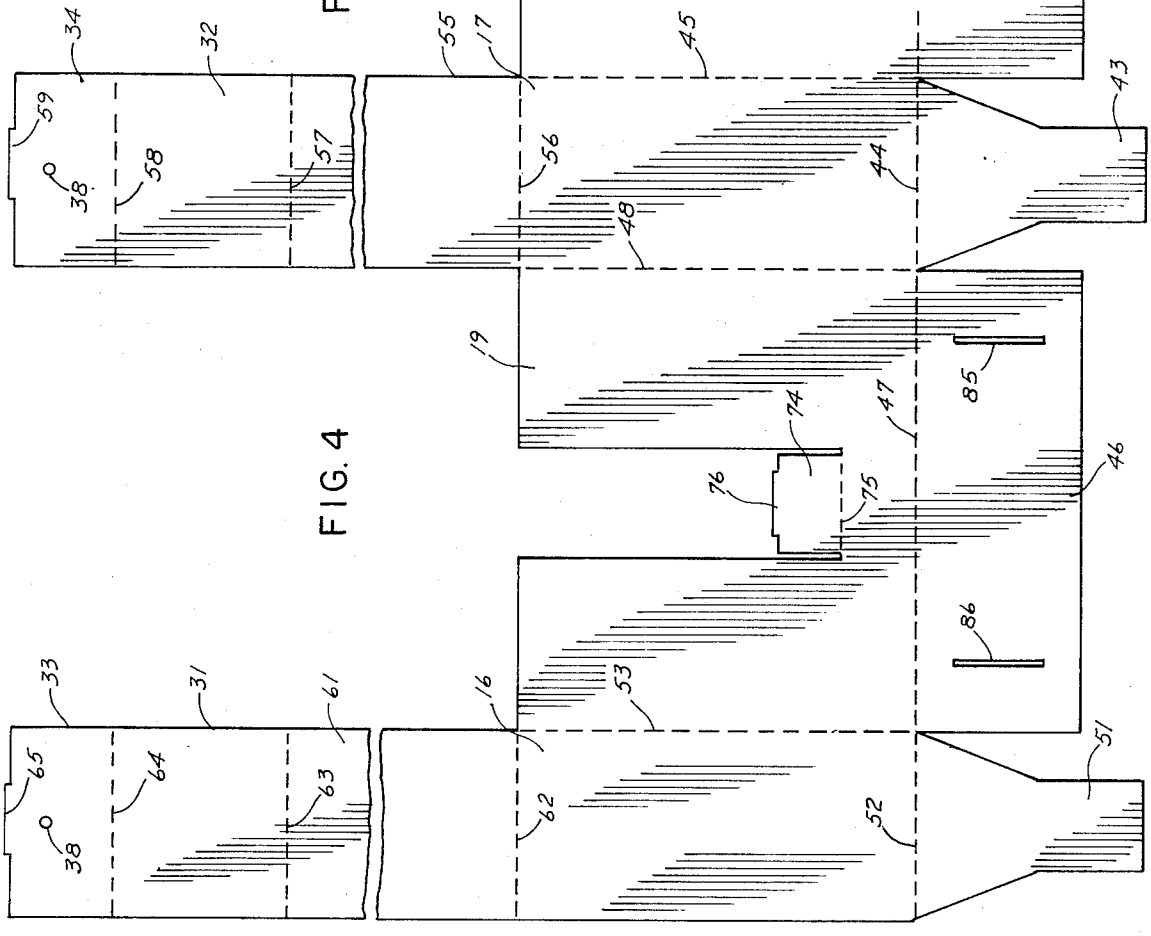


FIG. 4

STORAGE RECEPTACLE-BUNDLER ASSEMBLY

BACKGROUND OF THE INVENTION

Daily newspapers collect rapidly into large stacks which pose disposal problems. Some attempts have been made to provide a receptacle in which the papers are stacked on their flat surfaces or sides until enough are collected to form a bundle. The collection of newspapers is then tied using a suitable tie line or twine to form a bale or bundle. For example, in U.S. Pat. No. 3,171,347 there is disclosed a storage box for newspaper in which newspapers are stacked on their flat sides with the box being specifically constructed to be made from plastic in a molding operation. Among the disadvantages of providing this type of molded product is the initial cost of a mold, the disposability of the unit and the space required for shipment of a box-shaped unit. Moreover, when the newspapers are placed flat on their sides, a relatively large receptacle is required and a substantial portion of the unsightly newspapers are visible.

Accordingly, it is a general object of this invention to provide an improved, relatively inexpensive, compact and durable storage receptacle-bundler assembly for newspapers and the like which is specifically adapted to be made from a flat blank of a lightweight, readily disposable material such as paperboard or the like.

Another object of this invention is to provide an improved storage receptacle-bundler assembly for newspapers and the like specifically adapted to be shipped in a flat condition and assembled at the point of use.

Yet another object of the present invention is to provide a novel storage receptacle-bundler assembly which is sized and constructed and arranged to receive the newspapers edgewise and support only a limited number of the newspapers upright to substantially conceal a major portion of the newspapers during collection and to provide a relatively lightweight bundle.

Still a further object of the present invention is to provide an improved storage receptacle-bundler assembly which affords a wide range of advertising possibilities and is readily disassembled and is readily disposable.

In accordance with the present invention, in a preferred embodiment shown there is provided an assembly including receptacle and base portions made of a flat, paperboard material with crease lines, lots and flaps constructed and arranged to be folded into the required shape and secured together as a relatively rigid structure. The receptacle portion has an open top sized to receive a plurality of newspapers upon the edgewise insertion of the newspapers thereinto and support a collection of the newspapers side by side with the base portion in the receptacle providing a lower support surface above the lower edges of opposed side openings to support the papers relative to the side openings so that twine or a like tying line may be inserted via a throughspace under the bundle and around the full extent thereof for tying the newspapers into a bundle. In one form shown, the receptacle and base portions are made from a single-piece blank and in another form shown are made of separate blanks which fit together as a unitary structure when assembled. In a modified form, the side openings are confined to the lower part of the receptacle with side spacers in the receptacle portion to facilitate the drawing of the line around the newspapers being supported.

Other objects, advantages and capabilities of the present invention will become more apparent as the description proceeds taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of a storage receptacle-bundler assembly for newspapers and the like embodying features of the present invention with only a fragment of a collection of newspapers shown therein for clarity with the newspapers being supported in an upright manner;

FIG. 2 is a top plan view of the assembly of FIG. 1 with the newspapers removed;

FIG. 3 is a side elevation view of the assembly of FIG. 1 with a fragment of one part of the base portion broken away to show the manner of support for the tie line support roller;

FIG. 4 is a plan view of a single-piece, flat blank of material shaped with suitable flaps, slots etc. from which the substantially sized assembly of FIG. 1–3 may be formed;

FIG. 5 is a plan view of a flat blank of material suitably shaped for providing an alternative single-piece base portion construction which inserts into a separate single-piece receptacle portion;

FIG. 6 is a top plan view of another form of storage receptacle-bundler assembly embodying features of the present invention;

FIG. 7 is a side elevation view of the assembly shown in FIG. 6.

Referring now to the drawings, the storage receptacle-bundler assembly shown basically comprises a receptacle portion generally designated by numeral **11** and a base portion generally designated by numberal **12** disposed within the receptacle portion, these portions being shown in an assembled form in FIGS. **1–3, 6** and **7** in a flat form in FIGS. **4, 5** and **5A**.

In the assembled form shown in FIGS. **1–3,** the receptacle portion **11** has a box-like, generally rectangular configuration with a bottom section **15** having opposed upright end sections **16** and **17,** attached to the bottom section and opposed upright side sections **18** and **19** attached to the bottom section with the top of the receptacle left open above the end and side sections to provide a top opening **20** through which the papers are inserted edgewise downwardly into the receptacle portion **11** and rest upon the base portion **12.** The size or dimension of the assembly is designed to support a collection of the newspapers N arranged side by side in an upright manner. In this connection, the width of the receptacle portion **11** is substantially less than the width of the newspaper lying on its side in a flat condition to form a relatively narrow, highly compact assembly which will conceal a major portion of the newspapers collected therein.

The side sections **18** and **19** are formed with U-shaped side slots or openings **21** and **22** respectively, which open through the top of the associated side section, the side openings being of a similar size and shape. The side openings extend throughout a major portion of the side sections and are located centrally thereof. Each side opening is bounded by opposed inner side edges **23** and **24** and has a lower edge **25** spaced above the bottom of the receptacle portion. This open slot arrangement allows the tie line to be brought around the top of the newspapers and tied as described more fully hereinafter.

The base portion 12 has two flat support sections 31 and 32 arranged parallel to the bottom section 15 defining spaced oppositely disposed support surfaces, disposed at opposite positions relative to the side openings and end sections 33 and 34 for supporting the support-surfaces a preselected distance above the bottom section 15 on the receptacle, this distance being sufficiently above the lower edges defining the side openings 21 and 22 to provide hand access openings 35 of a sufficient size to permit a human hand to pass therethrough and through a through-space under the newspapers N for the insertion of a tie line or twine therethrough and along the underside of the newspapers N. The tie line is then pulled up around the newspapers collected and tied to form a bundle which may be readily removed by lifting it through the top opening.

As an optional feature, there is further provided a line-supporting roller support or spindle 37 with reduced end portions releasably inserted into aligned apertures 38 in the end sections 33 and 34 to support a roll or spool of tie line represented at 39. A cutting blade 40 having a relatively dull blade edge with end portions 40*a* with a snap-on female socket adapted to be releasably inserted into the edges defining the sides of the associated side openings to facilitate the convenient cutting of the tie line 39.

Referring now to FIG. 4, there is shown a single-piece, flat blank of material suitably creased, cut and shaped along the edges to be formed into the above-described assembly at the point of use. The part of the blank forming the receptacle portion 11 includes an upper bottom flap 41 attached to a side section 18 along a crease line 42, a tapered end flap 43 attached to end section 17 along a crease line 44 with side section 18 and end section 17 being attached at a crease line 45. A lower bottom flap 46 is attached to the other side section 19 along a crease line 47 with side section 19 and end section 17 being attached along crease line 48. In turn, end section 16 has a tapered end flap 51 attached thereto along crease line 52 with end section 16 and side section 19 being fastened along crease line 53.

The base portion 11 is provided by using an intermediate connecting section 55 attached to end section 17 along crease line 56 with support section 32 being attached along crease line 57 to section 55 and with section 32 being attached to end section 34 along crease line 58. The free outer edge of section 34 has a tab 59. In a like manner, an intermediate connecting section 61 is attached to end section 16 along crease line 62 and attached to support section 31 along crease line 63. End section 33 is connected to support section 31 and has an end tab 65.

Side section 18 is further provided with a flap 71 separated from the side edges of the side opening 21 by cuts or narrow slits and is attached along a crease line 72 with the upper edge terminating in a tab 73. Similarly, side section 19 has a flap 74 separated from the side edges of the side opening 22 by cuts or narrow slits and attached along a crease line 75 with the upper edge terminating in a tab 76.

The upper bottom flap 41 has a pair of opposed centrally disposed slots 81 and 82 which receive tabs 59 and 65, respectively, and a pair of opposed slots 83 and 84 which receive tabs 73 and 76, respectively. Slots 83 and 84 are inset slightly from crease line 83 and side edge 84 to position the associated tabs so that the base portion will be prevented from movement relative to the receptacle portion. The lower bottom flap 46 has a pair of opposed slots 85 and 86 which receive tabs 43 and 51, respectively.

In the forming of the blank shown in FIG. 4 into the assembly of FIGS. 1–3 the parts are appropriately folded along the crease lines. The upper bottom flap 41 is placed above lower bottom flap 46 and the tapered flaps 43 and 51 inserted into slots 85 and 86, respectively, to form the bottom section 15 of the receptacle portion. The tabs 73 and 76 of side flaps 71 and 74 are inserted into slots 83 and 84, respectively. The connecting sections 55 and 61 are folded back and down along the inside of sides 16 and 17, respectively, and the lower tabs 59 and 65 inserted into slots 81 and 82, respectively. A fastener strip in the form of tape T with an adhesive is secured at the open corner along adjacent edges of side section 18 and end section 16.

In the alternative arrangement shown in FIGS. 5 and 5A, like parts comparable with FIGS. 1–4 are designated by like numerals with the suffix *a* added. The blank for the receptacle portion 11 is the same but the intermediate connecting sections 55 and 61 are removed along crease lines 56 and 62, respectively, so that the base portion designated by numeral 12*a* is separate from the receptacle portion 11 above described. Base portion 12*a* has top sections 31*a* and 32*a* connected along crease lines 64*a* and 58*a* to end sections 33*a* and 34*a*, respectively, with end sections 33*a* and 34*a* being joined by an intermediate section 87 at crease lines 88 and 89, respectively. In the assembled form the intermediate section 87 extends along the bottom of the receptacle portion.

The structural arrangement for the support sections 31*a* and 32*a* is the same and generally stated in the assembled form is box-like with a open bottom. Since a description of one of the box-like structures forming the base portion applies to both, with reference now to support section 32*a* there is provided side sections 91 and 92 and a back section 93, each having an outer tab 94 which will insert into a corresponding slot 95 provided in the modified upper bottom section 41*a* shown in FIG. 5A, the slots 95 being located at the ends and along the sides thereof at the bottom of section 41*a*. The side sections 91 and 92 and both sections 93 attach to the top section 32*a* along separate crease lines and there is further provided a corner section 96 at each corner which is attached to one of the sections 91, 92 or 93 and is separated by a slot 97 adjacent the attaching crease line to permit the corner sections 96 to tuck in or fold behind back or side sections when the back or side sections are folded into a box-like shape which will support the newspapers above the bottom of the receptacle. An alternative to the arrangement shown in FIG. 5 is to remove the intermediate connecting section 87 and have sections 31*a* and 32*a* separated. Moreover, it is understood that the form of bottom portion used in FIG. 4 may also be provided with side, back and corner sections 91, 92 and 96 for added support strength.

In the alternative form of receptacle shown in FIGS. 6 and 7, the receptacle portion and base portions may be constructed in the same manner as the above described so that it may be shipped in a flat condition and assembled at the point of use. The receptacle portion is modified to the extent that it has annular hand access side opening 98 in the lower portion thereof below the support surfaces provided by the base portion with no

corresponding openings through the top of the sides. Further there is added four spacer members **99** along each inner side wall outwardly of the openings to provide a channel **100** on each side for insertion of the hand along the sides of the bundle to pull the tie line up around the sides and over the top of the collection of newspapers. The principal advantage of the form is that the receptacle portion has stronger side walls.

By way of illustration and not by way of limitation, a storage receptacle-bundler assembly as above described for newspapers using ⅛ inch cardboard may have the following dimensions:

Length	17 ¼ inches
Width	7 inches
Height	14 ½ inches
Height of Side Wall to side opening	2 ½ inches
Height of Support surface	4 ½ inches
Width of side opening	4 ¼ inches

Although the present invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made by way of example and that changes in details of structure may be made without departing from the spirit thereof.

What is claimed is:

1. In a storage receptacle-bundler assembly for newspapers and the like, the combination comprising:

a receptacle portion made from a flat blank with crease lines arranged therein to be bent along the crease lines into a box-like shape with a bottom section having opposed upright side sections and opposed upright end sections attached to the bottom section along crease lines, said receptacle portion having an open top, said side sections having opposed access openings; and

a base portion made from a flat blank adapted to be positioned inside the receptacle portion to provide support surfaces at opposite positions relative to the access openings, said support surfaces lying in a plane a preselected distance above the plane of the lower edges of the side sections defining the access openings to provide a throughspace under a collection of newspapers supported on said support surfaces whereby to permit a tie line to be passed through the throughspace and up around the newspapers to form a tied bundle of newspapers.

2. In a storage receptacle-bundler assembly as set forth in claim **1** wherein said receptacle portion and said base portion both made from a single paperboard blank.

3. In a storage receptacle-bundler assembly as set forth in claim **1** wherein said receptacle portion and said base portion all made of separate paperboard blanks with the base portion releasably inserted into said receptacle portion.

4. In a storage receptacle-bundler assembly as set forth in claim **1** wherein receptacle portion is sized for the edgewise insertion of newspapers downwardly thereinto with the lateral dimension of the receptacle being less than the width of the newspaper lying in a flat position to form a relatively lightweight, compact bundle of newspapers.

5. In a storage receptacle-bundler assembly as set forth in claim **1** wherein said opposed access openings extend upwardly through the top of the inside sections to permit a tie line to be wrapped around a collection of the newspapers supported in the receptacle portion on the base portion.

6. In a storage receptacle-bundler assembly as set forth in claim **1** wherein said opposed access openings are located in the lower portion of said side sections, said receptacle portion further having spacers along the inside of each side section providing a throughspace above said hand access openings along the inside of said receptacle side sections to permit the tie line to be wrapped around a collection of the newspapers supported in the receptacle portion on the base portion.

7. In a storage receptacle-bundler assembly as set forth in claim **1,** further including means to support a tie line and eans to cut the tie line.

8. In a storage receptacle-bundler assembly as set forth in claim **1** wherein said bottom section has interlocking flap sections which are extensions of the side end sections.

9. In a storage receptacle-bundler assembly as set forth in claim **1** wherein said base portion includes a pair of spaced, generally box-shaped members releasably inserted into said receptacle portion at opposite ends thereof and separated by said access openings.

10. A storage receptacle-bundler assembly for newspapers and the like comprising:

a receptacle portion made from a flat, relatively stiff, imperforate, lightweight, blank with crease lines therein to be formed along the crease lines into a box-like shape with a bottom section having opposed upright side sections and opposed upright end sections attached to the bottom section along the crease lines, said receptacle having opposed side access openings in the side sections; and

a base portion made from a flat, relatively stiff, imperforate, lightweight, blank removably inserted into said receptacle portion, said base portion having a pair of support sections defining support surfaces lying in a plane located a preselected distance above the lower edges of the side sections defining the access openings to provide a throughspace under a collection of newspapers supported on said support surfaces whereby to permit a tie line to be passed through said throughspace and up around the newspapers to form a tied bundle of newspapers.

11. A storage receptacle-bundler assembly as set forth in claim **10** wherein said blank forming the receptacle portion includes;

a first side section having an upper bottom flap attached thereto along a crease line;

a first end section attached to the first side section along a crease line and having a tapered bottom flap attached thereto along a crease line;

a second side section attached to the first end section along a crease line and having a lower bottom flap attached thereto along a crease line;

a second end section attached to said second side section along a crease line and having a tapered bottom flap attached thereto along a crease line;

said tapered bottom flaps being inserted into slots in said lower bottom flap to form said bottom section;

said upper bottom flap having slots adapted to receive a plurality of tabs on said base portion.

12. A storage receptacle-bundler assembly as set forth in claim **11** wherein each said side section has a flap extending upwardly into the side opening adapted

to fold over and releasably insert into slots in the upper bottom flap.

13. A storage receptacle-bundler assembly as set forth in claim 10 wherein said blank forming the base portion includes;

a first support section connected by a first intermediate section to the top edge of said first side section; and

a second support section connected by a second intermediate section to the top edge of said second side section;

said first and second support sections having end sections attached along associated crease lines for supporting the support sections a preselected distance above the bottom of the receptacle.

14. A storage receptacle as set forth in claim 13 wherein said end sections have a tab adapted to insert into a slot in said upper bottom flap.

15. A storage receptacle-bundler assembly as set forth in claim 10 wherein said blank forming the base portion includes;

a first support section connected along a crease line with a first end section; and

a second support section connected along a crease line with a second end section, said first and second end sections being connected along associated crease lines by an intermediate section, each of said support sections having opposed side and back flap sections attached thereto along crease lines and corner sections attached to each side and back sections adapted to fold therebehind to form a box-like structure.

16. A storage receptacle as set forth in claim 15 wherein said side and back flap sections have tabs adapted to insert into slots in said upper bottom flap.

17. A storage receptacle-bundler assembly as set forth in claim 10 wherein said blank forming the base portion is in two similar separate parts each having a support section connected along a crease line to an end section, each said support section having opposed side and back flap sections attached thereto along crease lines and corner sections attached to the flap sections adapted to fold therebehind to form box-like structures.

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