March 14, 1961 L. MAYER 2,974,850

COMBINED SHIPPING CONTAINER AND DISPENSING RECEPTACLE

Filed May 10, 1954

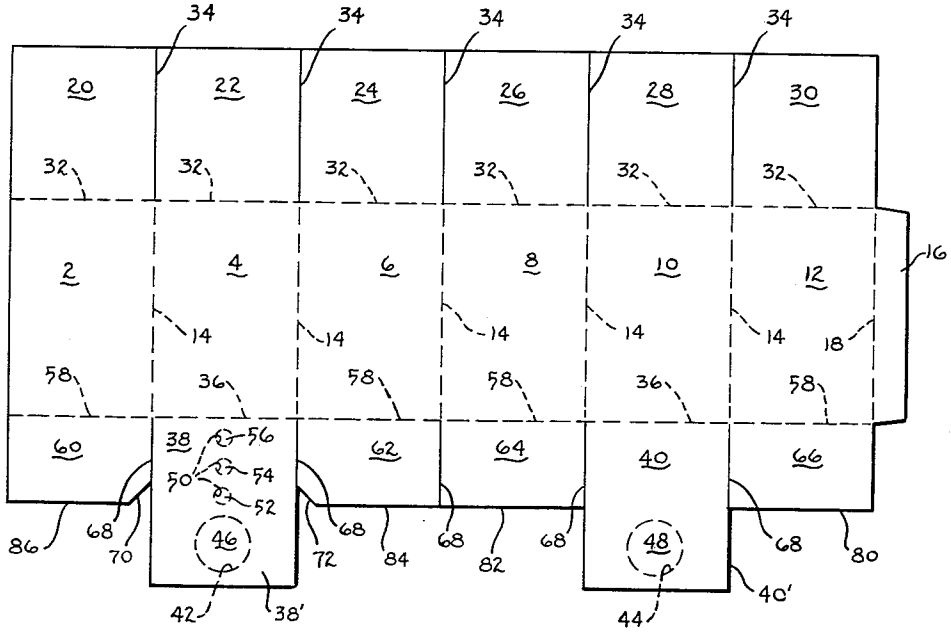


FIG. 1

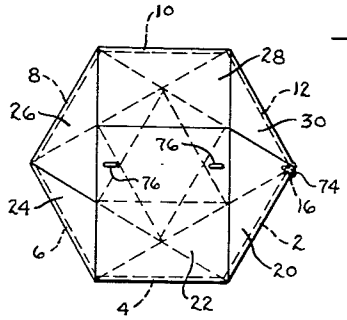


FIG. 3

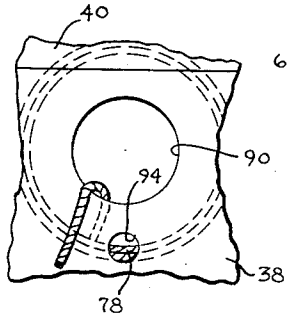


FIG. 4

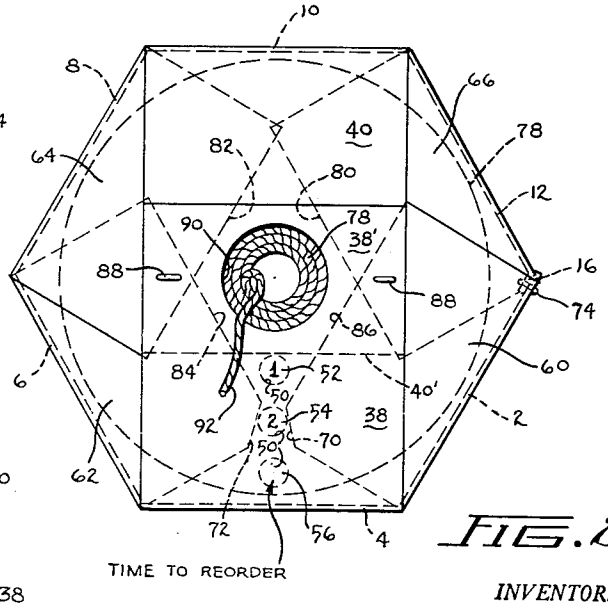


FIG. 2

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COMBINED SHIPPING CONTAINER AND DISPENSING RECEPTACLE

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3 Claims. (Cl. 229—37)

The present invention relates to a combined shipping container and dispensing receptacle particularly adapted for use with coiled filamentary material such as rope, wire and the like.

It is often desired that coils of rope, wire or the like be shipped in a covered or packaged condition in a manner similar to other commodities. In order for such packaging to be fully effectual, it must completely enclose the coil. Any openings or interstices in the package will obviously detract from the security which the package affords, for example, by permitting the entry into the package of dirt, dust or other foreign materials.

It also is often the case that when the coil has arrived at its point of use the coiled material is not used up all at once, individual lengths of the wire or rope being severed from the coil from time to time as the need arises. If the coil is removed from its shipping container, or if the shipping container must be destroyed in order to provide access to the coil, many of the advantages of the initial packaging of the coil will be lost in time, particularly where the coil, in use, must be located in places where susceptibility to dirt, damage or deterioration is very great, a not uncommon situation in many manufacturing plants. It therefore is advisable that the coil, when it has arrived at its point of use, be contained within a dispensing receptacle which permits access to the coiled material so that it can be dispensed or used, yet which protects that coiled material against adverse external influences to the maximum degree possible consistent with the availability thereof for dispensing.

While the coiled material is being dispensed, and particularly if the coil is of an appreciable size, it is important for the user thereof to know how much of the coiled material remains within the container, so that renewal of the supply thereof may be provided for in a timely manner.

Thus it will be seen that the considerations attendant upon the proper protection of coils of material from the time that they are shipped to the time that they are fully used up involves numerous antithetical conditions. The complete protection of the coil during shipping requires that the shipping container be substantially sealed, and this is, of course, antithetical to the requirement that the dispensing receptacle provide access to the coiled material. To provide a shipping container sufficiently strong and rigid to protect the coiled material under the rough handling to which it may be subjected during shipping and transhipping suggests a structure which would be essentially unsuited for use as a dispensing receptacle. In the dispensing receptacle, while access to the coiled material is required, the opening in the dispensing receptacle required therefor should be of minimal size in order to provide the greatest amount of protection to the contents while they are standing about ready for use, and this is antithetical to a structure in which the amount of material remaining in the coil is at all times readily

visible to the user thereof, so that replacement may be made when necessary and without involving any delay.

The nature, complexity and antithetical nature of these various considerations strongly suggests that a single combined shipping container and dispensing receptacle could not possible satisfy all of them in a satisfactory manner without involving an exceedingly complex structure and arrangement, thus involving not only excessive expense but also a considerable problem in erection, filling, sealing prior to shipment, and opening after receipt in order to provide access to the coiled material. Particularly is this the case when coils of appreciable size, having a diameter on the order of fifteen inches or so, are involved.

According to the present invention an extremely simple container structure has been devised, readily formable from a single sheet or blank of suitable material such as corrugated paperboard or the like, which satisfies all of the above factors in an eminently satisfactory manner. It may be stored in flat single-ply condition, it involves no parts other than the single sheet of material from which it is formed, it may be readily be erected, filled and sealed, and it may be employed as a dispensing container without destruction or damage and without impairing its protective character except to a minimal degree. In addition, means are provided by which the contents of the device when used as a dispensing receptacle may readily visually be checked, again without materially detracting from the protective character of the container.

To these ends, and to such other objects as may hereinafter appear, the present invention relates to a structure suitable for use as a combined shipping container and dispensing receptacle, particularly in conjunction with the coiled commodities as defined in the appended claims and as described in this specification, taken together with the accompanying drawings, in which:

Fig. 1 is a top plan view of the blank from which the container is adapted to be formed;

Fig. 2 is a top plan view of the erected structure formed from the blank of Fig. 1, showing it in condition for use as a dispensing receptacle and when dispensing of the contents of the container has just begun;

Fig. 3 is a bottom plan view of the erected container of Fig. 2, but on a reduced scale; and

Fig. 4 is a fragmentary top plan view of the container of Fig. 2 after an appreciable quantity of coiled material has been removed therefrom, and illustrating the manner in which the amount of coiled material remaining therein is rendered visible.

Having reference first to Fig. 1, which discloses the blank from which the combined shipping container and dispensing receptacle of the present invention may be formed, that blank is defined by a single sheet of suitable structural material, such as corrugated paperboard or the like. It includes side wall panels **2**, **4**, **6**, **8**, **10** and **12**, each connected to adjacent side wall panels by means of foldlines **14**, the extreme side wall panel **12** having a securing flap **16** secured thereto by means of foldline **18**. Bottom cover flaps **20**, **22**, **24**, **26**, **28** and **30** are secured to the lower ends of the side wall panels **2**—**12** respectively by means of foldlines **32**, each of the flaps **20**—**30** being separated from adjacent flaps by means of cuts **34**. The length of each of the bottom covering flaps **20**—**30** is here shown as being somewhat greater than half the width of the erected container, that is to say, somewhat greater than half the distance from one side wall panel **2**—**12** to that side wall panel oppositely disposed with respect thereto in the erected container.

Secured to the upper ends of the side wall panels **4** and **10** by means of foldlines **36** are top cover flaps

38 and 40 respectively, the side wall panels 4 and 10 being disposed opposite one another when the container is erected and the flaps 38 and 40 each having a length appreciably greater than half the width of the container, that is to say, appreciably greater than half the distance between the side wall panels 4 and 10 when the container is erected. Hence the ends of the flaps 38 and 40 are adapted to overlap, those overlapping flap portions being designated 38' and 40'. Score lines 42 and 44 respectively are provided in the flap portions 38' and 40', those score lines being here shown as circular and circumscribing areas 46 and 48 respectively adapted to register in whole or in part when the flap portions 38' or 40' overlap one another. One of the flaps 38 and 40, here shown as the flap 38, is provided with a series of additional circular score lines 50 encompassing areas 52 54 and 56 respectively, those areas being disposed in a line between the area 46 and the foldline 36.

Foldably secured to the upper ends of the side wall panels 2, 6, 8 and 12 respectively by means of foldlines 58 are top cover flaps 60, 62, 64 and 66, all of the top cover flaps 38, 40 and 60—66 being separated from adjacent flaps by means of cuts 68. The length of the flaps 60—66 is less than half the width of the erected container, and in the form here specifically disclosed, the corners of the flaps 60 and 62 adjacent the flap 38 are angled or beveled at 70 and 72 respectively for a purpose hereinafter to be explained.

The first step in erecting the container is to fold the side wall panels 2—12 about the foldlines 14 until the flap 16 overlaps the panel 2, the flap 16 being secured in place by means of staples 74. This defines a tubular six-sided structure open at top and bottom and capable of assuming an infinite variety of shapes. The bottom cover flaps 20—30 are then folded about their foldlines 32 so as to be substantially perpendicular to their respective side wall panels 2—12, the flaps 20—30 overlapping one another as shown in Fig. 3 so as to completely cover the bottom of the container. A pair of end wall flaps secured to opposite side wall panels, here shown as the flaps 22 and 28 secured respectively to the side wall panels 4 and 10, are positioned below the other bottom cover flaps and overlap one another to that degree necessary to give the container its desired peripheral shape, usually that of a regular polygon. The flaps 22 and 28 are then secured together by staples 76. This simple operation rigidifies the container and holds it in position for receiving the coil 78 of rope or other material which the container is adapted to hold.

After the coil 78 has been placed within the container, the top cover flaps 60, 62, 64 and 66 are then folded down perpendicular to their respective side wall panels. At will be apparent from Fig. 2, these cover flaps 60, 62, 64 and 66, because of their abbreviated length, not only do not completely cover the open top of the container adjacent certain of the peripheral edges thereof but also leave a substantially large opening at the center of the container, as defined by the intersecting lines 80, 82, 84 and 86 shown in broken lines in Fig. 2 and representing the edges of the top cover flaps in question. This opening, it will be seen, is substantially diamond-shaped and is open at its lower end as viewed in Fig. 2 by reason of the beveled corners 70 and 72 of the flaps 60 and 62 respectively.

Next the flaps 38 and 40 are bent down over the top of the container, their portions 38' and 40' overlapping, those overlapping portions being secured together by means of staples 88. The flaps 38 and 40 complete the covering of the top of the container, the areas 46 and 48 thereof defined by the score lines 42 and 44 being in registration with one another and over the triangular shaped opening defined by the lines 80—86, the areas 52—56 defined by the score lines 50 being over portions of the top of the container not covered by any flap other than the flap 38. Since the areas 46, 48 and 52—56 are all part of the flaps 38 and 40, it will be appreciated that the structure of the present invention in the condition just described is completely closed top and bottom, thus substantially sealing the contents of the container from adverse external influences. The multiplicity of cover flaps at the top and bottom of the container cooperate to provide appreciable strength even though both the top and bottom sets of cover flaps are each held in place only by a pair of staples 88 and 76 respectively. The multiplicity of flaps further provides a very tortuous path for any substances which might tend to enter the container, thus providing a maximum of protection to the contents thereof consistent with the simplicity of the structure.

After the shipping container has arrived at its point of use access to the coil 78 therein may readily be had by excising or punching the registering areas 46 and 48 from the flaps 38 and 40 respectively, thus producing a central aperture 90 through the overlapping flap portions 38' and 40', the end 92 of the coil 78 being pulled through the aperture 90 so that the material of the coil 78 may be drawn out from the container whenever and to whatever extent is desired. Since the aperture 90 is only of limited extent, and since the bulk of the coil 78 is still covered and protected by the container, this arrangement is entirely satisfactory.

As the material of the coil 78 is withdrawn from the container the inner diameter of the material remaining in the container will increase until it exceeds the diameter of the opening 90. Thereafter it is not particularly convenient to view the coil 78 and determine how much coiled material remains within the container. It is here that the areas 52, 54 and 56 play their part. When the coil 78 has disappeared from view through the aperture 90, the area 52 may be excised or punched out from the flap 38, the score line 50 facilitating this action, thus rendering the coil 78 visible through the aperture 94 in the flap 38 formed thereby. This procedure is repeated with the areas 54 and 56 of the flap 38, and when the inner surface of the coil 78 is rendered visible through the space left by excising or punching out the area 56, the user of the material knows that it is time to reorder. Consequently, as shown in Fig. 2, the area 52 may carry the numeral "1," the area 54 may carry the numeral "2," and the area 56 may have printed thereon "Time to Reorder."

It should be noted that during all the time that the structure of the present invention is being used as a dispensing receptacle, its top and bottom cover flaps remain secured in container-closing position, thus providing a maximum of security to the contents of the container both insofar as remaining within the container is concerned and with respect to protection against dust, dirt, moisture and the like. The modification of the structure from its function as a shipping container to its function as a dispensing receptacle is readily accomplished, and provides only for a minimal reduction in the protection afforded to the contents. The entire structure is simple in the extreme, but despite that simplicity is eminently adapted for its dual function as above described.

While but a single embodiment of the present invention has been here disclosed, it will be apparent that many variations may be made in the details thereof without departing from the spirit of the invention as defined in the following claims.

I claim:

1. A combined shipping container and dispensing receptacle comprising a plurality of side walls, means connected to said side walls for covering the bottom of said container, and flaps secured to the upper edges of said side walls and extending substantially perpendicular thereto, two opposing flaps having lengths greater than half the distance between the side walls to which they are respectively attached so as to overlap one another

when folded perpendicular to their respective side walls, said last mentioned flaps having scorelines in their portions adapted to overlap which circumscribe areas adapted to be punched out from said flaps, said flaps being adapted to be secured together in overlapping condition with their respective punch-out areas at least partially in registration, the other flaps closing the remainder of the top of said container, when folded perpendicular to their respective side walls, adapted to be positioned under and in engagement with said two opposing flaps, and having size and shape such as, when thus folded, to leave open the space beneath the registering portions of said punch-out areas, said flaps collectively defining a flat cover completely closing the top of said container.

2. A combined shipping container and dispensing receptacle comprising a plurality of side walls, a first set of flaps secured to the lower edges of said side walls, adapted to be bent substantially perpendicular to said side walls, and having lengths such as when thus bent, to overlap one another and cover the bottom of said container, the outermost of said flaps being adapted to be secured to a flap overlapped thereby, and a second set of flaps secured to the upper edges of said side walls and extending substantially perpendicular thereto, two opposing flaps of said second set having lengths greater than half the distance between the side walls to which they are respectively attached so as, when folded perpendicular to their respective side walls, to overlap one another, said last-mentioned flaps having score lines in their portions adapted to overlap which circumscribe areas adapted to be punched out from said flaps, said flaps being adapted to be secured together in overlapping condition with their respective punch-out areas at least partially in registration, the other flaps of said second set closing the remainder of the top of said container when folded perpendicular to their respective side walls, adapted to be positioned under and in engagement with said two opposing flaps, and having size and shape such as, when thus folded to leave open the space beneath the registering portions of said punch-out areas, said flaps collectively defining a flat cover completely closing the top of said container.

3. A combined shipping container and dispensing receptacle comprising a plurality of pairs of opposed side walls, a first set of flaps foldably secured to the lower edges of said side walls, having a length greater than half the width of said container and adapted to be bent substantially perpendicular to their respective side walls so as to overlap one another and collectively cover the bottom of said container, one pair of overlapping flaps secured to opposing side walls being adapted to be outermost and secured to one another at their overlapped portions, and a second set of flaps foldably secured to the upper edges of said side walls and adapted to be bent substantially perpendicular to their respective side walls, one pair of said second set of flaps secured to opposing side walls each having a length greater than half the width of said container, the others of said second set of flaps having a length less than half the width of said container but sufficient so that, collectively with said first mentioned pair of flaps, they will, when bent perpendicular to their respective side walls, cover the top of said container, said first mentioned pair of flaps being adapted to be outermost, to overlap one another, and to be secured to one another at their overlapping portions, said overlapping portions having at least partially registering areas defined by score lines and adapted to be punched out from said flaps when access to the contents of said container is desired, the space beneath the registering portions of said punch-out areas being unobstructed by the other flaps of said second set of flaps, all of said flaps of said second set being secured together to define a flat cover completely closing the top of said container.

References Cited in the file of this patent

UNITED STATES PATENTS

1,431,352	Abbott	Oct. 10, 1922
1,707,619	King	Apr. 2, 1929
1,915,843	Wright	June 27, 1933
1,936,227	Cook	Nov. 21, 1933
1,974,862	Cryan	Sept. 25, 1934
2,471,173	Taylor	May 24, 1949
2,674,400	Ross	Apr. 6, 1954
2,713,938	Snyder	July 26, 1955

FOREIGN PATENTS

404,114	Great Britain	Jan. 11, 1934