



US 20070295847A1

(19) **United States**(12) **Patent Application Publication****Weck et al.**(10) **Pub. No.: US 2007/0295847 A1**(43) **Pub. Date: Dec. 27, 2007**

(54) **A CONTAINER FOR A ROLL OF A WIRE
LIKE COMPONENT AND THE
COMBINATION OF SUCH A CONTAINER
AND COMPONENT**

Publication Classification

(51) **Int. Cl.**
B65H 75/00 (2006.01)

(52) **U.S. Cl.** **242/170; 242/588.4**

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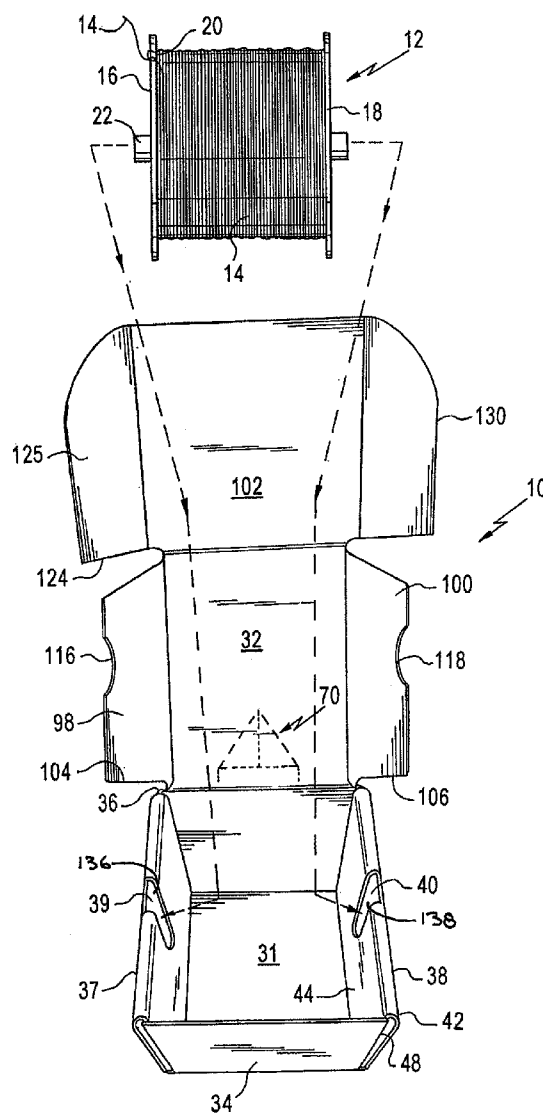
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(21) **Appl. No.:** **11/425,747**

(22) **Filed:** **Jun. 22, 2006**

(57) **ABSTRACT**

A roll of wire is captured in a cardboard container so the roll is rotatable in the container about a rotation axis of the roll. The container has opposite sidewalls with aligned slots receiving ends of a shaft about which a spool carrying the roll turns. Each side wall includes three panels in different parallel planes; two of these panels include slots with aligned shoulders supporting the shaft. The container has a slot for enabling the wire to be paid from the roll as the roll turns about its rotation axis and a slit having edges for holding the wire in place.



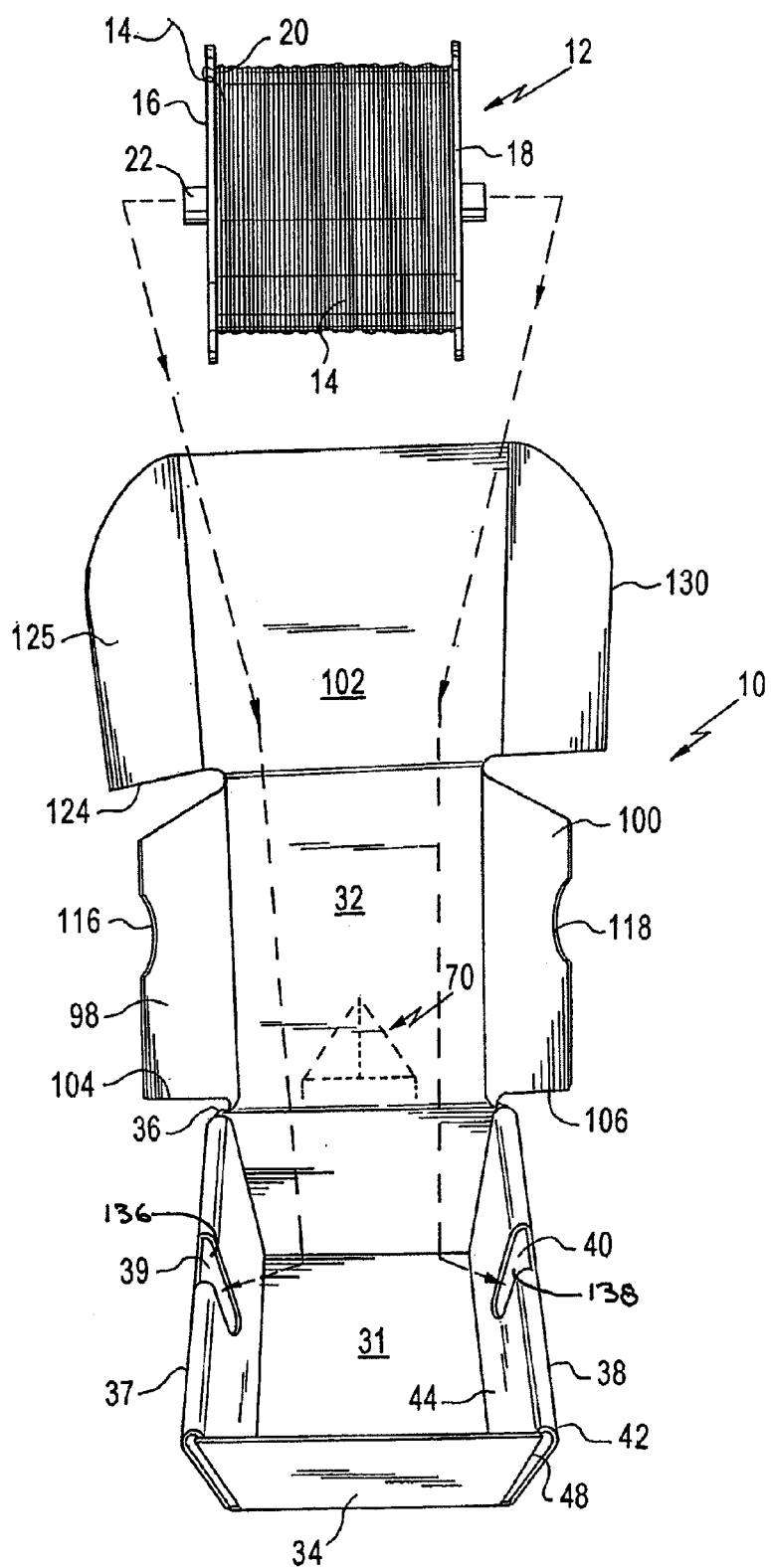


FIG. 1

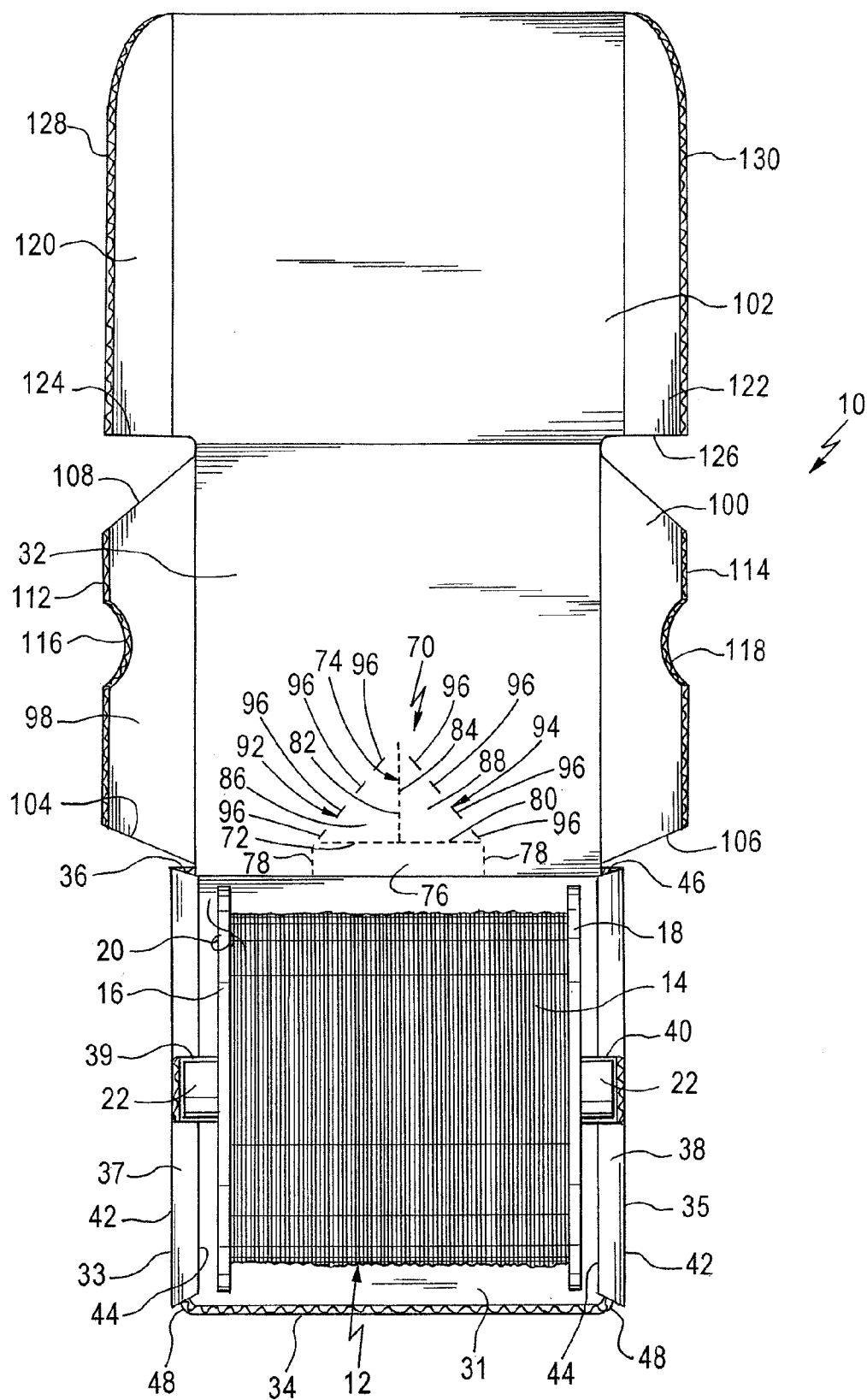


FIG. 2

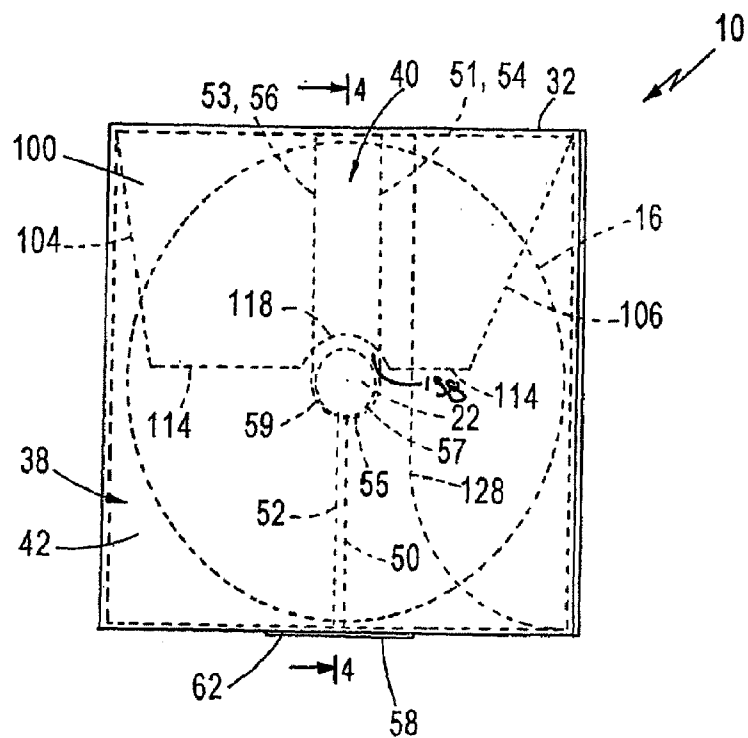


FIG. 3

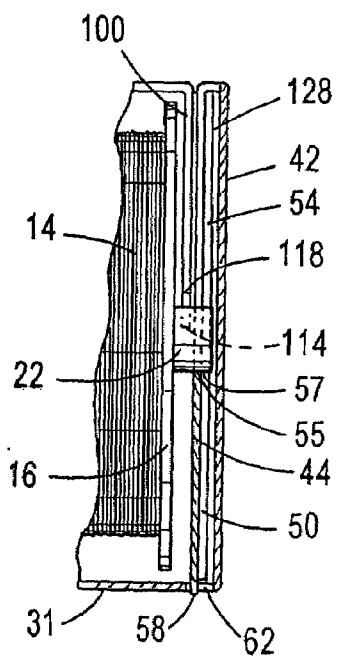


FIG. 4

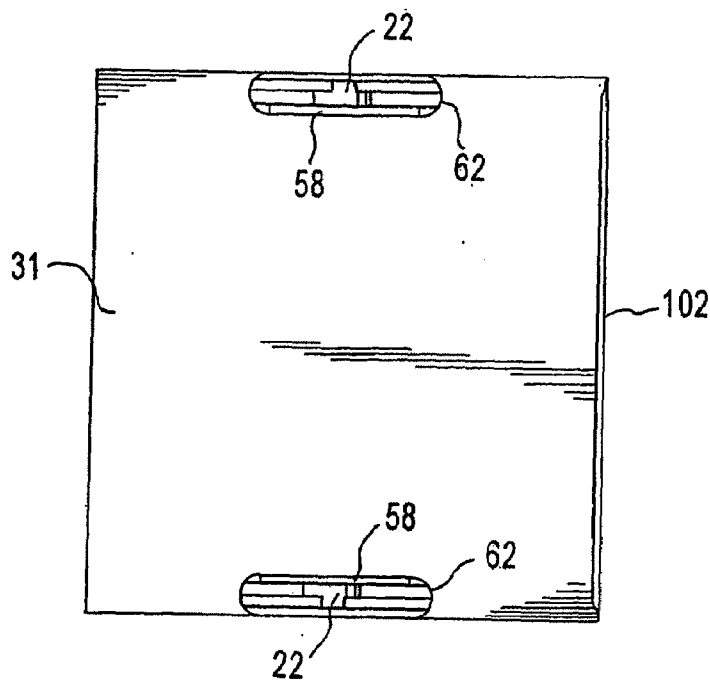


FIG. 5

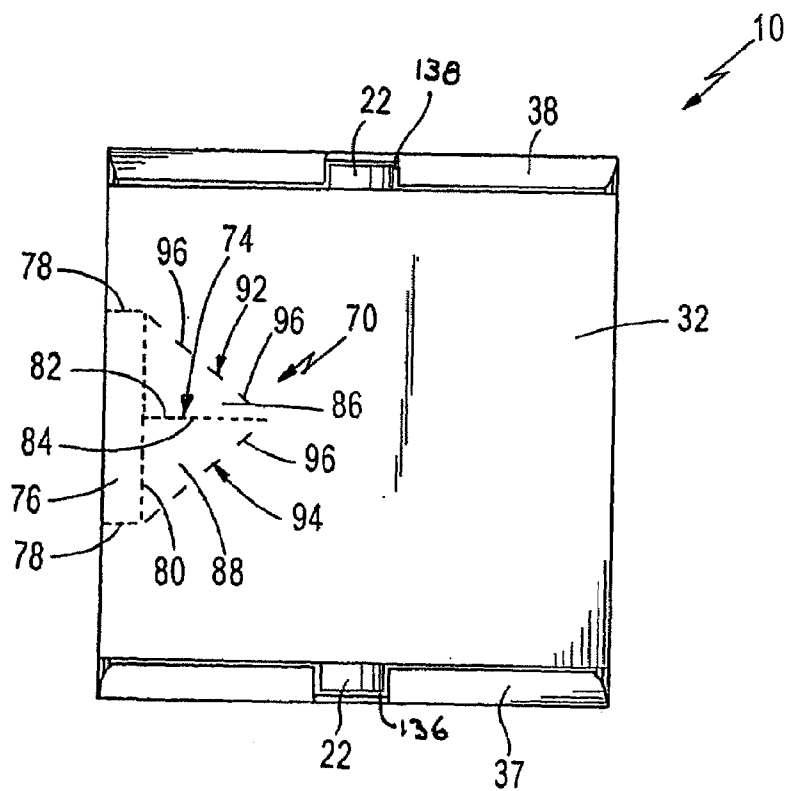


FIG. 6

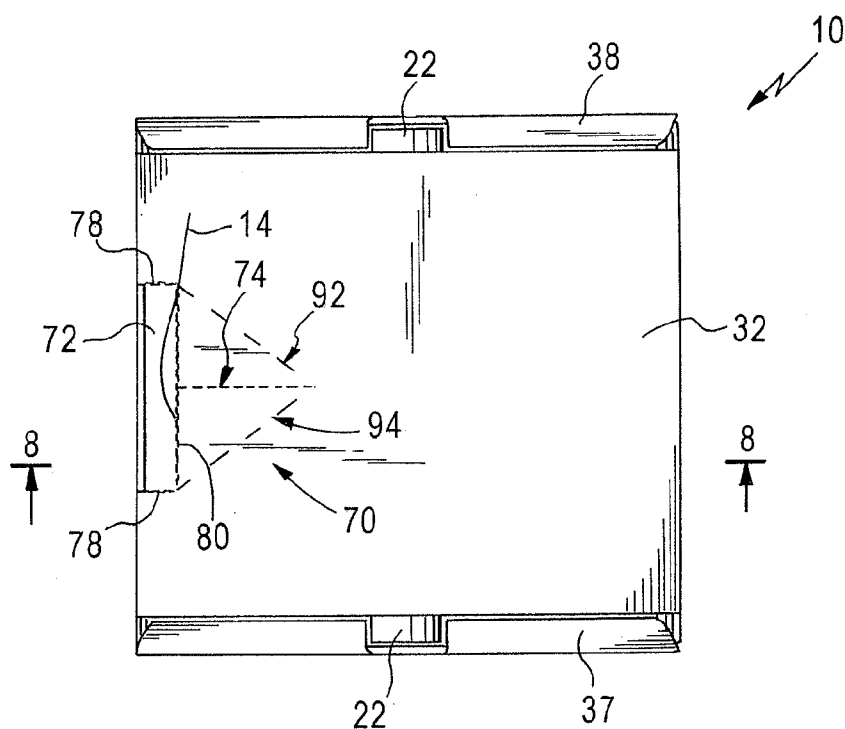


FIG. 7

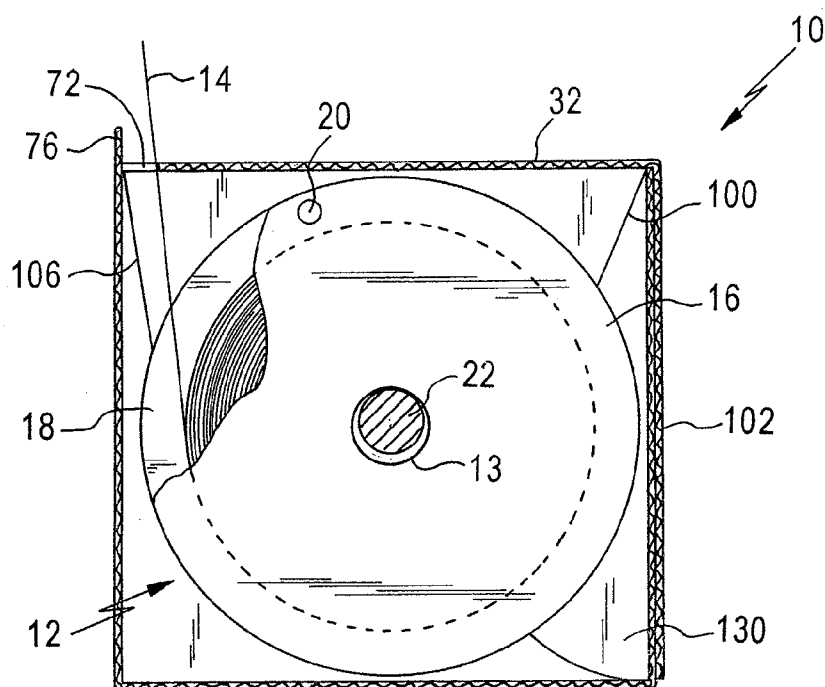


FIG. 8

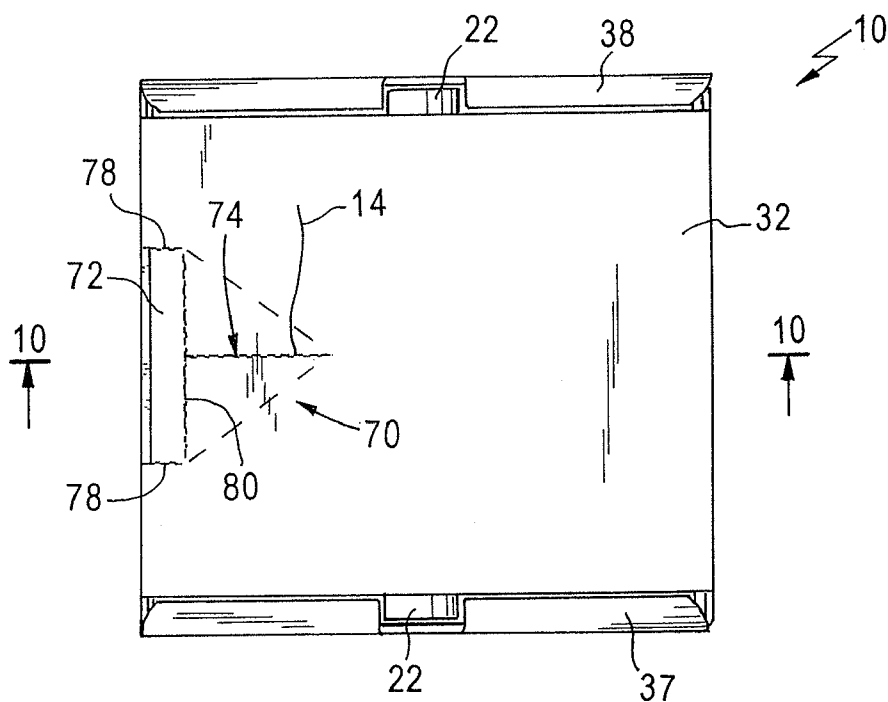


FIG. 9

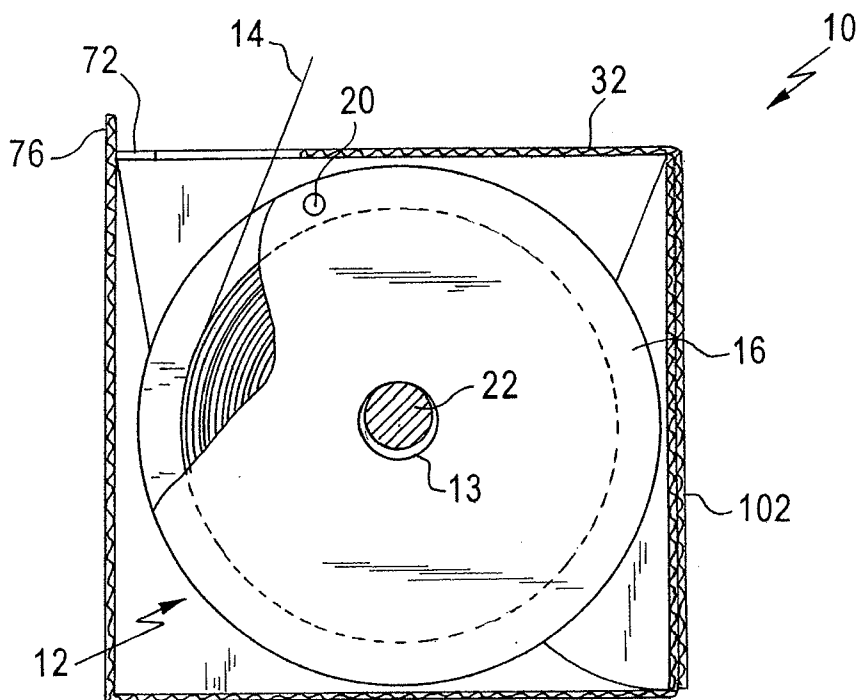


FIG. 10

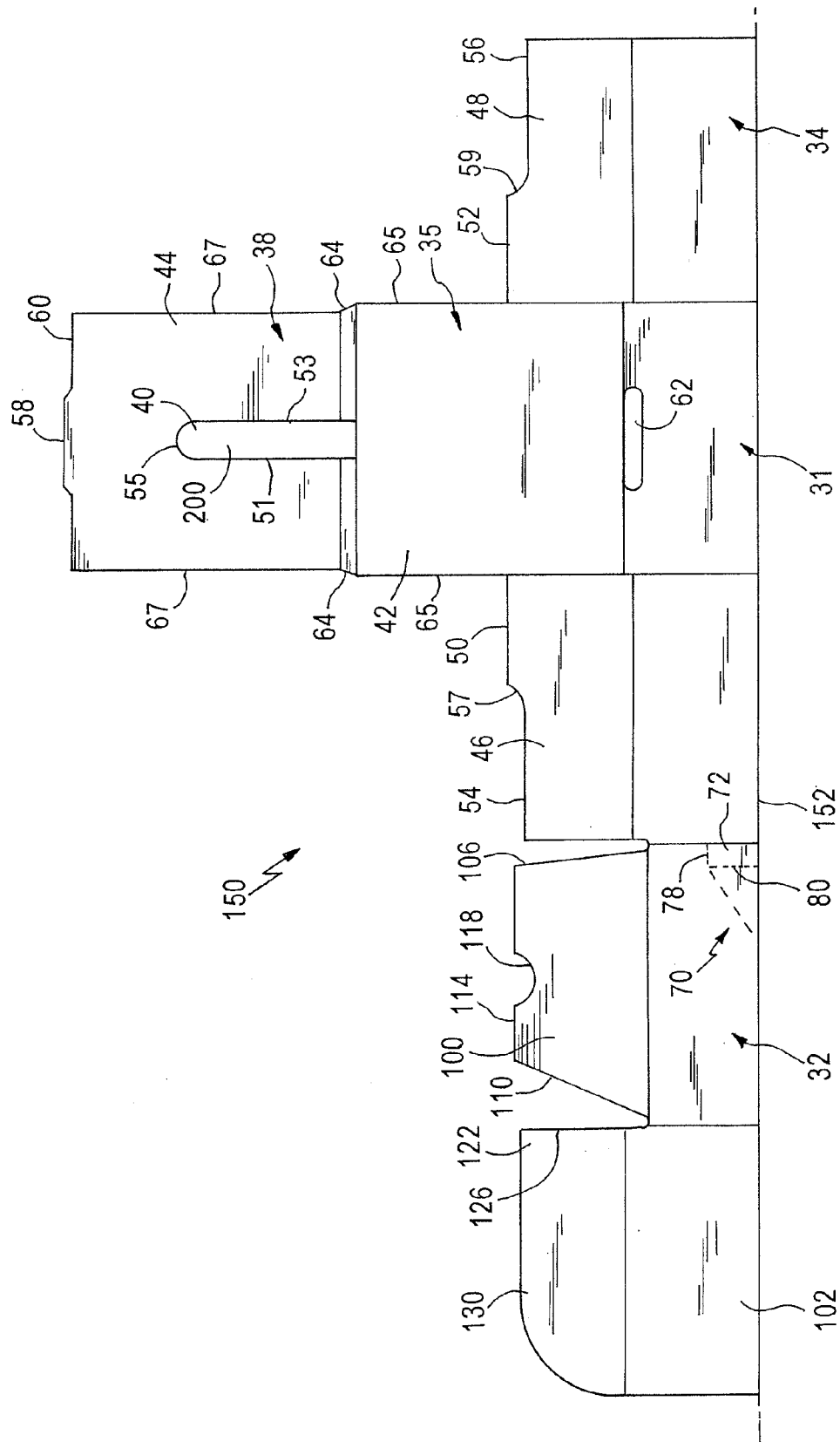


FIG. 11A

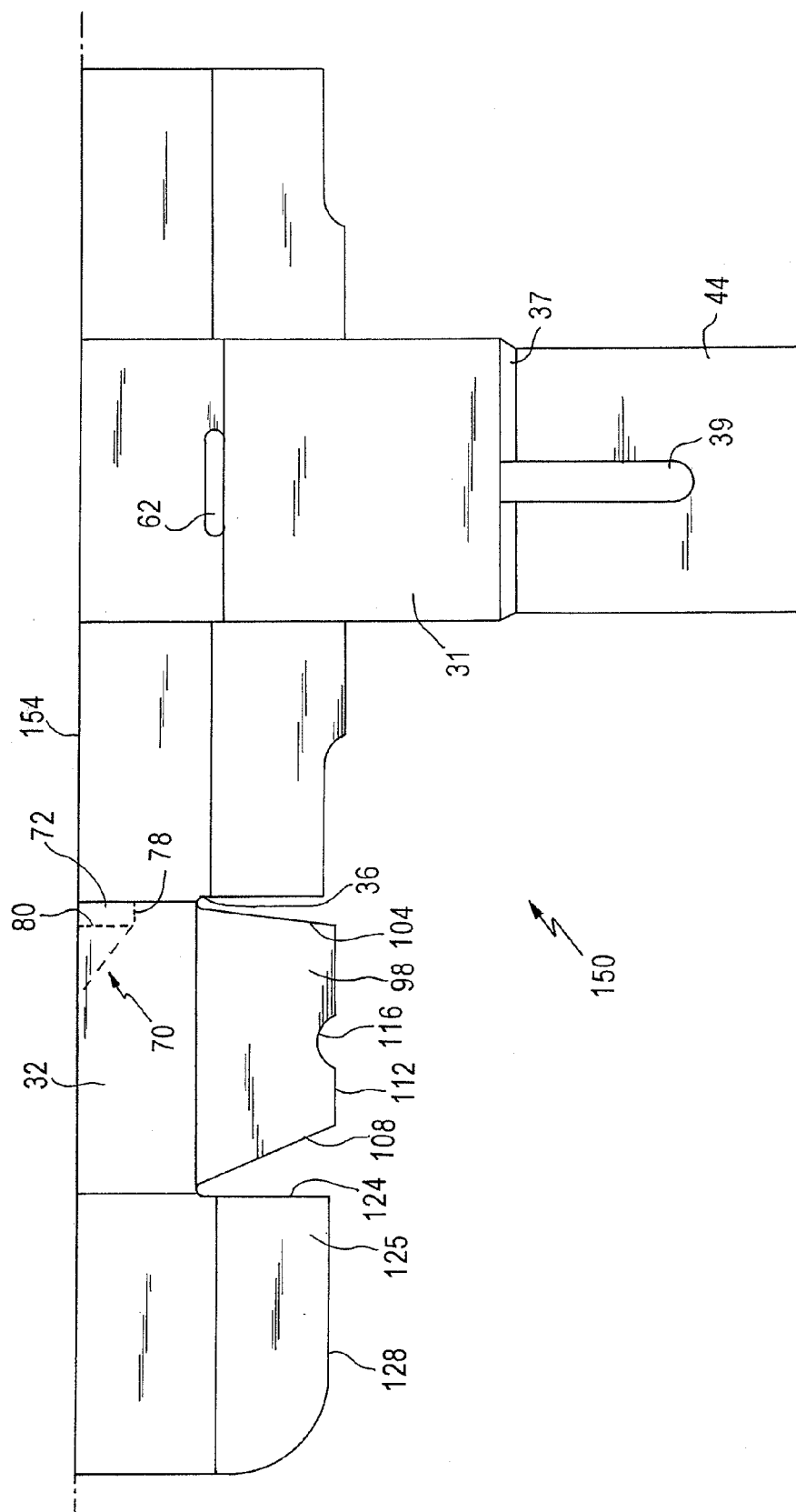


FIG. 11B

**A CONTAINER FOR A ROLL OF A WIRE
LIKE COMPONENT AND THE
COMBINATION OF SUCH A CONTAINER
AND COMPONENT**

RELATED APPLICATIONS

[0001] The present application is based on, and claims priority from, application Ser. No. 10/641,116, filed Aug. 15, 2003, the disclosure of which is hereby incorporated by reference herein in its entirety.

FIELD OF INVENTION

[0002] The present invention relates generally to a container for capturing a roll of a wire like component, and more particularly to (1) such a container that includes a pair of substantially parallel sides, each including a pair of panels having aligned slots, having shoulders forming a ledge for holding a shaft carrying a spool including the roll, (2) the combination of such a container and a roll of a wire like component, and (3) a cardboard blank from which the container is formed.

BACKGROUND ART

[0003] Wire and wire like components, such as thread, string and thin tubing, are typically stored as rolls on spools having an axis of rotation that is approximately the same as the axis of rotation of the roll. Spools for carrying rolls of wire usually include a pair of circular disks carried at opposite ends of a tubular center portion through which a shaft extends. The shaft is carried by a pair of arms designed to be fixedly mounted on a wall of a point-of-sale facility or a work area where the wire is used. A substantial amount of valuable space is required at the point-of-sale facility to store such spools. Frequently, the spools are not ideally mounted on the wall of the work area where the wire or wire like component is used. Instead, such spools are likely to be strewn in the work area, resulting in annoying unraveling of the wire or wire like component from the roll and spool. The typical prior art arrangement is relatively expensive because the spools and arms are usually made of metal to support the weight of the roll.

[0004] It is, accordingly, an object of the present invention to provide a new and improved relatively inexpensive container for rolls of wire like components and the combination of such a container and roll of a wire like component.

[0005] Another object is to provide a new and improved relatively inexpensive container for rolls of wire like components, wherein the container is arranged to enable the component to be easily paid from the roll and/or be stored for easy access, and the combination of such a container and roll of a wire like component.

SUMMARY OF THE INVENTION

[0006] An aspect of the invention relates to a container for capturing a roll of wire like component. The container comprises an arrangement for enabling the roll to rotate in the container about an axis that is substantially the same as the axis of the roll. The arrangement includes a pair of substantially parallel sides each including two interior and one exterior panels in substantially parallel plans. The interior panels have aligned slots for receiving and holding a shaft for carrying a spool for the wire like component.

[0007] Preferably, one of the interior and the exterior panels on each side are connected together at a fold line at the top edges thereof. The fold line bears against the top edge of the other interior panel.

[0008] In the preferred embodiment, each of the second interior panels includes a pair of flaps each having lower portions in close proximity to each other and upper portions spaced from each other to form the slots of the second interior panels. The flaps preferably extend from exterior walls of the container extending at right angles to the sides including the slotted panels. The flaps are folded between the first interior panel and the exterior panel.

[0009] The container also preferably includes a top face having (1) one edge hinged to a wall of the container, and (2) a pair of flaps adapted to fit into the container inside of the first interior panels. Each of the top face flaps extends into the container to a distance slightly less than the lengths of the slots and includes a cutout aligned with the slots so that a portion of the shaft passes through the cutout. The cutout thereby helps to stabilize the position of the shaft and prevent rubbing of the spool against the top face.

[0010] A further aspect of the invention concerns a cardboard blank for forming the container for capturing, receiving and holding the roll.

[0011] The above and still further objects, features and advantages of the present invention will become apparent upon consideration of the following detailed description of a specific embodiment thereof, especially when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is an exploded, perspective, somewhat schematic view of a spool carrying a roll of wire and a container for the spool;

[0013] FIG. 2 is a top view of the container and spool illustrated in FIG. 1, with the top face of the container folded back;

[0014] FIG. 3 is a side view of the container of FIG. 1, with interior portions of the container, as well as the spool, shown by dotted lines;

[0015] FIG. 4 is a cross-sectional view (taken through the lines 4-4 of FIG. 3) of one side wall of the container, without the shaft of FIG. 3;

[0016] FIG. 5 is a bottom view of the container of FIG. 1;

[0017] FIG. 6 is a front view of the top face of the container of FIG. 1 while all of the wire remains in the container;

[0018] FIG. 7 is a front view of the top face of the container of FIG. 1 while the wire is being paid from the roll;

[0019] FIG. 8 is a side sectional view (taken through the lines 8-8, FIG. 7) of the container, spool, roll and wire while the wire is being paid from the roll;

[0020] FIG. 9 is a front view of the top face of the container of FIG. 1 while the wire is held in place by a slit on the container top face;

[0021] FIG. 10 is a side sectional view (taken through the lines 10-10, FIG. 9) of the container, spool, roll and wire while the wire is held in place by the slit; and

[0022] FIGS. 11 A and B, together, comprise a plan view of a blank from which the container of FIGS. 1-10 is formed.

DETAILED DESCRIPTION OF THE DRAWINGS

[0023] Reference is now made to FIGS. 1-9 wherein cardboard container 10 is illustrated as carrying spool 12 of a roll of picture wire 14. Spool 12 includes end faces 16 and 18, formed as circular discs, preferably made of plastic, and a central tube 13 on which the roll of picture wire 14 is wound between the end faces. End face 16 includes, in proximity to its periphery, opening 20 through which the end of wire 14 is threaded while container 10 and its contents are in transit and prior to any of the wire being paid from spool 12. Wire 14 is held in place while container 10 and its contents are in transit and prior to any of the wire being paid from spool 12 by tying the wire between opening 20 and the periphery of disk 16. Wooden shaft 22, having a circular cross-section and a length slightly in excess of the separation between end faces 16 and 18, is located in central tube 13 of spool 12. Spool 12 and its contents, as well as shaft 22, are captured in container 10 so that the shaft is rotatable about its longitudinal axis, which is approximately coincident with the common longitudinal axis of spool 12 and the roll of picture wire 14.

[0024] Cardboard container 10 is formed as a box, i.e., right parallelepiped, having six square exterior faces (i.e. sides) 31-36, each having substantially the same dimensions. Faces 31 and 32 are respectively considered the base and top of container 10, while faces 33-36 are the sides of the container. Opposed faces 33 and 35 respectively form part of sidewalls 37 and 38. Sidewalls 37 and 38 respectively include aligned slots 39 and 40 having sufficient width and length for receiving and carrying shaft 22 in such a manner as to enable spool 12 and the roll of wire 14 to be captured and turn in container 10. Slots 39 and 40 extend lengthwise in a direction at right angles to faces 31 and 32. Each of slots 39 and 40 is open at top face 32 and has a length that is slightly more than one-half of the length of sidewalls 37 and 38. Slots 39 and 40 thus enable spool 12 to (1) fit and be dropped into container 10, with the edges of the spool displaced from top and bottom faces 31 and 32, and (2) turn about the axis of rotation of shaft 22 without contacting the top or bottom faces.

[0025] Sidewalls 37 and 38 are constructed to have sufficient strength to hold spool 12 and wire 14 (typically having a weight of about five pounds). Because each of sidewalls 37 and 38 is constructed substantially the same, only sidewall 38 is described.

[0026] Sidewall 38 is formed by a pair of folded panels 42 and 44 having top edges connected to each other and that extend in parallel planes. Sidewall 38 is also formed by panels 46 and 48 that are located between panels 42 and 44 and fold inwardly from opposed faces 34 and 36. Thus, sidewall 38 can be considered as including an interior portion comprising panel 44, an exterior portion comprising panel 42 and an intermediate portion comprising panels 46 and 48. Panels 42 and 44 are in substantially parallel planes, while panels 46 and 48 are substantially co-planar in a plane substantially parallel to the planes of panels 42 and 44.

[0027] A first portion of slot 40 is in the plane of panel 44, while a second portion of slot 40 is in the plane of panels 46 and 48. The first and second portions of slot 40 are aligned and have substantially the same shape and size, i.e., vertically extending elongated parallel edges and a semicircular

bottom edge. The semicircle forming the bottom edge has substantially the same diameter as the distance separating the parallel edges. Thus, panel 44 includes elongated slot 200 (FIG. 11A) that forms the first portion of slot 40 in the plane of panel 44. Slot 200 has the same dimensions as slot 40 and includes (1) parallel elongated vertically extending edges 51 and 53, (2) semicircular bottom edges having a diameter equal to the distance between edges 51 and 53, and (3) a center approximately coincident with the axis of shaft 22 to facilitate turning of the shaft.

[0028] Panels 46 and 48, together, are shaped to form the second portion of slot 40 as a result of panels 46 and 48 respectfully having (1) equal length mating and almost abutting vertically extending straight lower edge portions 50 and 52 that extend upwardly from base 31, (2) vertically extending spaced, equal length upper edge portions 54 and 56, and (3) arcuate transition edge portions 57 and 59. Each of edge portions 57 and 59 is shaped as a sector of a quarter of a circle having a diameter equal to the distance between edge portions 54 and 56 and a center approximately coincident with the axis of shaft 22 to facilitate turning of the shaft. The ends of the upper segments of arcuate portions 57 and 59 are tangential with the lower ends of edge portions 54 and 56, while the lower ends of arcuate portions 57 and 59 are tangential and extend horizontally. Edge portions 54 and 56 are (1) equispaced from edge portions 50 and 52 and (2) spaced from each other by approximately the same distance as the width of slots 39 and 40.

[0029] Hence, each of slots 39 and 40, at its base, forms a shoulder (i.e., ledge) that is two panels wide and supports one end of shaft 22 and the load the shaft carries. A fold line defined by the intersection of panels 42 and 44 at the top edges thereof bears on the top edges of panels 46 and 48 when shaft 22 bears against the ledges as the bottoms of slots 39 and 44. Thus, the top edges of panels 46 and 48, in effect, provide additional support for shaft 22.

[0030] To hold sidewall 38 in place, tab 58 extends downwardly from the central portion of edge 60 of panel 44 to fit into slot 62 in base 31. To enable panel 44 to fit between the interior faces of sidewalls 34 and 36, panel 44 has a width slightly less than panel 42, by virtue of sloping sides 64 that connect the vertical edges 65 and 67 of panels 42 and 44 together.

[0031] Top face 32 of container 10, that lies in a plane parallel to the axes of rotation of shaft 22 and the roll of wire 14, includes an opening arrangement 70 comprising slot 72 and straight slit 74. Slot 72 facilitates paying of wire 14 from spool 12, while slit 74 holds wire 14 in place after the end of the wire has been initially removed from opening 20 of spool 12 and between occurrences of paying the wire from the spool.

[0032] Slot 72 is centrally located on an edge of top face 32 and extends longitudinally in the same direction as the axes of rotation of shaft 22 and the roll of wire 14. Prior to wire 14 being paid from spool 12, the wire is positioned so that it is located in slot 72. As wire 14 is paid from spool 12 as result of the wire being grasped and pulled from outside of container 10, the wire moves back and forth between spool end faces 16 and 18. Because slot 72 extends in the same direction as the back and forth movement of wire 14 and the slot has sufficient length relative to the spacing between end faces 16 and 18, the wire is easily paid from spool 12 and the roll on which the wire is wound.

[0033] Slot 72 is formed by pulling tab 76 from top face 32. Tab 76 extends from and is integrally mounted on container 10 at the container edge formed by the intersection of top face 32 and side face 36. Tab 76 has parallel short straight edges 78 that extend along top face 32 toward shaft 22, from the intersection of faces 32 and 36. Edges 78 are at right angles to the container edge formed by the intersection of faces 32 and 36. Tab 76 includes elongated straight edge 80 that intersects and is at right angles to edges 78. In one actually constructed container for accommodating a spool having an axial length of approximately four inches (between four inch diameter sidewalls 16 and 18) tab 76 has a length of approximately two inches and a width of approximately $\frac{3}{8}$ of an inch.

[0034] Slit 74 extends in a direction at right angles to, and is centered on, edge 80 so the slit extends perpendicularly to the axes of rotation of shaft 22 and the roll of wire 14. In the actually constructed container, slit 74 has a length of approximately $1\frac{1}{4}$ inches. Slit 74 is formed by mating, abutting edges 82 and 84 of top face 32. Edges 82 and 84 are respectively the sides of tabs 86 and 88, each formed as a right triangle having a base formed by one-half of edge 80 of slot 72. Triangular tabs 86 and 88 are respectively attached to top face 32 by hypotenuses 92 and 94, formed as spaced elongated indentations 96 in the top face 32 to facilitate movement of the tabs as a result of the end of wire 14 being wedged in slot 74 between edges 82 and 84. In the actually constructed container, each of the elongated indentations 96 has a length of approximately $\frac{3}{8}$ of an inch and the proximate ends of adjacent indentations are spaced from each other by approximately $\frac{3}{8}$ of an inch. To stabilize tabs 86 and 88 relative to the remainder of top face 32, indentations 96 are arranged so all segments of the indentations are spaced from edge 80 and slit 74.

[0035] Slit 74, edges 78 and 80 and indentations 96 are formed on top face 32 by inserting a single die into the top face. The die causes score lines to be formed in face 32 (1) along each of slit 74, edges 78 and 80, and (2) at indentations 96. The score lines for slit 74, edges 78 and 80 are slightly deeper than the score lines for indentations 96, to facilitate pulling of tab 72 and insertion of wire 14 into slit 74, as well as to provide sufficient gripping forces between tabs 86 and 88 and the remainder of top face 32, along hypotenuses 92 and 94.

[0036] Top face 32 is hinged to sidewall 36 at the intersection of the edges of the top face and the sidewall, i.e., at the same intersection where tab 76 is connected to the remainder of container 10. When a user pivots top face 32 about the hinge between the top face and sidewall 36, container 10 is opened to expose spool 12 and the tops of slots 39 and 40. Opening of container 10 enables the user to remove spool 12 from slots 39 and 40 and thereby free the end of wire 14 from opening 20 in sidewall 16. After freeing the end of wire from opening 20, the user places spool 12 in container 10 by inserting shaft 22 into slots 39 and 40, while the shaft is carrying the spool.

[0037] Prior to closing top face 32, the user pushes tab 76 from the interior wall of top face 32 so edges 78 and 80 are separated from the remainder of container 10. This action causes tab 76 to hinge outwardly from container 10, about the intersection between faces 32 and 36, to form slot 72. The user then inserts the free end of wire 14 through slot 72 and pulls on the free end of the wire from outside container 10 (as illustrated in FIGS. 6 and 7), resulting in spool 12, the

roll of wire 14 and shaft 22 turning in container 10. The user then closes top face 32 and presses down against abutting edges 82 and 84 to form slit 74.

[0038] The user then tugs on wire 14 to wedge the wire in slit 74 so the free end of the wire extends outwardly from container 10 (as illustrated in FIGS. 8 and 9). Hence, wire 14 remains in place, does not unravel while stored in container 10 and is easily accessible to a user when the user decides to pay the wire from the container. Alternatively, the user can press down against abutting edges 82 and 84 to form slit 74 and then form slot 72 by pulling tab 76 upwardly from top face 32. In either case, the user wedges wire 14 in slit 74 during intervals between paying of the wire from container 10.

[0039] Panels 98, 100 and 102 are hinged with the three edges of top face 32 that are not hinged to wall 36. Panels 98 and 100, hinged with opposite edges of top face 32, respectively include edges 104 and 106 in proximity to walls 37 and 38; edges 104 and 106 extend at right angles to walls 37 and 38 and the folded edges between top face 32 and panels 98 and 100. Edges 108 and 110 of panels 98 and 100 that are opposite to edges 104 and 106 taper toward edges 104 and 106 from the folded edges between top face 32 and panel 102 to facilitate insertion of panels 98 and 100, as well as panel 102, into the interior of container 10. Edges 104 and 106 are sufficiently long that the bottom edges 112 and 114 of panels 98 and 100 extend vertically, approximately to the centerline of shaft 22 when top face 32 closes container 10. Bottom edges 112 and 114 respectively include semicircular cutouts 116 and 118, each having a center somewhat below the axis of shaft 22. The radii of cutouts 116 and 118 are (1) slightly in excess of the radius of shaft 22 and (2) the distance separating the parallel elongated edges 51 and 53 of slot 400. When panel 32 closes container 10, panels 98 and 100 abut panels 44 and cutouts 116 and 118 are aligned with opposite ends of shaft 22 to assist in holding the shaft in place without contacting the shaft while the shaft turns during payout of wire 14.

[0040] Panel 102, hinged with the edge of top face 32 that is parallel to the edge formed by the intersection of faces 32 and 36, includes flaps 120 and 122. Flaps 120 and 122 respectively include edges 124 and 126 that are parallel to edges 104 and 106 of panels 98 and 100. Edges 124 and 126 have lengths such that when top face 32 closes container 10 (resulting in the interior wall of panel 102 abutting the outer wall of face 34) edges 128 and 130 of flaps 120 and 122 are respectively in close proximity to the edges of slots 39 and 40 closest to face 34. Edges 124 and 126 extend inwardly of fold lines 132 and 134 between panel 102 and flaps 120 and 122, to form an arcuate intersection with edges 108 and 110, and thereby facilitate insertion of flaps 120 and 122 into slots 136 and 138 of sidewalls 39 and 40. Insertion and removal of flaps 120 and 122 into slots 136 and 138 is also facilitated by providing arcs at the edges 128 and 130 of the portions of flaps 120 and 122 which are opposite to edges 124 and 126.

[0041] Container 10 is formed from a cardboard blank 150, as illustrated in FIGS. 11A and 11B, wherein bottom line 152 of FIG. 11A and top line 154 of FIG. 11B are in actuality coincident, such that the structures in FIGS. 11A and 11B are mirror images of each other relative to lines 152 and 154. Blank 150 includes fold lines forming the various

previously described edges of container **10**, as well as the previously described score lines, slots, cutouts and other edges.

[0042] While there has been described and illustrated a specific embodiment of the invention, it will be clear that variations in the details of the embodiment specifically illustrated and described may be made without departing from the true spirit and scope of the invention as defined in the appended claims. The example, while the invention has been specifically described in connection with metal picture hanging wire, it is to be understood that many of the principles of the invention are applicable to other thin elongated wire-like components, such as string, thread and tubing.

1-30. (canceled)

31. A container for capturing a roll of wirelike component, the container comprising an arrangement for enabling the roll to rotate in the container about an axis that is substantially the same as the roll rotation axis, the container being arranged to have an opening arrangement for enabling the component to be paid from the roll to a region outside the container and to be held in place by the opening arrangement for enabling an end of the component to extend from the container, the opening arrangement including a slot for enabling the wirelike component to be paid from the roll as the roll turns about its axis of rotation, the container including a pair of substantially parallel side walls each including first and second panels extending in substantially parallel planes, the first and second panels on each side having aligned elongated slots for receiving and holding a shaft for carrying a spool for the wire like component.

32. The container of claim **31** wherein each of said side walls includes a third panel extending in a plane substantially parallel to the planes of the first and second panels, the first and third panels having joined top edges for bearing against a top edge of the second panel in response to bearing the shaft against shoulders at the bottom of the slots.

33. The container of claim **32** wherein each of said second panels includes a pair of flaps having lower portions in close proximity to each other and upper portions spaced from each other to form the slots of the second panels.

34. The container of claim **33** wherein the container includes a top face having one edge hinged to a wall of the container, the top face including a pair of flaps adapted to fit into the container in planes parallel to the planes of the first, second and third panels, each of the flaps of the top face extending into the container for a distance slightly less than the lengths of the slots and including a cutout aligned with the slots, for enabling a portion of the shaft pass through the cutout.

35. (canceled)

36. In combination, a roll of a wire like component and a cardboard container capturing the roll, an arrangement for enabling the roll to rotate in the container about an axis that is substantially the same as the roll rotation axis, the arrangement including a pair of substantially parallel sides each including first and second panels in substantially parallel planes, each of the panels having an aligned elongated slot receiving and holding a shaft carrying a spool including the roll, so that the shaft is supported by a ledge formed at bottom edges of the slots in the first and second panels.

37. The combination of claim **36**, wherein each of the sides includes a third panel extending in a plane parallel to the planes of the first and second panels, the first and third

panels being connected together at adjacent edges thereof, the second panel being located between the first and third panels.

38. The combination of claim **37**, wherein the top edges of the first and third panels of each side bear against top edges of the second panel of the side.

39. The combination of claim **38**; wherein each of said second panels includes a pair of flaps having lower portions in close proximity to each other, upper portions spaced from each other to form the slots of the second panels and a transition between each upper and lower portion, each of the transitions having an edge included in the ledge.

40. The combination of claim **39**, wherein each of the transitions is shaped as a quarter of a circle having a diameter substantially equal to the distance between straight parallel edges of the slot and a center approximately coincident with the shaft axis.

41. The combination of claim **39**, wherein the slot in each of the first panels has a pair of straight parallel elongated spaced edges and a semicircular edge connecting the parallel elongated spaced edges together, the semicircular edge being a sector of a circle having a diameter substantially equal to the distance between the straight parallel elongate edges and a center approximately coincident with the shaft axis.

42. The combination of claim **39**, wherein the slot in each of the first panels has a pair of straight parallel elongated spaced edges and a semicircular edge connecting the parallel elongated spaced edges together, the semicircular edge being a sector of a circle having a diameter substantially equal to the distance between the straight parallel elongate edges and a center approximately coincident with the shaft axis.

43. The combination of claim **36** wherein the container includes a top face having one edge hinged to a wall of the container, the top face including a pair of flaps adapted to fit into the container in planes parallel to the first and second panels, each of the flaps of the top face extending into the container to a distance slightly less than the lengths of the slots and including a cutout aligned with the slots so that a portion of the shaft passes through the cutout.

44. The combination of **43**, wherein the cut-out has an edge that is a sector of a circle having a center approximately coincident and a diameter such that (a) the shaft does not normally contact the cut-out during paying out of the wire like component and (b) if the shaft undergoes abnormal movements the shaft contacts the cutout and the cutout prevents contact of the roll with a top face of the container that extends in a plane parallel to the shaft axis.

45. The combination of claim **44**, wherein the top face includes an opening arrangement for enabling the component to be paid from the roll to a region outside the container and to be held in place by the opening arrangement for enabling an end of the component to extend from the container.

46. A container for capturing a roll of a wire like component, the container comprising an arrangement for enabling the roll to rotate in the container about an axis that is approximately the same as the rotation axis of the roll, the arrangement including a pair of substantially parallel sides each including first and second panels in substantially parallel planes, each of the panels having an aligned elongated slot for receiving and holding a shaft for carrying a spool

including the roll for enabling the shaft to be supported by a ledge formed at bottom edges of the slots in the first and second panels.

47. The container of claim **46**, wherein each of the sides includes a third panel extending in a plane parallel to the planes of the first and second panels, the first and third panels being connected together at adjacent edges thereof, the second panel being located between the first and third panels.

48. The container of claim **47**, wherein the top edges of the first and third panels of each side bear against top edges of the second panel of the side.

49. The container of claim **48** wherein each of said second panels includes a pair of flaps having lower portions in close proximity to each other, upper portions spaced from each other to form the slots of the second panels and a transition between each upper and lower portion, each of the transitions having an edge included in the ledge.

50. The container of claim **49**, wherein each of the transitions is shaped as a quarter of a circle having a diameter substantially equal to the distance between straight parallel edges of the slot and a center approximately coincident with the shaft axis.

51. The container of claim **49**, wherein the slot in each of the first panels has a pair of straight parallel elongated spaced edges and a semicircular edge connecting the parallel elongated spaced edges together, the semicircular edge having a sector of a circle having a diameter substantially equal to the distance between the straight parallel elongate edges and a center approximately coincident on the shaft axis.

52. The container of claim **46**, wherein the slot in each of the first panels has a pair of straight parallel elongated spaced edges and a semicircular edge connecting the parallel elongated spaced edges together, the semicircular edge being a sector of a circle having a diameter substantially equal to the distance between the straight parallel elongated edges and a center approximately coincident on the shaft axis.

53. The container of claim **46** wherein the container includes a top face having one edge hinged to a wall of the

container, the top face including a pair of flaps adapted to fit into the container in planes parallel to the first and second panels, each of the flaps of the top face extending into the container to a distance slightly less than the lengths of the slots and including a cutout aligned with the slots so that a portion of the shaft passes through the cutout.

54. The container of claim **53**, wherein the cut-out has an edge that is a sector of a circle having a center approximately coincident and a diameter such that (a) the shaft does not normally contact the cut-out during paying out of the wire like component and (b) if the shaft undergoes abnormal movements the shaft contacts the cutout and the cutout prevents contact of the roll with a top face of the container that extends in a plane parallel to the shaft axis.

55. The container of claim **46**, wherein the top face includes an opening arrangement for enabling the component to be paid from the roll to a region outside the container and to be held in place by the opening arrangement for enabling an end of the component to extend from the container.

56. A cardboard blank for forming the container of claim **44**.

57. A cardboard blank for forming the container of claim **51**.

58. A cardboard blank for forming the container of claim **54**.

59. A container for capturing a roll of a wire like component, the container comprising an arrangement for enabling the roll to rotate in the container about an axis that is approximately the same as the rotation axis of the roll, the arrangement including a pair of substantially parallel sides each including first and second panels in substantially parallel planes, each of the panels having an aligned elongated slot receiving and holding a shaft for carrying a spool including the roll, so that the shaft is supported by a ledge formed at bottom edges of the slots in the first and second panels.

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