

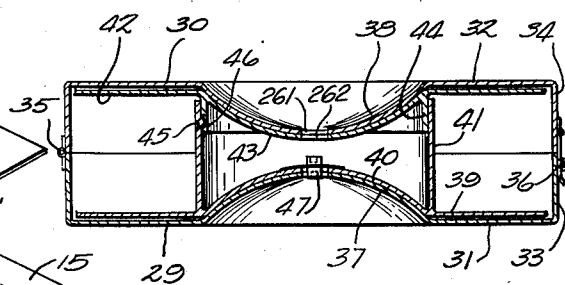
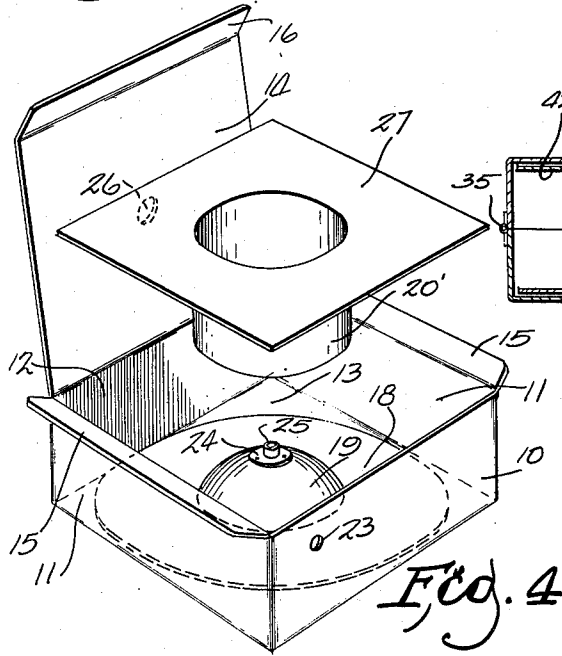
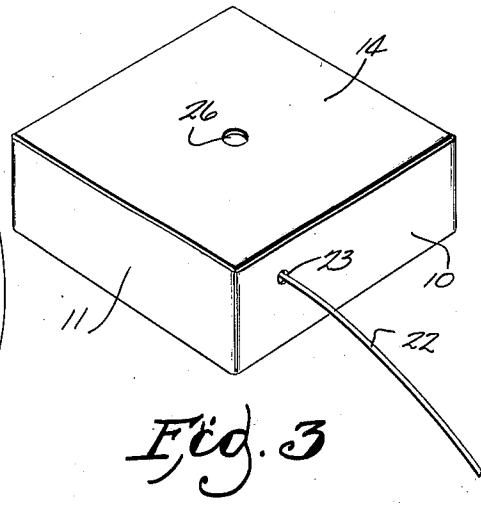
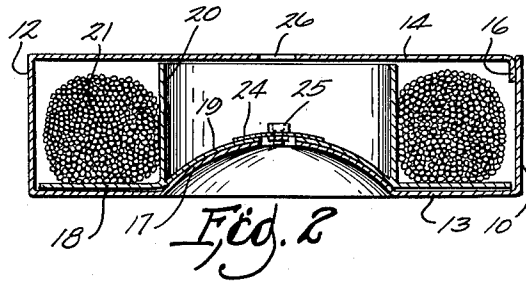
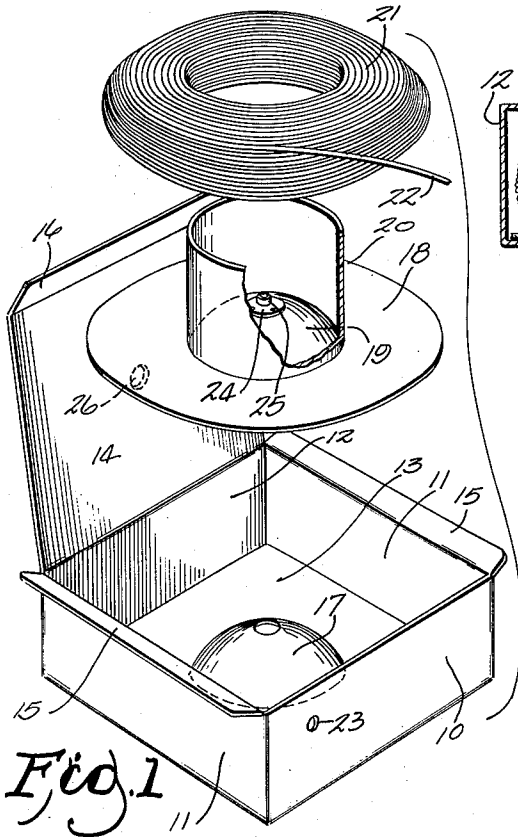
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WIRE COIL CONTAINER

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WIRE COIL CONTAINER

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1

This invention relates to a container arranged to receive a coil of wire and adapted not only for use as a shipping box but also to dispense wire from the coil as needed.

Electrical conductive insulated wire is ordinarily supplied by the manufacturer in coils which are boxed, the wire being withdrawn by the electrician through a hole in the center of the box top. Pulling the wire from the coil at right angles in this fashion causes the wire to issue in kinks. This is undesirable, and it is therefore a primary object of the present invention to provide a receptacle for a coil of insulated wire from which the wire may be withdrawn evenly as needed and without kinking.

A further object is to provide a wire shipping and dispensing receptacle which is light in weight and may readily be opened, if desired, to permit the introduction of a fresh coil of wire. Still another object is to provide a container of the foregoing character with inexpensive means which permits excess wire pulled from the coil to be readily rewound thereon without opening the container.

The nature of these as well as other objects of the present invention will be clearly understood on considering the following description and appended claims, as well as the accompanying drawing, wherein:

Figure 1 is a view in perspective showing in disassembled relationship the elements comprising a wire dispensing container embodying the features of the present invention, a coil of wire being shown in a position ready for insertion in the container.

Figure 2 is a transverse sectional view, on an enlarged scale, through the center of the container illustrated in Fig. 1, the elements of the container being here assembled, with the coil of wire in position in the container.

Figure 3 is a view in perspective illustrating the manner in which the wire is dispensed from the container illustrated in Figs. 1 and 2.

Figure 4 is a view in perspective showing in disassembled relationship elements comprising a modified form of dispensing container embodying the features of the present invention.

Figure 5 is a transverse sectional view through the center of still another modified form of dispensing container embodying the features of the present invention.

Referring more in detail to the drawing:

The form of container illustrated in Figs. 1-3 comprises a box having a front panel 10, side panels 11, a rear panel 12, a bottom 13, and a top

2

14 hingeably supported by rear panel 12. The side panels 11 have flaps 15 arranged to be in-
folded beneath the cover 14, while the latter member carries a forwardly disposed flap 16
5 which is inserted behind the front panel 10 when the cover is closed. The bottom 13 is pressed upwardly at its central portion to provide a boss 17. Boss 17 is of extent to occupy at least one-third the width of the box in order to provide a wide base to substantially directly support the wire coil 21.

A disk 18 is rotatably carried on the bottom 13, the disk having a boss 19 complementary to boss 17. The periphery of disk 18 lies adjacent the
15 panels 10, 11 and 12, the panels being substantially tangential to the periphery of the disk, and when the disk is fitted within the box, boss 17 nests within the boss 19. Disk 18 carries tubular core means 20, one end of which is mounted on the disk about the periphery of boss 19. This tube extends substantially the full depth of the box, the upper end of the tube lying close to cover 14 when the latter member is in the closed position.

25 A coil of wire 21 to be shipped in and dispensed from the container described above is placed over the tube 20 and rests on disk 18, as illustrated in Fig. 2. A free wire end 22 is then passed through an aperture 23 in one of the
30 panels of the box. In the form of device illustrated, this aperture is placed at one side of front panel 10, the aperture preferably being so placed as to be more or less in alignment with the peripheral portion of the coil at which the wire
35 leaves the coil as it is unwound. Such a structure permits the wire to be withdrawn in a straight condition and it is not bent as it passes through the aperture 23.

As the wire is pulled from the coil through the
40 aperture, disk 18 turns freely over bottom 13, a lubricant, such as graphite or soapstone, being used if desired to reduce the friction between the bearing surfaces of these members. Tube 20 serves to maintain the form of the coil at all
45 times, thereby making it impossible for the wire to become kinked within the container through collapse of any of the loops comprising the coil.

To facilitate the rewinding onto the coil of any surplus wire which may have been withdrawn
50 from the container, the boss 19 is centrally provided with a disk 24 fixed to it and carrying a bolt 25 socketed to receive the head of an Allen wrench or the like, bosses 17 and 19 being relieved to accommodate said bolt. Access is
55 gained to bolt 25 through an opening 26 provided

in the center of top 14. This structure proves to be a convenient one, for all that an electrician needs to do when rewinding a length of wire is to insert the head of a suitable wrench through the cover to a position of engagement with the bolt, and as the latter is turned, the disk 18 is rotated and with it the coil 21.

The structure of the box employed in the modified form of invention illustrated in Fig. 4 is like that illustrated in Figs. 1-3. However, the tube member 20' illustrated in Fig. 4, is not mounted to the coil supporting disk 18 but is instead secured to a square flange member 27 which will lie just below top 14 when the latter is in the closed position. In this form of device, the disk 18 turns with the coil 21 as wire is withdrawn therefrom, but the tube 20' remains stationary. In loading the container, the tube 20' and its flange 27 are first removed and the coil is inserted; the tube is then fitted down within the coil until it rests against disk 18.

The containers illustrated in Figs. 1-4 may conveniently be fabricated of fiber board or a corrugated paper material, the bosses 17 and 19 being stamped by a conventional pressing operation. However, other materials than paper may obviously be used. When the container is to be made of metal, I prefer to employ the form of construction illustrated in Fig. 5. The box there shown comprises like-shaped top and bottom sections 29, 30 having square central panels 31, 32 each provided with a depending peripheral skirt 33, 34. The sections 29, 30 are hinged to one another at 35, and are secured in the closed position by means of a hasp 36. Each of the panels 31, 32 is centrally depressed to provide opposed bosses 37, 38. A disk 39, having a boss 40 complementary to boss 37, and carrying a central upstanding tube 41, seats adjacent the panel 31 and may be rotated thereover. Supported over the tube 41 is a disk 42 which, like disk 39, is provided with a boss 43 complementary to boss 38 on panel member 32. Disk 42 carries a relatively short depending tube 44 which fits within tube 41. The tubes 41 and 44 are preferably keyed to one another, tube 41 being shown as having an interior lug 45 which is receivable within a slot 46 in tube 44. The various bosses on the panel and disk members are apertured at their center, and boss 40 carries a bolt 47 which is socketed at each of its ends.

When using the form of container illustrated in Fig. 5, the sections are opened and the disk 42 is removed. The coil of wire is then placed over tube 41, it resting on disk 39, and a free wire end is passed out through an aperture (not shown) in a side of the box. The disk 42 is then replaced, with lug 45 sliding into slot 46, and the sections are closed and locked together. It is a feature of this form of container that it will dispense the wire equally well whether panel 31 or panel 32 is uppermost. When in the position illustrated in Fig. 5, the disk 39 supports the coil, and when the container is turned over, disk 42 becomes the coil supporting member. In either position the coil is supported for rotational movement, with the tube 41 serving to space the sides of the coil. When this container is loaded with wire, the electrician may simply drop it onto the floor and it is always ready to perform its dispensing function. The socketed bolt 47 is fully accessible from either side of the container, registering apertures 261 and 262 being provided in the cover boss 38 and the boss 43 of the removable reel end disk 42,

respectively. Turning of the bolt serves to rotate both disk 39 as well as disk 42 since the respective tubes 41 and 44 are keyed together. Accordingly, wire may readily be rewound on the coil in whatever position of the container simply by turning bolt 47.

It will be observed that with each form of device illustrated herein, there is provided an enclosed receptacle the bottom of which is centrally provided with an inwardly directed boss which nests within a complementary boss carried on a coil supporting disk rotatably mounted within the receptacle. Tube means are provided in each case to prevent collapse of the coils, as are the socketed members which are fixed to the coil supporting disks and are accessible from without the container to permit of turning the disks to rewind any surplus wire onto the coils. All forms disclosed provide non-kinking rotatable supports in forms sufficiently inexpensive to be disposable, a separate turntable being built into each shipping case.

I claim:

1. A wire dispensing container comprising, in combination, a box having side, top and bottom members, one of said side members having a wire dispensing aperture therein, and said bottom member having a centrally positioned integral deformed portion constituting an inwardly directed boss inwardly convex and externally concave and of extent to occupy at least one-third the width of the box, a disk rotatably mounted within said box and having a boss complementary to and in bearing engagement with that of said bottom, the disk being dependent upon said boss engagement for rotative support, and an upright tubular core means mounted on said disk closely adjacent the periphery of the boss thereon and extending substantially the full depth of the container, said container being arranged to support a coil of wire on said disk, and about said core closely adjacent the supporting boss and to dispense wire from the coil through said aperture.

2. The container of claim 1 in further combination with a flange mounted on the upper end of said tubular core, said flange being arranged to engage the side panels of the box to prevent rotation of the tubular core.

3. The container of claim 1 wherein said top member is centrally apertured, in further combination with a tool receiving means fixed to the disk near the center of the boss on said disk.

4. A wire dispensing container comprising, in combination a box consisting of top and bottom sections hingedly connected along one adjacent margin thereof, said sections having substantially square central panels forming the top and bottom of the box and having skirt portions depending from said panels forming the sides of the box, one of said box sides being provided with a wire dispensing aperture, and said panels having inwardly directed, opposed bosses formed in the central portions thereof; a pair of spaced disks rotatably supported within said box, each disk being positioned adjacent one of said panels and having a boss therein complementary to that on the respective adjacent panel, and tubular means mounted on each of said disks, said tubular means being arranged to maintain the disks in spaced relationship.

5. The container of claim 4 wherein the tubular means on the respective disks are interlocked against relative rotational movement.

5

6. The container of claim 4 wherein adjacent bosses on at least one of said panels and its adjacent disk are centrally apertured, in further combination with a tool receiving means mounted at the center of the boss on the other of said disks.

7. A wire dispensing container comprising, in combination, a box having side members and top and bottom face members and provided in one of said members with a wire dispensing aperture, one of said face members comprising sheet material of at least approximately uniform thickness throughout its extent with a central integral deformed portion projecting convexly into the box and externally concave, the said portion constituting a bearing boss of extent to occupy at least one-third the width of the box, together with a rotatable support for a coil of wire, said support comprising a reel disk having a boss complementary to, and in bearing engagement with, the said face member boss and dependent on such engagement for rotative position within the box,

6

the said support further comprising core means centered upon the disk and closely adjacent the periphery of the supporting boss to locate a coil of wire in proximity to the supporting boss and upon the disk to be dispensed through said aperture.

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