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REEL AND SHIPPING CONTAINER

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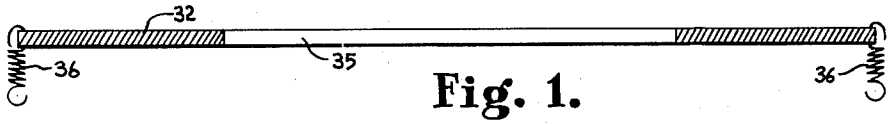


Fig. 1.

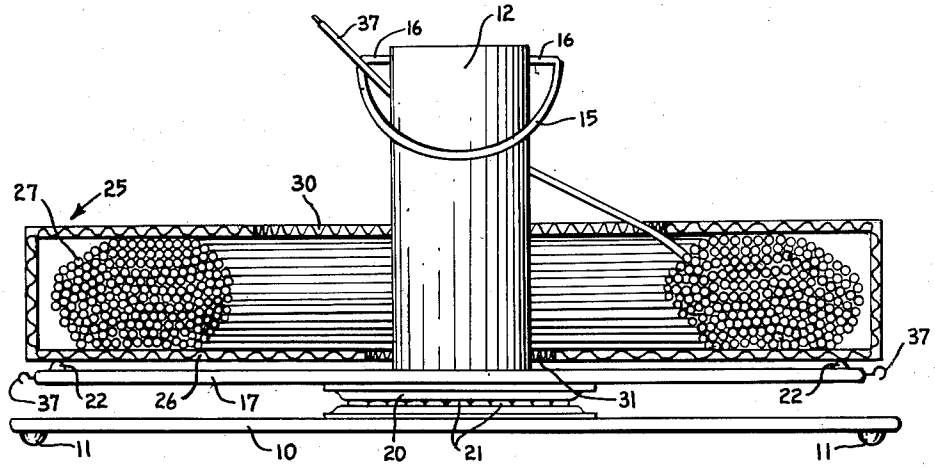


Fig. 2.

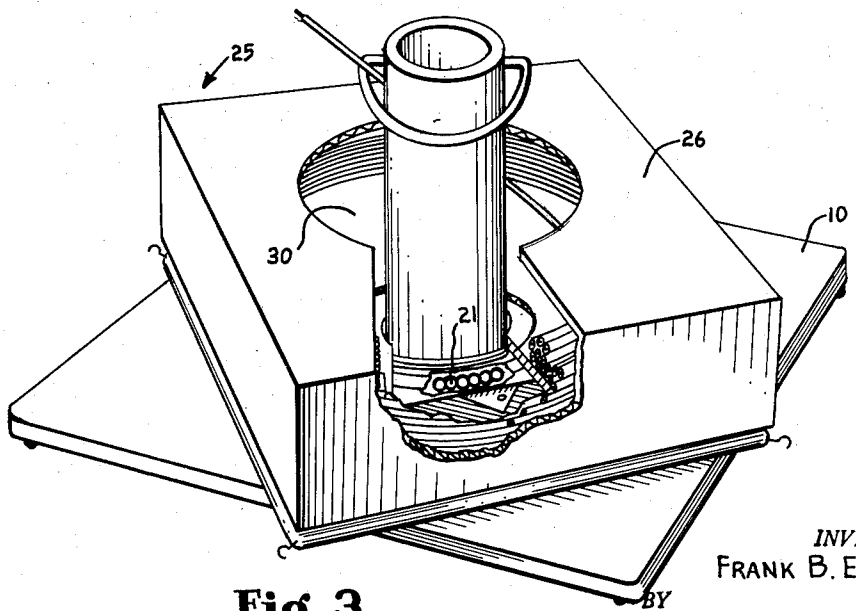


Fig. 3.

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REEL AND SHIPPING CONTAINER

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The present invention relates to an improved reel and shipping container for wire, cable and the like.

According to conventional practice, insulated wire and cable manufacturers package their product in coiled form within some type of shipping container or, alternatively, may provide the product in merely a coiled form. There is no presently available method or means for the user of such wire or cable to unwind the wire or cable into a straight, untwisted, kink-free form. It is, therefore, one object of the present invention to provide improved unwinding means capable of placing coiled wire, cable or the like in a straight, untwisted, kink-free form.

It is the present custom that containers for smaller diameters of cable or wire are destroyed after use, the containers in many cases having a rectangular form. Unlike the smaller diameters of wire and cable, larger diameters are wound on large permanent spools intended for repeated use. Even though these spools accomplish their intended purpose in a desirable fashion, their shipment back to the manufacturer for rewinding is a relatively expensive procedure. Therefore, a further object of the present invention is to provide an improved reel and shipping container for large diameters of wire and cable which permits reduction of the size and weight of the container and permits the manufacture of the container from disposable material.

A further object of the invention is to provide an improved device for removing a filament from a container.

Related objects and advantages will become apparent as the description proceeds.

In accordance with the present invention, one embodiment thereof includes reeling apparatus having a base and a post extending from the base. A coil and container support is rotatably mounted about the projection. The post has secured thereto a guide for the filament of the coil. There is also provided a container having a coil therein, the container having opposed openings at the inward portions of the coil. There is also provided means for securing the container to the support with the post extended through the openings whereby the filament from the central portion of the coil may be drawn from the container through the guide in untwisted, kink-free form.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

FIG. 1 is a section through a device used for securing the coil container to the unwinding apparatus of the present invention.

FIG. 2 is a side elevation, partly in section, of the unwinding apparatus of the present invention with the structure illustrated in FIG. 1 removed therefrom.

FIG. 3 is a perspective view of the structure illustrated in FIG. 2.

Referring now more particularly to the drawings, there is illustrated a square shaped base plate 10 which may be formed of wood fiberboard such as Masonite having at its corners on the lower face thereof, four rubber feet 11. A cylindrical post 12 is fixed to the base plate 10 at the central portion thereof, extends perpendicularly and upwardly therefrom and has pivotally mounted at its distal end a guide 15. The guide 15 has a semi-circular shape with inturned end portions 16 which are pivotally received within suitable opposed apertures in the sidewall of the post 12.

A square shaped support plate 17 is secured to the base plate 10 by means of a conventional "Lazy Susan" bearing 20 including ball bearings 21 whereby the support plate 17 may rotate about the axis of the post 12 and is retained adjacent the post. The support plate 17 is provided with four upwardly projecting rubber feet 22 which function to maintain a coil container 25 in position upon the support plate. The support plate 17 may also be formed of a pressed wood fiber material such as Masonite. The container 25, as it arrives from the manufacturer, has a closed rectangular shape. In other words, the largest sidewalls 26 have no openings or apertures therein when the coil 27 and container 25 is shipped from the factory. When it is desired to use the wire in the container, a circular opening 30 is cut in one sidewall of the container and a somewhat smaller opening 31 is cut in the opposite sidewall thereof. The container is then placed upon the support 17 in the position shown with the corners of the container supported by the rubber feet 22.

In FIG. 1, there is illustrated a flat plate 32 which may have a square shaped outer configuration and may be formed of pressed wood fiber as above mentioned. The plate 32 has a central cylindrical opening 35 of approximately the same size as the opening 30 in the sidewall of the container. The plate 32 is placed over the container 25 with the corners of the plate 32 covering the corners of the container and the opening 35 in registry with the opening 30.

At each corner of the plate 32, there is mounted tension springs 36 which have an unstressed length somewhat less than the thickness of the container 25. The tension springs 36 are secured to hooks 37 which are fixed to the four corners of the support plate 17 causing the container 25 to be held in place against the rubber feet 22. Thus, the container 25 will rotate in free and easy manner with the support plate 17.

In order to unwind the wire 37 of the coil 27, the end of the wire at the inward portion of the coil is threaded through the guide 15 and the wire is drawn from the guide. As the wire passes through the guide 15, the container 25 and coil 27 are caused to rotate about the axis of the post 12, thus preventing twisting or kinking of the wire. Because of the fact that the rotation of the support plate 17 and the container 25 may be accomplished with the exertion of a relatively small amount of force, coils of wire and cable having relatively large diameters may be unwound by the apparatus of the present invention whereby in many situations permanent non-disposable spools may be eliminated.

While one embodiment of the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only one embodiment of the invention has been shown and described. For example, the rotatably mounted support plate 17 of the present invention might be rotatably mounted within the container 25 so as to form a part of that container as it is placed about the coil by the manufacturer. In such an embodiment, the guide 15 would be an aperture formed in the elongated sidewalls of the container adjacent one of the square shaped sidewalls thereof.

Still another embodiment of the present invention is identical to the embodiment described and illustrated herein with the exception that the tension springs 36 are replaced by flexible straps of resilient cloth material. The latter embodiment includes two such straps which are secured by their opposite ends to two adjacent corners of the support plate 17. In other words, each corner of the support plate 17 has one end of a resilient strap se-

cured thereto and each end of each resilient strap is secured to a different one of the four corners of the support plate **17**. In order to mount the container **25** upon this latter embodiment, the container is cut with the apertures **30** and **31** as illustrated in FIGS. 2 and 3 and is placed in diagonal fashion upon the support plate **17**.

A plate such as the plate **32** but without the springs **36** is placed over the container with the corners of the plate **32** covering the corners of the container. The straps may then be pulled outwardly and placed over two of the corners of the plate **32** to resiliently hold the container **25** in place for paying out wire.

It should be understood that the various parts of the present invention can be formed of any desirable material. For example, the container **25** which has been illustrated and described herein very probably will be formed of corrugated paperboard. However, the container might also be formed of wood if desired.

The invention claimed is:

1. Reeling apparatus comprising a square-shaped, flat horizontal base, a vertical cylindrical post fixed to said base and extending upwardly therefrom, a flat square-shaped coil and container support, bearing means rotatably mounting said support on said base for rotation about said post, a semi-circular shaped guide having inturned end portions pivotally received in the opposite sides of said post adjacent the distal end thereof, a square-shaped plate having a circular opening therethrough, resilient means for holding said plate against a coil container and securing said plate to said support with said post extending through said circular opening.

2. Reeling apparatus comprising a square-shaped, flat horizontal base, a vertical cylindrical post fixed to said

base and extending upwardly therefrom, a flat square-shaped coil and container support, a square-shaped container, a coil within said container, said container having opposed openings at the inward portions of said coil, bearing means rotatably mounting said support on said base for rotation in a horizontal plane about said post, a semi-circular shaped guide having inturned end portions pivotally received in the opposite sides of said post adjacent the distal end thereof, a square-shaped plate having a circular opening therethrough, resilient means for holding said plate against said container and securing said plate to said support with said post extending through said circular opening.

3. Reeling apparatus comprising a flat horizontal base, a vertical cylindrical post fixed to said base and extending therefrom, a container, a coil within said container, said container having a circular opening at the inward portions of said coil, a bearing means rotatably mounting said container and coil therewith for rotation of same in a plane perpendicular to and about said post, a semi-circular shaped guide having inturned end portions pivotally received in the opposite sides of said post adjacent the distal end thereof to guide the filament as it is withdrawn from the central portion of the coil, through said circular opening in the container at the inward portions of said coil whereby the filament from the coil may be withdrawn untwisted and kink free.

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