

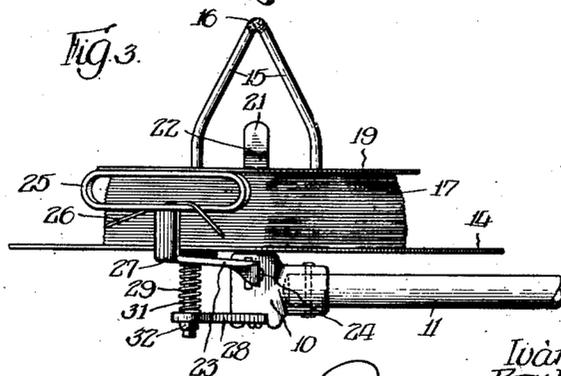
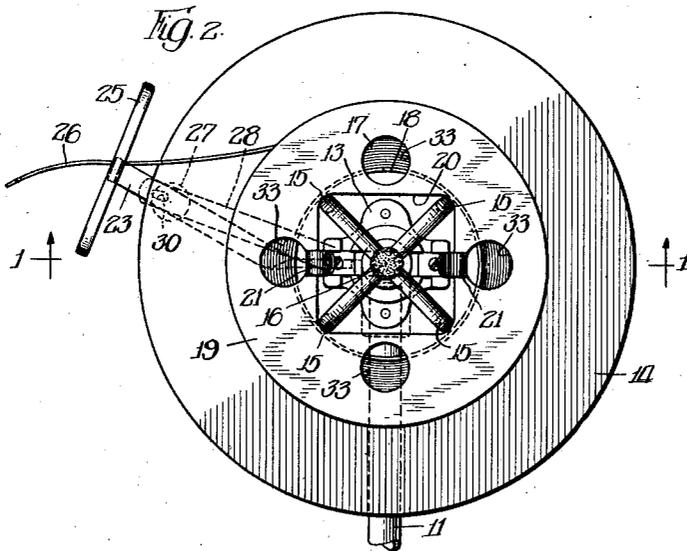
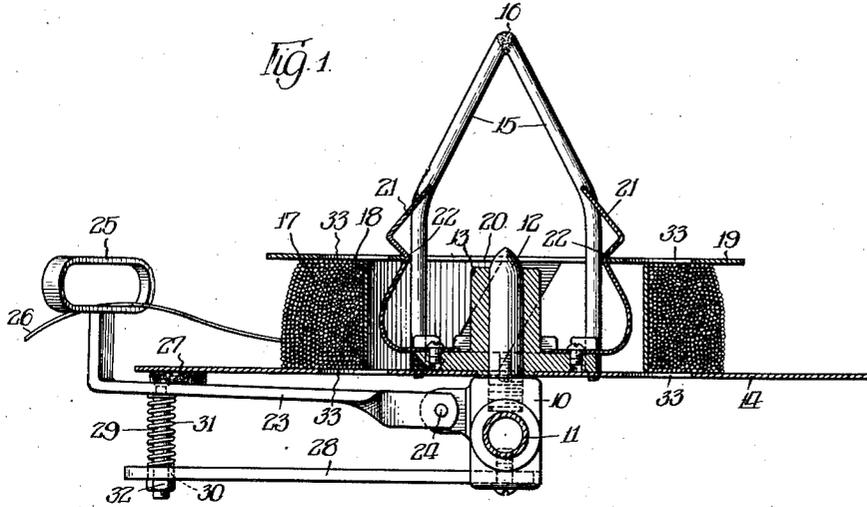
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WIRE REEL

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# UNITED STATES PATENT OFFICE

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## WIRE REEL

Application filed May 10, 1929. Serial No. 361,855.

One object of this invention is to provide a novel wire reel which is simple in construction and may be taken apart easily when it is desired to position a new coil of wire therein.

Another object is to provide a novel brake for a wire reel which will allow the reel to turn freely while the wire is being pulled therefrom but will exert a braking action on the turning movement of the reel as soon as the pull on the wire is discontinued, thereby preventing the wire on the reel from uncoiling.

While the foregoing statements are indicative in a general way of the nature of the invention, other objects and advantages will be evident to those skilled in the art upon a full understanding of the construction, arrangement and operation of the improved reel.

One form of the invention is presented herein for the purpose of exemplification, but it will of course be appreciated that the invention is susceptible of embodiment in other structurally modified forms coming equally within the scope of the appended claims.

In the accompanying drawing:

Fig. 1 is a diametric section through the reel, taken on the line 1—1 of Fig. 2;

Fig. 2 is a plan view of the reel; and

Fig. 3 is a side view of the reel.

The reel assemblage shown in the drawing includes a stationary base member 10 which is fixedly attached to one end of a horizontally extending rod 11. A vertical spindle 12 is screwed into the top of the base member 10, and a hub member 13 is rotatably mounted on the spindle. A disk 14 is secured to the bottom of the hub member 13 concentrically of the spindle 12, and four prongs 15 are secured to the disk 14 and extend upwardly therefrom. The prongs 15 are bent toward each other a substantial distance above the plane of the disk 14 and are permanently connected together above the center of the same at 16.

The coil of wire 17 to be unwound is positioned on top of the disk 14 outside of the

centering prongs 15, and the innermost strands of wire in the coil are maintained in proper position with respect to the other strands by means of a resiliently expansible split collar 18 of circular form which encircles the prongs 15 and presses outwardly against the inside of the coil. Another disk 19, which is preferably of smaller diameter than the disk 14, rests against the upper face of the coil 17 and is provided at its center with a square opening 20 in the corners of which the prongs 15 fit. The disk 19 is removably and adjustably held in position above the coil by means of two outwardly spring-pressed retaining clips 21 having outwardly diverging portions 22 which engage with opposite edges of the opening 20 in the disk. In order to insert a new coil of wire in the reel, it is merely necessary to pinch the spring clips 21 together, whereupon both the upper disk 19 and the spring collar 18 may be removed. In applying the new coil of wire to the reel, the tapering formation provided by the converging upper ends of the prongs 15 serves to center the coil properly with respect to the lower disk 14.

An arm 23 is pivoted to the base member 10 at 24 and extends outwardly beyond the edge of the lower disk 14, where it turns upwardly and supports a horizontally elongated ring 25 in a position substantially at right angles to the adjacent radius of the reel. The end 26 of the wire being unwound from the coil 17 passes through the ring 25 in leaving the coil, and any downward pull on the end 26 tends to swing the ring 25 and arm 23 downwardly about the pivot 24. The arm 23 carries a friction pad 27 which, when the ring 25 is in its uppermost position, engages frictionally with the bottom of the disk 14 adjacent the rim of the latter. Another arm 28 is fixedly secured to the bottom of the base member 10 and extend outwardly into a position wherein its outer end is directly beneath the outer portion of the arm 23. A

guide pin 29 is secured to the arm 23 above the arm 28 and projects downwardly through an elongated aperture 30 in the end of the latter. A coil spring 31 encircles the pin 29 and is compressed between the arms 23 and 28. A nut 32 is screwed on the lower end of the pin 29 beneath the arm 28 and serves to limit the extent to which the spring 31 can swing the arm 23 upwardly away from the arm 28 when the reel proper is lifted off of the spindle 12.

The upward pressure exerted by the spring 31 against the arm 23 is sufficient to effect a quick braking action on the bottom disk 14 of the reel through the action of the pad 27 when the pull on the end 26 of the wire is discontinued, with the result that the reel is held frictionally against turning movement at all times when no pull is being exerted on the end of the wire. As soon as the end of the wire is pulled, however, the downward pressure of the wire on the bottom of the ring 25 moves the friction pad 27 out of engagement with the disk 14 and allows the reel to turn. The elongation of the wire-guiding ring 25 in the plane of rotation of the reel permits the coil of wire to be unwound in either direction without requiring the end 26 of the wire to make an abrupt lateral bend against one of the sides of the ring. The disks 14 and 19 are preferably provided with a plurality of apertures 33 adjacent the upper and lower faces of the coil for allowing convenient access to the tie wires on the coil with a pair of wire snippers.

In the particular reel assemblage herein illustrated and described, the reel is adapted to be mounted in an elevated position above a packaging or bundling table, the rod 11 being the upper horizontally extending portion of an L-shaped overhead support, but if the braking device is to be used in association with a reel of the type which is adapted to be placed on the floor, the direction of coaction between the frictional braking element and the reel would advantageously be reversed so as to cause an upward pull on the wire-guiding ring to release the brake rather than a downward pull.

We claim:

1. In a wire reel, a supporting member, a spindle projecting from the supporting member, a hub rotatably mounted on the spindle, a disk secured to the hub, a plurality of connected prongs extending from the disk, another disk having an opening shaped to fit over the prongs, and readily releasible means between the prongs for holding the second disk in spaced parallel relation to the first disk.

2. In a device of the character described, a wire reel adapted to hold a coil of wire, which reel is provided with an open work core portion and radially extending end portions, and means for maintaining the strands

of wire about the inside of the coil in proper position consisting of an expansible split spring collar which is sleeved over the core portion between the end portions and between the core portion and the inside of the coil.

In witness whereof we have hereunto subscribed our names.

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