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2,393,613

HAND REEL

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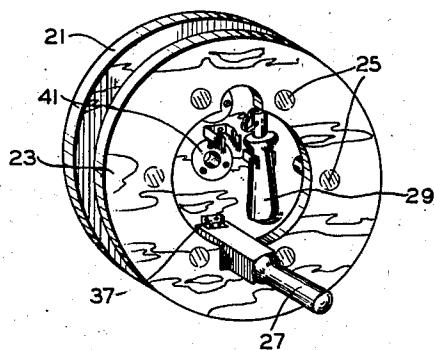


FIG. 1

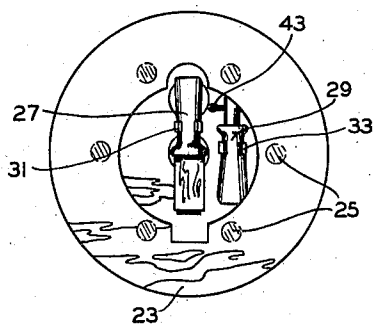


FIG. 3

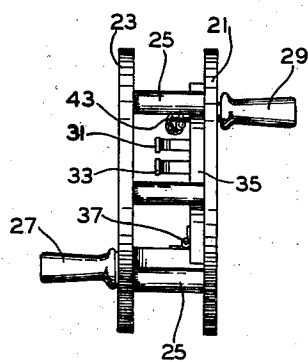


FIG. 4

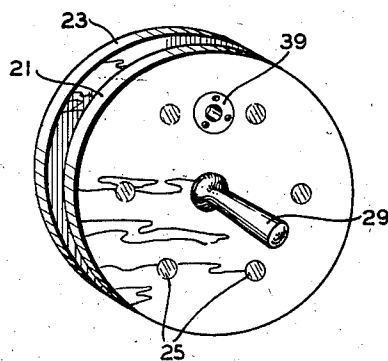


FIG. 2

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UNITED STATES PATENT OFFICE

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HAND REEL

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the Government of the United States of America,
as represented by the Secretary of War

Application May 13, 1944, Serial No. 535,531

3 Claims. (Cl. 242—96)

(Granted under the act of March 3, 1883, as
amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to spools and reeling devices, and more particularly to hand operated reels for handling wire, antennae, and the like.

At present there is no suitable light-weight hand reel available which is made of noncritical materials so as to be expendable. One reel in present use consists of a metal frame upon which wire is wound. This device, however, is difficult to manipulate while being used in the field. Other reels are made of heavy metal and therefore are undesirable for use as a hand reel, as well as being made of critical materials.

It is therefore the principal object of my invention to provide a cheap, expendable, light-weight hand reel for wire and the like.

An important disadvantage of the usual hand reel is that handles are employed which are fastened to and salient from the spool, thus the reels cannot be stacked in a small space without damaging the handles. It is therefore another object of this invention to provide a compact hand reel having hinged and/or removable handles so that when the reel is not in use, the handles do not prevent the reels from being stacked. Provision is made so that the handles will not be lost from the reel assembly when not in use.

In accordance with my invention, there is provided two plywood discs separated by wooden dowels so as to form a spool for the hand reel. Holes are provided in one of said discs to receive a handle for the separate operations of reeling out and reeling in wire. A crank-like member hinged to one disc is also provided, and when not in use it is retained in a clamp between the wooden discs. A portion is removed from one disc to facilitate positioning the handles between said discs when the reel is not in use. All principal parts are made of wood and use of critical metals is held to a minimum. For a better understanding of the invention, together with other and further objects, reference is had to the following description, taken in connection with the accompanying drawing in which:

Figure 1 is a perspective view of the front of the hand reel assembly made in accordance with my invention;

Figure 2 is a perspective view showing the rear of the hand reel assembly with one handle in place for the operation of reeling out wire;

Figure 3 is a front elevational view of the hand

reel assembly showing the position of the handles when not in use; and

Figure 4 is a side elevational view of a modified embodiment of the hand reel assembly showing the handles in the position for the operation of reeling in wire or cable.

Referring now particularly to Figure 1 in the drawing, a perspective view illustrating the principal elements made in accordance with my invention is shown. A spool upon which wire or cable is to be wound is comprised of two plywood discs 21 and 23 which are aligned and positioned in parallel planes by six dowels 25 as shown. The dowels are preferably made of clear hard maplewood and are securely cemented in the position shown. A portion is cut from the center of disc 23 in the shape as shown. The cut-out portion facilitates positioning handles 27 and 29 between the discs when it is desired to stack a number of reels for storage or shipment. Handle 27 is provided with a square shank which is fastened to disc 21 by hinge 37. This handle serves as a crank, and for rigidity in operation, the square shank fits into the rectangularly-shaped cut-out portion as shown. A hole 41 is positioned in the center of disc 21 and serves as a bearing to receive handle 29, when the latter is used. This bearing is preferably made of metal so as to withstand wear.

In Figure 2, the handle 29 is shown in one of its possible operating positions, i. e., in hole or bearing 41. Also shown in this view is another hole or bearing 39 which is identical to element 41 except in position. Element 39 receives handle 29 for an operation that will be described hereinafter.

Further details of the device of my invention are shown in Figure 3. The hand reel as shown here is not in operation and handles 27 to 29 are fastened in metal clips, respectively 31 and 33. These clips are fastened to the disc member 21. A cotter key 43 is placed in a hole drilled through the round shank of handle 29. When the device is in operation, the cotter key prevents handle 29 from being removed from bearing 39 or 41, whichever is being used at the time.

In the modification shown in the side elevational view of Figure 4, the handle 29 is inserted in bearing 39 and the cotter key is attached to a small chain, one end of which is attached to the cotter key and the other end to the end of handle 29. Thus when handle 29 is inserted in either bearing 39 or 41, the cotter key and chain are first passed through the hole or bearing, and when the round shank of the handle has been fitted

into the bearing, the cotter key is passed through the opening provided in the shank as described in connection with Figure 3, above. In the modification as shown in Figure 4, a reinforcing element 35 is secured to disc 21. In practice, element 35 may be the cut-out portion removed from disc 23 as shown in Figures 1 and 3. Bearings 39 and 41 extend entirely through elements 21 and 35. Members 31, 33, and 37 are fastened to member 35 by means of wood screws in this embodiment. Referring now to the operation, when the handles are in the position as shown in Figure 4, the reel is used for winding up wire, one of said handles being operated by each hand, crank fashion. The wire or cable is wound over the dowels in the space between said dowels and the peripheries of discs 21 and 23. For reeling out wire, handle 27 is fastened in its clamp 31, while handle 29 is placed in bearing 41 in the center of disc 21. This manner of operation is as shown in Figure 2. It is merely necessary to hold handle 29 in one hand while the spool rotates about this handle as an axis while wire is being played out.

Although I have shown and described certain specific embodiments of my invention, I am fully aware that many modifications thereof are possible. My invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the appended claims.

I claim:

1. A hand reel for handling wire and the like comprising, in combination, two flat members, one of said flat members having a central hole drilled substantially perpendicular to the plane of said flat member; means for separating and maintaining said flat members in substantially parallel spaced relationship and for providing a space in which to wind wire; a handle having a circular shank to fit said central hole so as to provide an axis about which the device can rotate for reeling out wire; said flat member which has a center hole also, having at least one hole positioned eccentrically from said central hole to fit said han-

dle for providing a crank action in reeling in wire; a handle having substantially a rectangularly-shaped shank hinged at one end to said flat member, the other end of said shank fitting into a rectangular opening cut in the other of said flat members for providing a crank action when wire is reeled in; clamps for engaging and retaining said handles between said flat members when not in use.

2. A hand reel for handling wire and the like comprising, in combination, two wooden discs; a plurality of wooden dowels for separating, aligning, and positioning said discs in substantially parallel planes so as to form a space between said dowels and the peripheries of said discs for winding wire; at least one circular bearing through one of said discs; a handle having a shank adapted to fit in said bearing; a handle having substantially a rectangularly shaped shank, said shank being hinged at one end to said disc having the circular bearing, and the other end of said shank being fitted into a rectangularly shaped opening cut from the other of said discs.

3. A hand reel for handling wire and the like comprising, in combination, two wooden discs; a plurality of wooden dowels for separating, aligning, and positioning said discs in substantially parallel planes so as to form a space between said dowels and the peripheries of said discs for winding wire, at least one circular bearing through one of said discs; a handle having a shank adapted to fit in said bearing; a handle having substantially a rectangularly shaped shank, said shank being hinged at one end to said disc having the circular bearing, and the other end of said shank being fitted into a rectangularly shaped opening cut from the other of said discs, and metal clamps fastened to one of said discs for engaging said handles and retaining same between said discs when either or both of said handles are not being used.

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