Sept. 22, 1970 L. HOLDEN 3,529,786

CORD STORAGE REEL

Filed Oct. 14, 1968

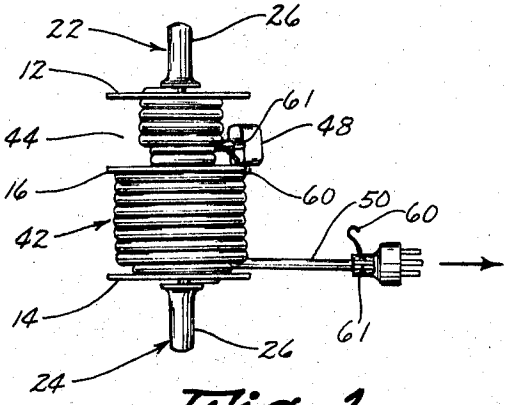


Fig. 1

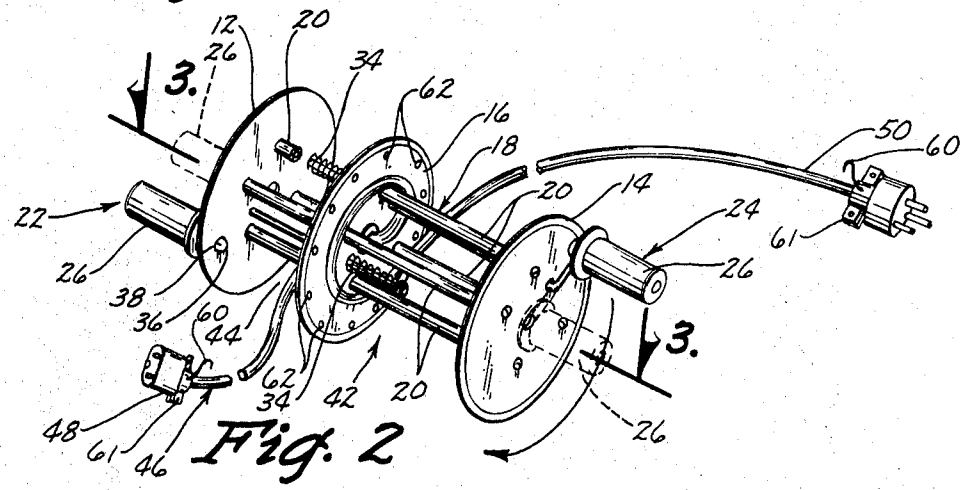


Fig. 2

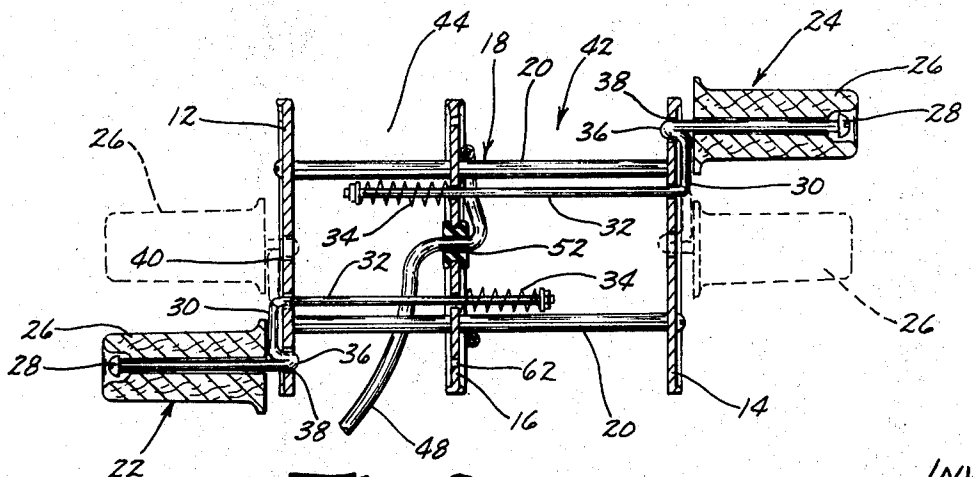


Fig. 3

INVENTOR
LENHARD HOLDEN
BY
Zarley, McKee & Thomte
ATTORNEYS

United States Patent Office 3,529,786 Patented Sept. 22, 1970

3,529,786

CORD STORAGE REEL

Lenhard Holden, Ottosen, Iowa 50570

Filed Oct. 14, 1968, Ser. No. 767,192
Int. Cl. B65h 75/38
U.S. Cl. 242—100.1 7 Claims

ABSTRACT OF THE DISCLOSURE

A hub formed by a plurality of spaced apart tubes are interconnected at opposite ends by end walls and intermediate thereof by a dividing wall to provide two cord storage chambers. The cord extends through the dividing wall for one end of the cord to be wrapped around the hub in one chamber while the other end is wrapped around the hub in the other chamber. The hub is formed by a plurality of radially spaced apart tubes. A handle means is provided on each end and is pivotal from a first position on the longitudinal axis of the hub to a second position remote therefrom about an axis intermediate the first and second positions.

When an electrical cord is rolled up on a reel of conventional design the inner end of the cord is not exposed until the entire length of cord is unwound. It may be desirable at times to not use the full length of cord and in such a case, it is impossible to reach the inner end of the cord since it is covered by the cord remaining on the reel. Moreover, the conventional reel does not have any handle means for winding and unwinding the cord from the reel.

This invention provides a pair of chambers for storing the cord on a hub wherein the desired length of cord may be wrapped around the hub in the two different chambers and cord may be wound from one or both of these chambers as is desired. Thus, the full length of the cord using this invention does not have to be unwound to utilize both ends of the cord. The hub design of this invention involves a plurality of tubes radially spaced apart about the longitudinal center axis. The electrical cord extends through the dividing wall at its longitudinal center and out through and between a pair of tubes forming the hub.

The roller handles are carried on lever arms pivotal from a position on the longitudinal center axis of the hub to a position remote therefrom and the pivotal axis of the lever arms is positioned between the first and second positions with means being provided for locking the rollers in the desired first or second position. The rollers at opposite ends of the hub are pivotal about axes that are on opposite sides of the longitudinal center thus maximizing the lever arm for the rollers for use during the winding in and reeling out operations.

These and other features and advantages of this invention will become readily apparent to those skilled in the art upon reference to the following description when taken into consideration with the accompanying drawings, wherein:

FIG. 1 is a top plan view of the cord storage reel of this invention;

FIG. 2 is a fragmentary perspective view of the cord reel; and

FIG. 3 is a cross sectional view taken on line 3—3 of FIG. 2.

The cord reel of this invention is generally referred to in FIG. 1 by the reference numeral **10** and is shown to include a pair of retaining end walls **12** and **14** with an intermediate dividing wall **16** all connected to a hub **18** formed by a plurality of radially spaced apart tubes **20**. It is seen that the tubes **20** have their ends anchored to the end walls **12** and **14** and extend through the dividing wall **16**.

Handle means **22** and **24** are provided on each of the end walls **12** and **14**, respectively. The handle means include rollers **26** mounted on a shaft element **28** extending parallel to the longitudinal center axis of the hub **18** and integral with a level arm **30** perpendicular to the longitudinally extending hub **18** which in turn is connected to an axial shaft **32** also parallel to the center axis of the hub **18**. The shaft **32** extends through one end wall and the dividing wall and carries a spring **34** on its inner end which engages the dividing wall **16** to normally maintain the inner end **36** of the shaft **28** in engagement with one of a pair of openings **38** or **40** in the end wall. Thus it is seen that the inner end **36** functions as a detent in a locking means including the openings **38** and **40** to maintain the roller **26** in either of the two positions shown in FIG. 3 by the solid and dash lines. In the first position shown by the dash lines the roller **26** is pivoted on the lever arm **30** to a position extending along the longitudinal center axis of the hub **18** whereas in the second position illustrated by the solid lines the roller **26** is in a position remote from the longitudinal center axis of the hub **18**. Thus, it is seen that the shaft **32** extending through openings formed in the end wall and the dividing wall extends along a line spaced an equal distance from the axial centers of the openings **38** and **40**.

The end wall **14** and the dividing wall **16** form a main cord chamber **42** while the dividing wall **16** and the end wall **12** form a cord outlet chamber **44**.

An electrical cord **46** having an outlet end **48** is wrapped on the hub **18** and further includes an inlet end **50**. The outlet end **48** of the cord extends around the hub in the chamber **44** and then through an opening **52** in the dividing wall **16** out from the longitudinal center axis of the hub **18** between a pair of spaced apart tubes **20** to where the inlet end **50** of the cord is wrapped around the hub in the main cord chamber **42**.

The ends **48** and **50** of the cord carry hook elements **60** secured thereon by clamp fasteners **61**. The cord ends **48** and **50** are wound in the same direction in their respective chambers around the hub **18** and the hooks **60** are engaged in openings **62** formed around the outer periphery of the dividing wall **16**. One or both of the cord ends may be disengaged as desired from the wall **16** to unwind the cord.

In operation, the short outlet end **48** of the cord is maintained in the chamber **44** until the longer inlet end **50** of the cord has been unreeled the desired amount. A fast way of unwinding the inlet end **50** is by placing the rollers in the dash line positions as seen in FIG. 3 and then pulling on the inlet end **50** which will cause the drum **18** to revolve about the longitudinal center axis as the operator holds the rollers on the longitudinal center axis of the drum **18**. Next the outlet end **48** of the cord is unwound however much is needed to connect the cord to a conventional electrical outlet. The hook element **60** holds the outlet end in the chamber **44** while the inlet cord end **50** is being unwound.

When it is desired to reel in the inlet end **50** of the cord the rollers **26** are pivoted to their positions remote from the longitudinal center axis of the hub **18** to the solid line positions shown in FIG. 3 thus giving substantial lever arms for rotating the reel. If desired, only one of the rollers need be pivoted to the outer solid line position of FIG. 3.

It is seen that during the unwinding and winding operations the outlet cord end **48** is always free and independent of the cord in the chamber **42**. Further, the cord length in the two chambers may be varied between the two chambers as desired by merely threading it back and forth as necessary in the opening **52** through the dividing wall **16**. The hub formed by the tubes **20** provides a convenient

structure for passing the cord from the longitudinal center axis of the hub to the outer peripheral surface of the hub in both of the chambers **42** and **44**.

The speed of the unwinding may be controlled by pushing the rollers longitudinally inwardly and this will brake the rotation of the reel as seen in FIG. 3 the inner ends of the rollers **26** will frictionally engage the lever arm rod portion **30** to slow the rotation of the reel. Conversely, the rollers may be pulled longitudinally outwardly to allow the reel to turn freely.

Some changes may be made in the construction and arrangement of my cord storage reel without departing from the real spirit and purpose of my invention.

I claim:

1. A cord storage reel, comprising,

a longitudinal center hub,

retaining walls at opposite ends of said hub and a dividing wall between said retaining walls on said hub whereby a pair of storage chambers are formed,

said dividing wall having an opening therethrough for said cord to extend from one chamber to the other chamber, and

handle means secured to said end retaining walls for rotating said hub, said handle means movable from a first position extending along the longitudinal center axis of said hub to a second position remote from said longitudinal center axis, said handle means including a roller extending from each end of said hub, and each of said rollers being pivotal between said first and second positions about an axis intermediate thereof.

2. The structure of claim **1** wherein said hub comprises a plurality of longitudinally extending tubes radially spaced about the longitudinal center axis.

3. The structure of claim **2** wherein said opening in said dividing wall is radially inwardly of said plurality of tubes, and a cord extends through said opening and has one end extending between a pair of adjacent tubes to the exterior of said tubes defining said hub where it is wrapped around said hub, the other end of said cord extends between a pair of adjacent tubes to the exterior of said tubes defining said hub where it is wrapped around said hub.

4. The structure of claim **3** wherein a releasable retaining element is positioned in said one chamber for holding said one end of said cord in said one chamber while the other end is being unwound from the other chamber.

5. The structure of claim **1** wherein the pivotal axes of each of said rollers are on opposite sides of said longitudinal center axis.

6. The structure of claim **5** wherein each of said rollers is carried on a lever arm extending perpendicular to said longitudinal axis.

7. The structure of claim **6** wherein said hub retaining walls at each end of hub and said roller lever arms include cooperating detent and recess locking means for locking each of said lever arms selectively in each of said first and second positions.

References Cited

UNITED STATES PATENTS

472,593	4/1892	Tache	242—96
489,286	1/1893	Carr	242—96
569,128	10/1896	Guild	242—96
926,576	6/1909	Kneisley	242—100.1
1,983,565	12/1934	Replogle	242—100.1

NATHAN L. MINTZ, Primary Examiner