June 3, 1958 G. U. CUSACK 2,837,299

BRAKING DEVICE FOR WIRE AND CABLE REELS

Filed July 22, 1955

Fig. 1.

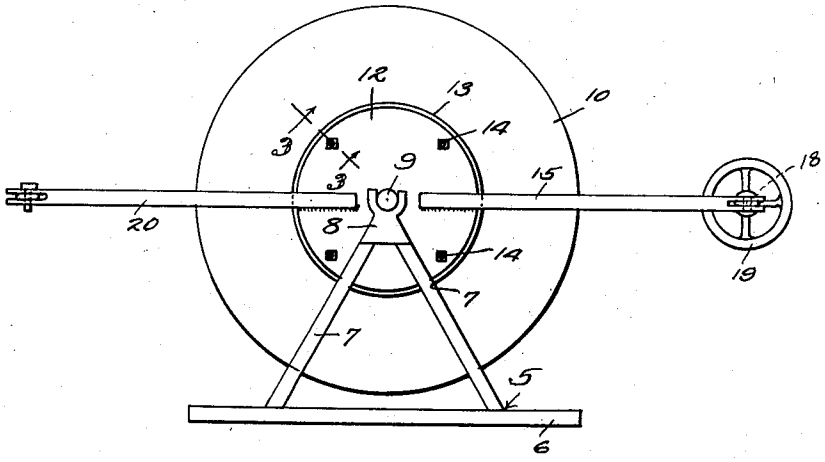


Fig. 2.

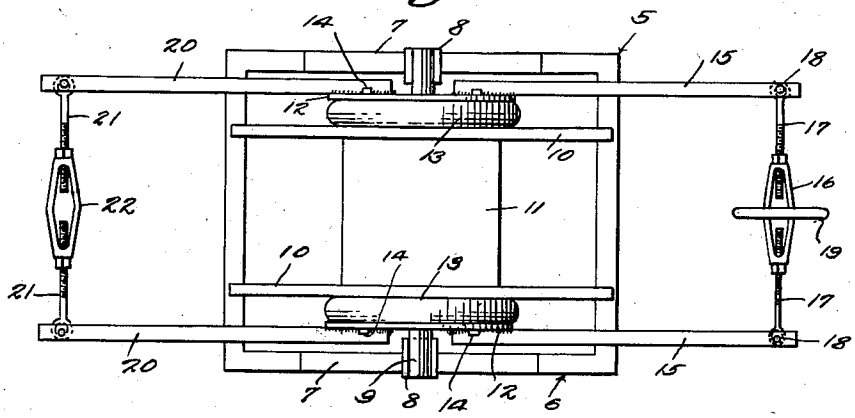


Fig. 3.

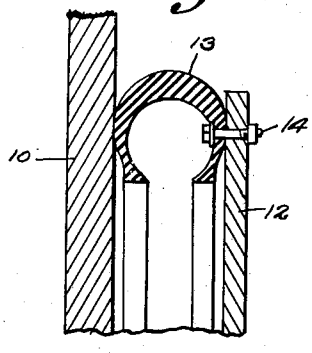
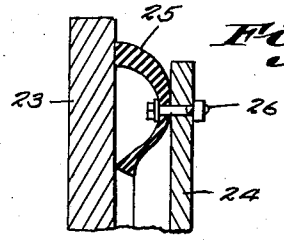


Fig. 4.



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BRAKING DEVICE FOR WIRE AND CABLE REELS

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Application July 22, 1955, Serial No. 523,658
1 Claim. (Cl. 242—156)

This invention relates to reels, and primarily to reels designed for carrying and supporting wire and cables.

The primary object of the invention is to provide braking means for braking and controlling the unwinding of wire or cables from reels, thereby insuring against the overrunning of wire or cable during the unwinding of the wire or cable from the reel.

A further object of the invention is to provide a braking means including discs mounted on the reel shaft and movable longitudinally thereof, said discs carrying friction means for frictional contact with the reel ends, regulating rotation of said reel.

Another object of the invention is to provide means for locking the reel against rotation within its rack, thereby insuring against accidental unwinding of the wire or cable from the reel.

Still another object of the invention is to provide a brake wherein the friction elements thereof comprise discarded pneumatic tire casings, thereby reducing the cost of the brake to the minimum.

A still further object of the invention is the provision of a brake which may be set to permit rotation of the reel at a predetermined speed, adapting the reel for unwinding of the wire or cable for a particular use.

Other and further objects and advantages of the invention will be hereinafter described and the novel features thereof defined in the appended claim.

Referring to the drawing:

Fig. 1 is an end elevational view of a reel constructed in accordance with the invention and equipped with a braking device for controlling the unwinding of the wire or cable therefrom.

Fig. 2 is a plan view thereof.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a fragmental sectional view illustrating a modified form of the invention.

Referring to the drawing in detail, the conventional form of rack is indicated generally by the reference character 5 and includes a rectangular base 6 with upstanding pairs of converging arms 7, the upper ends of the arms 7 being connected by means of the bearing members 8 in which the shaft 9 of the reel proper is mounted.

The reel with which the braking device is used, is of the conventional type, and includes disc-like ends 10 and a hub 11, the disc-like ends 10 providing the surfaces against which the braking device, forming the subject matter of the present invention, operates to retard movement of the reel.

As better shown by Fig. 2 of the drawing, the braking device comprises discs 12 which are formed with openings and fitted over the shaft 9.

Secured to the inner surfaces of said discs 12, are friction members 13 which friction members embody pneumatic tire casings, and as shown these casings are bolted to the discs 12 as by means of bolts 14, the bolts extending through one of the side walls of the casing as clearly shown by Fig. 3 of the drawing, leaving the other side wall of the casing in a position to frictionally engage the surface of the disc-like end 10 of the reel proper.

Connected to the discs 12 are arms 15 that extend forwardly therefrom, the free ends of the arms being connected by means of the turnbuckle 16 which moves over the threaded ends of the rods 17 that in turn have pivotal connection with the arms 15, at 18.

The turnbuckle 16 includes a wheel 19 which when rotated, operates to rotate the turnbuckle over the threaded ends of the rods 17 to either spread the arms or draw the arms together.

Extending from the discs 12, in the opposite direction, are arms 20 to which the threaded rods 21 are connected, which rods have their threaded ends connected by turnbuckle 22 which operates to draw the rods 21 towards each other or move them apart as desired.

In the form of the invention as illustrated by Fig. 4 of the drawing, the reference character 23 indicates a disc-like end of a reel, and the reference character 24 indicates a movable disc to which the friction member 25 is bolted as by means of bolts 26. In this form of the invention, the friction device embodies a one-half section of a pneumatic tire casing, and the bolt used in connecting the friction member to the disc 24 extends through the side wall of the half-section of the pneumatic tire casing. With this form of the invention two edges of the tire casing contact the surface of the end disc 23 of the reel, to create friction and retard movement of the reel.

In operation, the turnbuckle 22 is rotated to properly set the arms 20. As the wire or cable is being unwound from the reel, it is only necessary to rotate the wheel 19 in a direction to draw the threaded rods 17 towards each other, which results in the friction devices being forced into contact with the ends of the reel acting as a brake to retard rotation of the reel and prevent overrunning of the reel as the wire or cable is being unwound therefrom.

It will further be seen that by rotating the wheel 19 the arms 15 may be drawn towards each other to such a degree that the friction devices on the discs 12, will securely grip the ends of the reel and lock the reel against rotation.

From the foregoing detailed description it is believed that the construction and operation of the device will be apparent, and a further detailed disclosure of the invention is unnecessary.

While the specific details of one embodiment of this invention have been herein shown and described, the invention is not confined thereto as changes and alterations may be made without departing from the spirit and scope thereof as defined in the appended claim.

I claim:

In a wire and cable reel, a rack, bearings carried by said rack, a shaft rotatably engaging said bearings, a reel fixed on said shaft between said bearings, said reel comprising a cylindrical hub and a disc at each end of said hub, a pair of disc-shaped plates loose on said shaft and confronting the outer sides of said discs, a yieldable friction member fixed to each plate and adapted to frictionally bear against said discs, a pair of oppositely extending arms fixed to each plate, a turnbuckle connected between the outer ends of adjacent arms, a second turnbuckle connected between the outer ends of the other arms, and a hand wheel carried by one of said turnbuckles, said arms and turnbuckles providing a means whereby said friction members may be maintained in even contact with said discs.

References Cited in the file of this patent

UNITED STATES PATENTS

1,067,643	Christner et al.	July 15, 1913
1,803,231	Camblin	Apr. 28, 1931
1,830,890	Schat	Nov. 10, 1931
2,251,443	Fawick	Aug. 5, 1941

FOREIGN PATENTS

873	Great Britain	Jan. 11, 1912