United States Patent [19]

Cornwell et al.

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[54] **WIRE REEL**

[76] Inventors: **Richard D. Cornwell; Darlene M. Cornwell,** both of R. R. No. 1, Prior Lake, Minn. 55372

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[52] **U.S. Cl.** ....**242/129,** 206/52 W

[51] **Int. Cl.** **B65h 49/00**

[58] **Field of Search**......................242/129, 134, 137; 206/52 W, 59 B; 225/46

[56] **References Cited**

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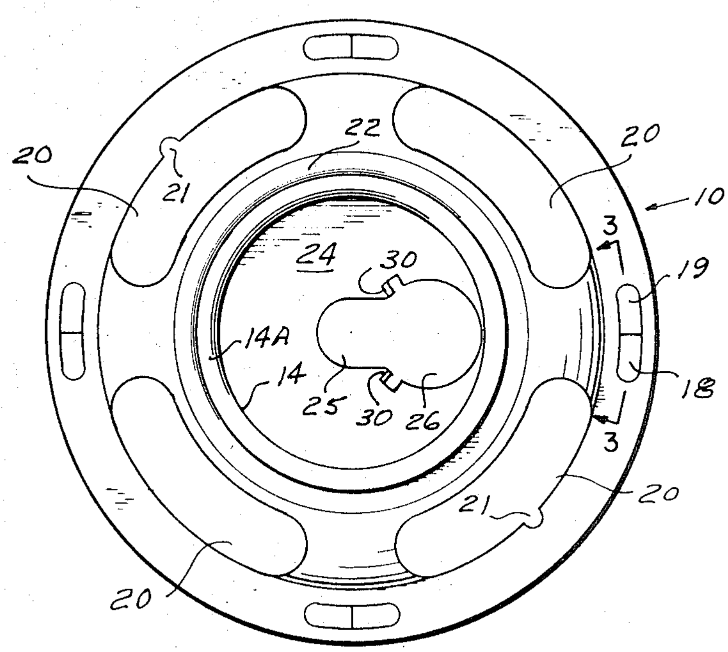
Primary Examiner—Leonard D. Christian

[57] **ABSTRACT**

A reel for drawing off coiled spring wire comprises two mating and locking half drums. The coil is restrained internally. The wire end, brought out through an annular opening, is pulled as needed.

2 Claims, 5 Drawing Figures



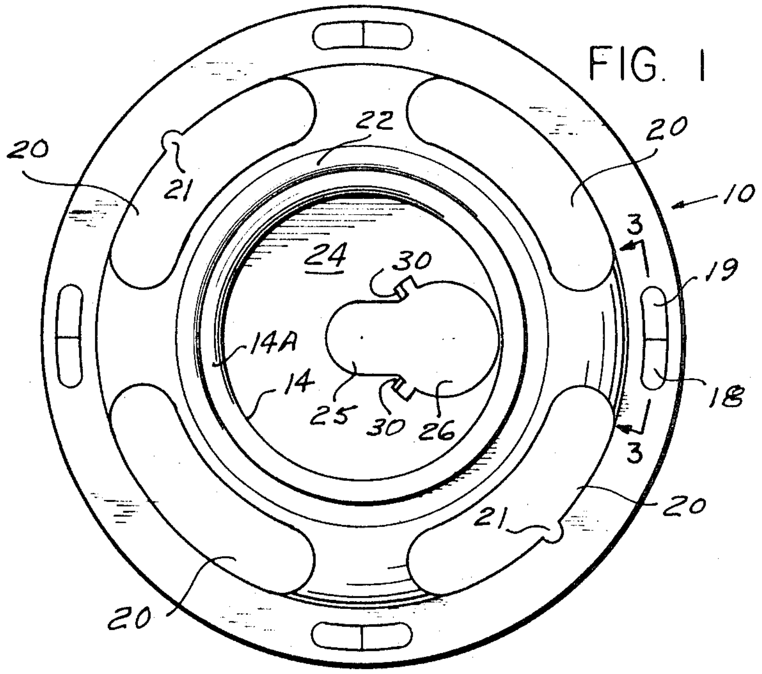


FIG. 1

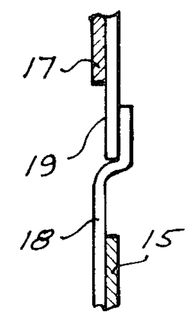


FIG. 3

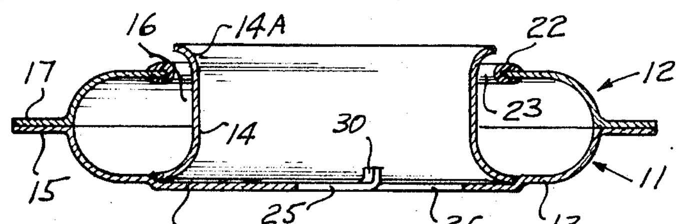


FIG. 2

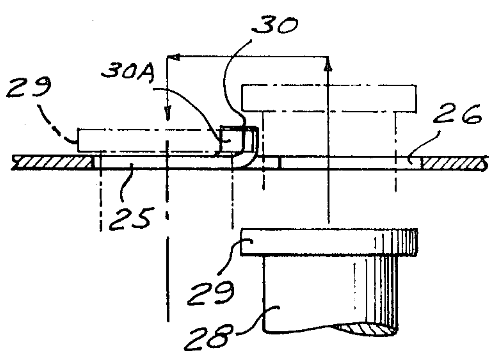


FIG. 5

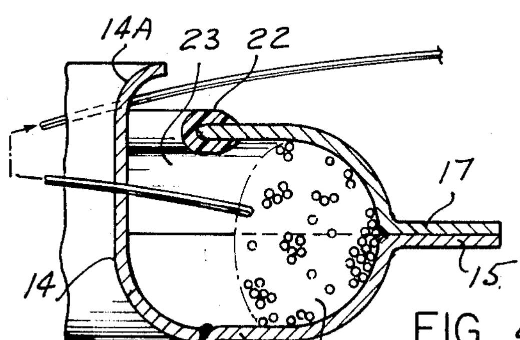


FIG. 4

WIRE REEL

This invention relates to wire handling accessories, more particularly to wire supply reels.

A principal object of this invention is to provide a reel for drawing off spring wire comprising two split drum halves which, when locked together, holds the coiled wire placed therein upon cutting the bindings. The wire issues from an annular opening while the reel turns.

Another object of the present invention is to provide a reel that is easily loaded, easily mounted and snarl-proof in operation.

A further object of the present invention is to provide a reel that is reliable, rugged and safe.

Other objects will become apparent in the following description.

Spring wire supplied in coils is bound, usually by soft wire, at several places. Problems arise under the most favorable conditions when the bindings are cut. Off a reel, cutting one binding often causes the coil to ball up or at the least, go out of managable shape. Even with care, when all bindings are cut, the coil must be restrained by one man while another man manipulates the wire end. The potential for snarling is ever present with the consequent loss of wire and in addition, a personal injury risk obtains. One a conventional reel, the coil must be handled gingerly and with extra, wosted effort as soon as the bindings are cut.

The present invention, seeking to eliminate these difficulties, is herein described in a preferred embodiment that is illustrated by drawings wherein:

FIG. 1 is a plan view.

FIG. 2 is an elevation section view.

FIG. 3 is a detail section view taken on line 3—3 of FIG. 1.

FIG. 4 is an enlarged fragmentary section view showing wire issuing from the reel.

FIG. 5 is a detail section view showing the procedure in placing the reel on a reel holder.

Referring to FIGS. 1 through 4, a reel 10 is shown to comprise two mating halves 11 and 12. Half 11 comprises a dish shaped piece 13 to which a drum 14 is welded. The periphery of piece 13 extends to a flange 15. Half 12, also dish shaped, has a wide circular opening 16 and is provided with a flange 17 matching flange 15.

Flange 15 is provided with multiple tongues 18, and flange 17 is provided with an equal number of tongues 19 similarly spaced to tongues 18. Tongues 18 are bent as seen in FIG. 3 so that simple placement of the halves in matching position and a slight turn of one half will result in a unitary locked structure.

Both halves are provided with openings 20 and notches 21. Opening 16 is rimmed with a plastic ring 22. Drum 14 is provided with a return edge 14A. Thus, half 12 can be passed over drum 14, locked to half 11, leaving an annular opening 23.

Half 11 has an enclosing wall 24 in which a centrally located opening 25 is provided. An extension 26 of opening 25 will be described in connection with the reel holding means intended for use with reel 10.

The reel is loaded in the following manner.

A coil of spring wire, as provided with bindings, is placed in half 11. A short length of the wire end is brought through opening 16 in half 12 and the two halves locked together. The bindings, accessible through openings 20, are cut. The coil springs out to fill the peripheral space 27.

It becomes apparent that there is no snarling, wire balling or personal injury possible. Also, it is apparent that one man does the job up to this point and after mounting reel 10 on a reel-holder, he leaves this area to attend the spring winder or other machine feed. It is finally apparent that wire demand will simple cause the reel to turn as wire slides smoothly across turning plastic rim 22.

Referring now to FIG. 5 in addition, a reel holding means is described as a shaft 28 having a shoulder 29. Reel 10 is positioned so that opening 26 passes over shoulder 29. Reel 10 is then slid over until stopped by opening 25. Pulling reel 10 out brings a pair of bent-up tabs 30 against shoulder 29. The faces 30A together with the half circle of opening 25 coact with shoulder and shaft to form a bearing. This position, axially may be retained in several ways. One method is to provide a helical spring on shaft 28 that presses against wall 24. Adjustment of a collar at the other end of the spring may then be used for setting feed tension.

Should it become necessary to remove the coil, notches 21 permit the passage of binding wire around the coil.

What I now claim is:

1. A reel for coil wound spring wire comprising two mating dish-shaped members, an inner member and an outer member, provided with joining means at their mating edges, said members when joined forming an internal peripheral space for the containment of said wire, said inner member having concentrically a cylindrical part attached thereto extending a short distance through a central opening in said outer member in assembly so that an annular space for exiting of said wire obtains, said inner member having a central opening for support on a reel-holder, said members having openings for access to binding wires on said spring wire coil and notches in the periphery for replacement of said binding wire.

2. A reel according to claim 1 wherein said reel-holder opening comprises a bearing half circle extending into a larger opening for slipping said reel over a shouldered shaft, said half circle bounded at the open side by a pair of tabs bearing against the shoulder portion of said shaft.

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