

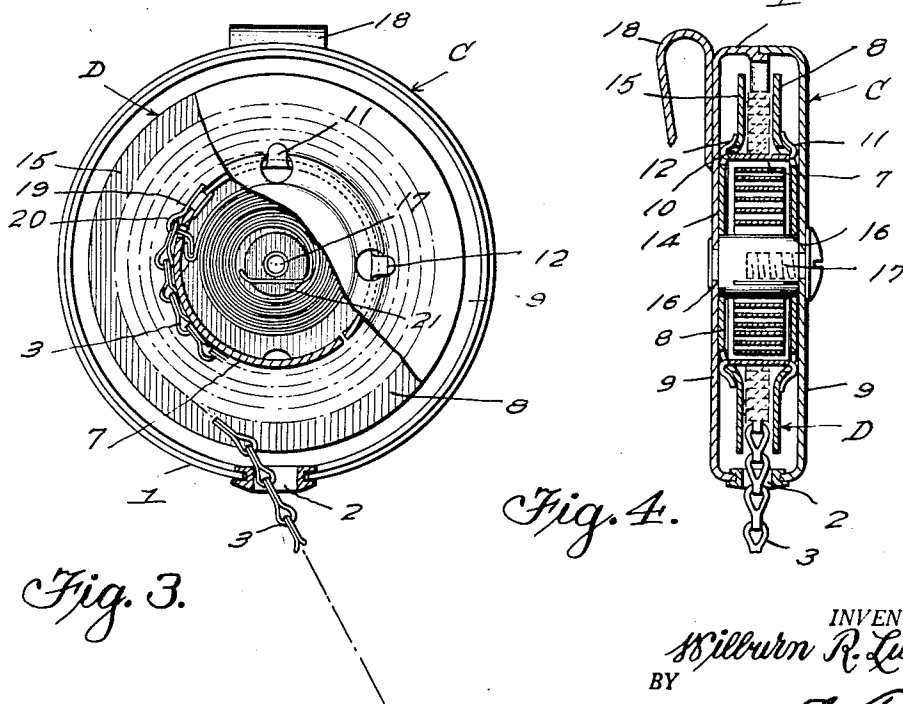
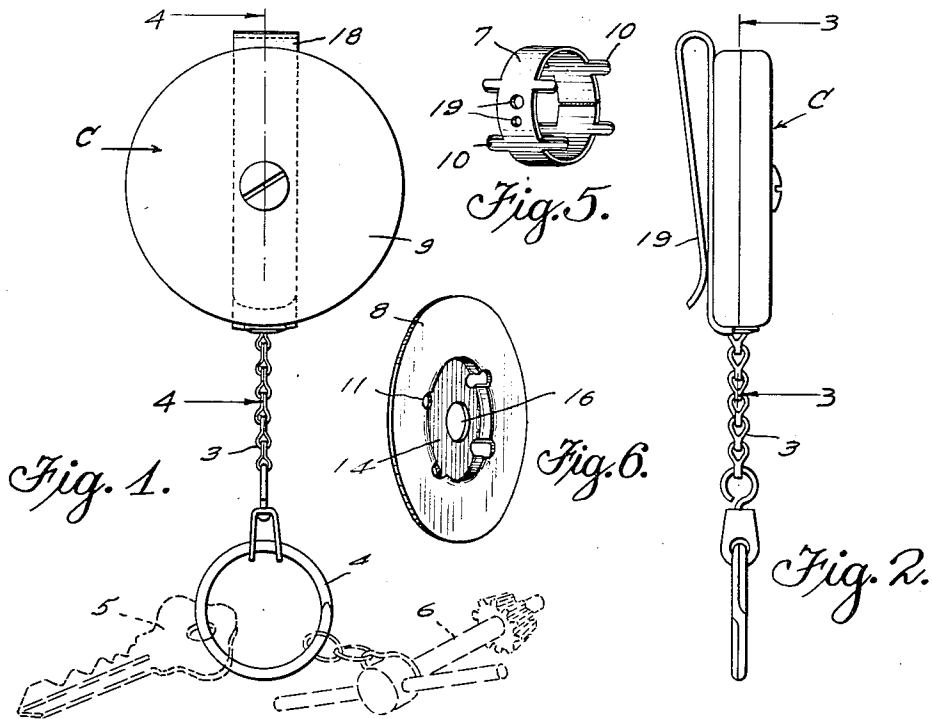
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RETRACTING REEL

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RETRACTING REEL

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1 Claim. (Cl. 242—107)

This invention relates to a retracting reel and it is an object of the invention to provide a device of this kind embodying a structure wherein the spring is housed within the hub of the drum.

Another object of the invention is to provide a reel including a pulley or spool having a hub and side pieces or plates, that can be readily stamped out and easily assembled thus presenting a pulley or spool that can be economically produced.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved retracting reel whereby certain advantages are attained, as will be hereinafter more fully set forth.

In order that my invention may be better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in side elevation of a reel embodying the invention;

Figure 2 is a view in edge elevation of the device as shown in Figure 1;

Figure 3 is an enlarged view in side elevation with parts broken away;

Figure 4 is an enlarged sectional view taken substantially on the line 4—4 of Figure 1;

Figure 5 is a view in perspective of the hub of the drum as comprised in the reel unapplied; and

Figure 6 is a view in perspective of one of the side plates or pieces of the drum unapplied.

As disclosed in the accompanying drawings, C denotes a casing of desired dimensions and including mating casing portions meeting to form a peripheral wall 1 with an opening 2. A grommet is positioned in opening 2 to prevent one casing portion from rotation with respect to the other casing portion, said grommet serving as a rounded guide to expedite movement of an elongated flexible member 3 which freely passes through and which readily winds around or unwinds from the spool or pulley within the casing C. In the drawings, the outer end portion of the member 3 is operatively engaged with a split ring 4 of a well known type and to which may be applied a usual type of key 5 or a chuck key 6.

The spool or pulley D comprises a hub 7 and two side plates or pieces 8. The hub 7 comprises an elongated strip of metal or other material of requisite rigidity and strength of a length to be rolled into an annular hub 7 of desired diameter. This strip is also of width to extend a major portion of the distance between the side walls 9 of the casing C.

The strip of the hub 7 at required points spaced therealong is provided with the outwardly and laterally disposed fingers or tabs 10 of a length to extend through the openings 11 of the side plates or pieces 8 and properly spaced around the axial center of the plates or pieces 8. The portions of the fingers 10 outwardly of the plates or pieces 8 are bent outwardly and inwardly, as at 12, to tightly bear against the outer faces of the plates or pieces

8. The assembly of the spool or pulley D is not completed until after the spring S has been applied.

The central portion 14 of each of the side plates or pieces 8 are outwardly pressed or offset with respect to the marginal portion 15 and the openings 11 in the present embodiment of the invention are substantially at the junction between the portions 14 and 15. The offset of the central portion 14 of each side plate is greater than the thickness of the tabs 10.

The peripheral portions 15 of the side plates or pieces 8 constitute the flanges of the pulley or drum D between which the flexible member or chain 3 winds upon or unwinds from the hub 7 and it has been found advantageous to have said portions 15 spaced apart a distance only slightly greater than the maximum transverse diameter of the member or chain 3. The outwardly pressed or offset portions 14 of the side pieces or plates 8 are substantially of equal depths and of such depths to allow the central portion of the spool or pulley D to fit closely between the side walls 9 of the case C yet allowing the drum or pulley D to freely rotate.

The axial portions of the side pieces or plates 8 have the openings 16 through which is disposed a conventional fixed axle or mandril 17 operatively engaged with and bridging the space between the side walls 9 of the casing C.

One of the side walls 9 of the casing C has secured thereto, an external hook member 18 is carried by one of the walls 9 of the casing C so that the device may be readily attached to a belt of a person, or to a convenient part of a machine.

The strip of the hub 7 is provided with a pair of closely adjacent openings 19 to permit the proper application of an anchoring hook 20 for the outer extremity of the springs while the opposite or inner end portions of said spring S is secured in a well known manner, as at 21, to the fixed axle or mandril 17.

I claim:

A retractable reel key chain for omnidirectional operation from a fixed location comprising in combination: a hollow centrally ported casing including complemental casing elements cooperatively providing parallel relatively spaced side walls and having abutting mating portions to form a peripheral wall connecting said side walls, said mating portions having complemental recesses in their abutting edges to provide an aperture adapted to receive and retain a grommet to thereby prevent relative rotation of said casing elements; a mandrel carried by one of said ported side walls and having end portions bearing against internal surfaces of both of said side walls to maintain them in predetermined spaced relation; said mandrel carrying a rotatable spool comprising a pair of side plates apertured to provide bearings upon said mandrel, said plates being provided with oppositely offstanding circular bosses adapted for bearing contact with the inner surfaces of the respective side walls to provide spaces between peripheral portions of said plates and said side walls, the peripheries of said bosses being provided with circumferentially spaced openings; a hub extending between said plates axially of said mandrel and having its ends seated in said bosses and provided with tabs passing through the openings in said bosses and clinched against the peripheral portions of said plates, the bosses being offset from the peripheral portions of the said plates a distance greater than the thickness of the tabs so that the tab ends lie within said spaces out of contact with said side walls; a coil spring wound upon said mandrel and having its ends connected respectively to said mandrel and said hub; and a flexible chain of a width to closely fit between said plates and connected with said hub for winding and unwinding with respect thereto and confined

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thereon between said plates, said flexible member passing through said grommet to the exterior of said casing for withdrawal in any direction.

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