

[54] KITE REEL

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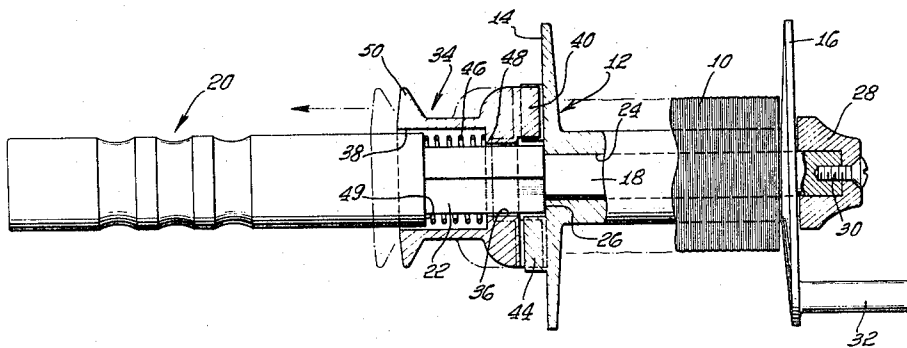
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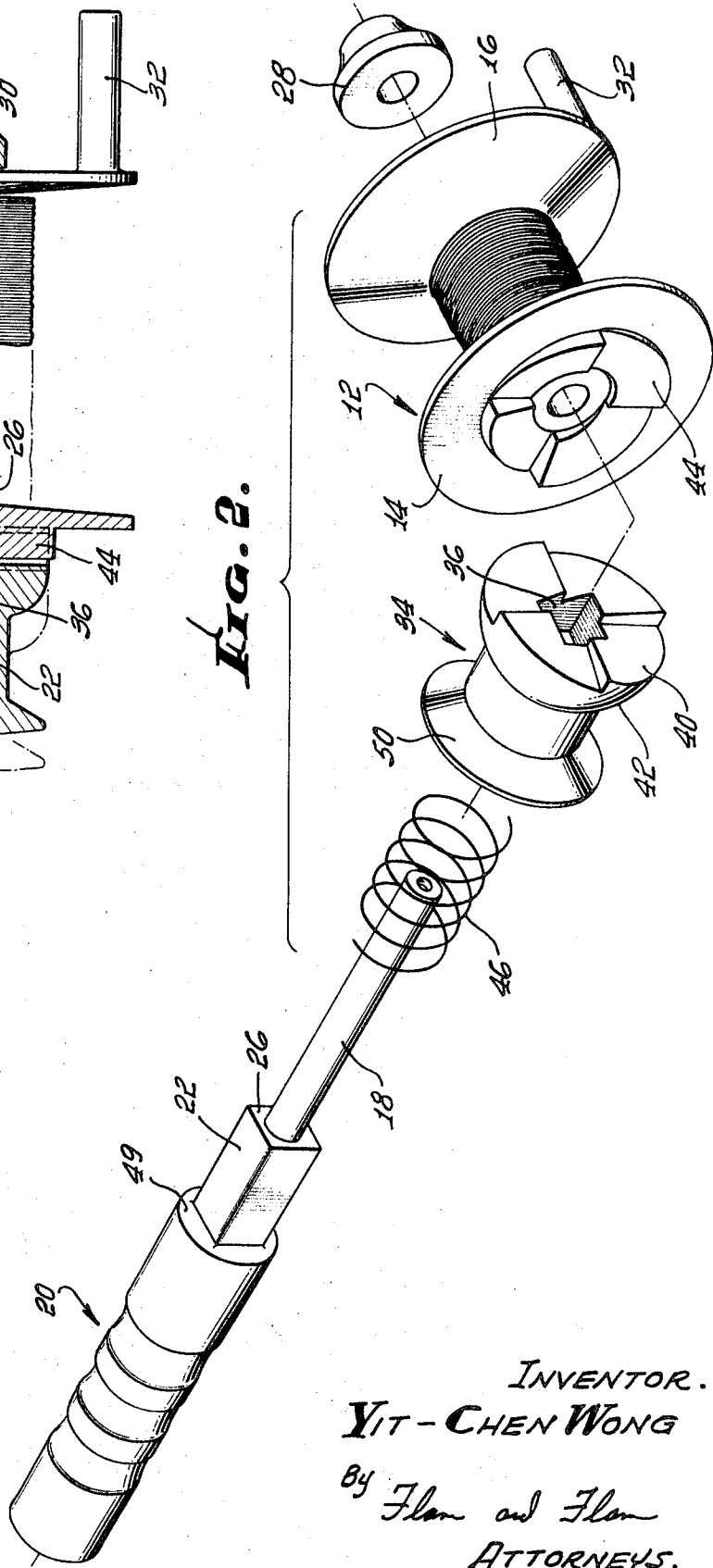
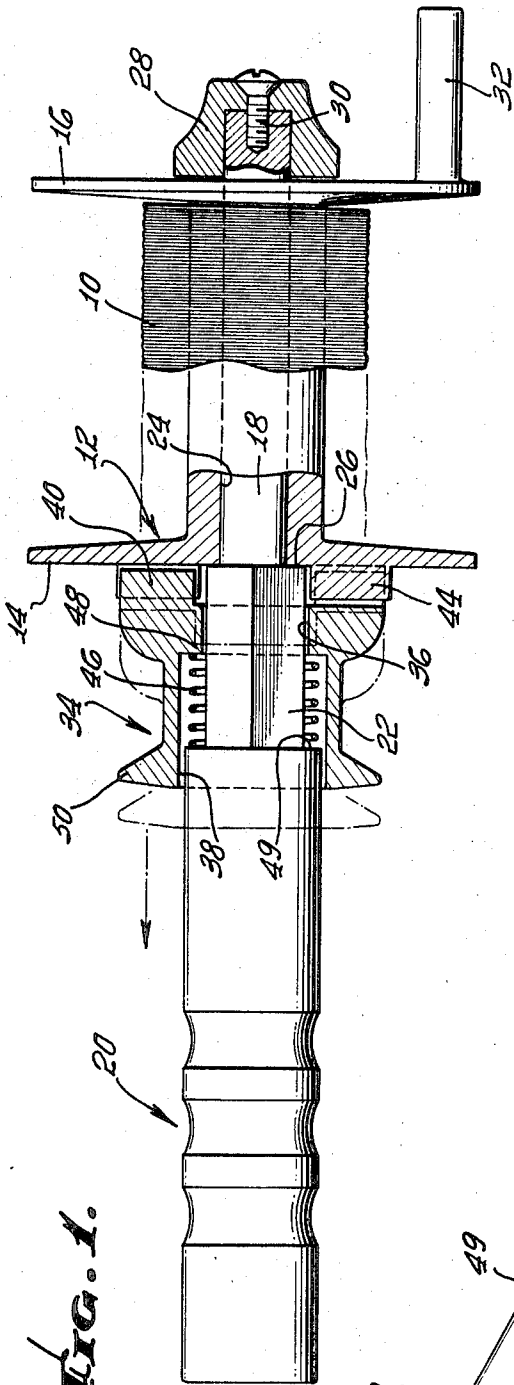
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ABSTRACT

A kite reel has a spool provided with ratchet teeth cooperable with ratchet teeth of a collar nonrotatably mounted on a non-circular section located intermediate a handle portion of the reel and an axle extension of the handle.

3 Claims, 2 Drawing Figures





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KITE REEL

BACKGROUND OF THE INVENTION

This invention relates to the sport of kite flying, and particularly to a reel for the kite string. A kite reel must have two fundamental operational modes. In one mode, the reel must be free but subject to braking. In another mode, the reel must be locked but optionally subject to being readily freed or subject to being rotated for string takeup. Various kite reels have been heretofore proposed that are either expensive or cumbersome or both.

The primary object of the present invention is to provide a kite reel that achieves the requisite operational modes in a simple manner.

BRIEF SUMMARY OF THE INVENTION

In order to accomplish the foregoing objects, I provide a spool mounted on an axle extension of a handle and an axially retractable nonrotatable ratchet collar cooperable with ratchet teeth formed on the side of the spool. The exterior surface configuration of the ratchet collar complements the exterior surface configuration of the spool teeth and provides a large annular flange for digital engagement.

BRIEF DESCRIPTION OF THE DRAWINGS

A detailed description of the invention will be made with reference to the accompanying drawings. These drawings, unless described as diagrammatic or unless otherwise indicated, are to scale.

FIG. 1 is a side elevational view of a kite reel incorporating the invention, a portion of the apparatus being shown in section.

FIG. 2 is an exploded pictorial view showing the components of the reel.

DETAILED DESCRIPTION

The following detailed description is of the best presently contemplated mode of carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating the general principles of the invention since the scope of the invention is best defined by the appending claims.

The kite string 10 is wound upon a spool 12. The spool has flanges 14 and 16 at opposite sides for confining the string on the spool. The spool is rotatably mounted on an axle 18 that forms an extension of a handle or grip 20. Interposed between the grip 20 and the axle 18 is a noncircular section 22 that in the present instance has a square cross section.

The spool has a through bore 24 that fits the axle 18. The outer surface of the flange 14 at the end of the bore abuts a shoulder 26 formed at the junction of the noncircular section 22 and the axle 18 whereby axial movement of the spool in the direction toward the handle 20 is limited. A cap 28 mounted on the outer end of the axle 18 by a screw 30 limits outward movement of the spool by engagement with the edges about the outer end of the bore 24.

In order to rotate the spool, a crank 32 is provided that projects from the rim of the outer flange 16. In order to stop reverse movement of the spool, a ratchet collar 34 is provided. The collar 34 has a bore, the outer part of which as at 36, is of square cross-sectional configuration to slidably fit the noncir-

cular section 22 and the inner part 38 of which is enlarged to allow the collar to be telescoped rearwardly over the handle 20.

The ratchet collar is held against rotation relative to the axle by virtue of the fit of noncircular parts. The ratchet collar is releasably coupled to the spool by companion sets of ratchet teeth. One set of teeth 40 is formed on the outer face of a flange 42 at the end of the ratchet collar. The other set of teeth 44 is formed on the outer face of the flange 14 of the spool. The teeth have long complementary ramp portions that operate to cam the ratchet collar away when the spool crank is operated.

The sets of teeth are urged into engagement by a coiled compression spring 46. The spring surrounds the noncircular section 22 and fits within the enlarged section 38 of the bore of the ratchet collar. At one end the spring abuts a shoulder 48 formed between the parts of the ratchet collar bore. At the other end, the spring abuts a shoulder 49 formed between the noncircular section 22 and the handle 20. Accordingly, the ratchet teeth are urged into engagement whereby reverse rotation of the spool 12 is stopped.

The crank 32 can be operated to wind the kite string on the spool while the ratchet teeth are in engagement. In order to allow the kite string to reel out, the ratchet collar 34 must be retracted. For this purpose, an annular flange 50 is provided at the end of the ratchet collar opposite the set of ratchet teeth. The flange 50 is positioned to be engaged by the thumb of the left hand of the user that grasps the handle 20. The ratchet collar has a substantial hollow between the flanges 50 and 42 in which the thumb of the left hand may be rested.

The exterior surface of the flange 42 complements the exterior surface of the spool ratchet teeth to form a smooth configuration. All of the parts may be made of molded plastic material.

I claim:

1. In a kite reel:

- a. a handle having a grip portion and an axle extension substantially aligned therewith;
- b. a non-circular section interposed between said handle grip portion and said axle extension;
- c. a kite spool rotatably mounted on said axle extension and having a pair of flanges, the inner flange having on its inner face a set of ratchet teeth, the outer flange having a crank;
- d. a ratchet collar slidably mounted on said non-circular section and having a pair of flanges at opposite ends, one of said flanges having a set of ratchet teeth engageable with the set of ratchet teeth formed on said kite spool, the other of said flanges being substantially annular for digital engagement by the hand that grasps said handle; and
- e. a spring yieldingly urging said ratchet collar toward said spool for engagement with the ratchet teeth of said spool.

2. The kite reel as set forth in claim 1 in which said ratchet teeth of both sets have extending ramp portions, said sets of ratchet teeth having complementary exterior configurations.

3. The kite reel as set forth in claim 1 in which said spring is a compression spring surrounding said non-circular portion and engaging at one end, a shoulder formed in said ratchet collar, and at the other end, a shoulder formed between said non-circular extension and said handle, said ratchet collar encompassing said spring.

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