No. 618,599. Patented Jan. 31, 1899.

A. V. CHAPIN.

FISHING REEL TENSION ATTACHMENT.

(Application filed Apr. 14, 1898.)

(No Model.)

Fig. 1.

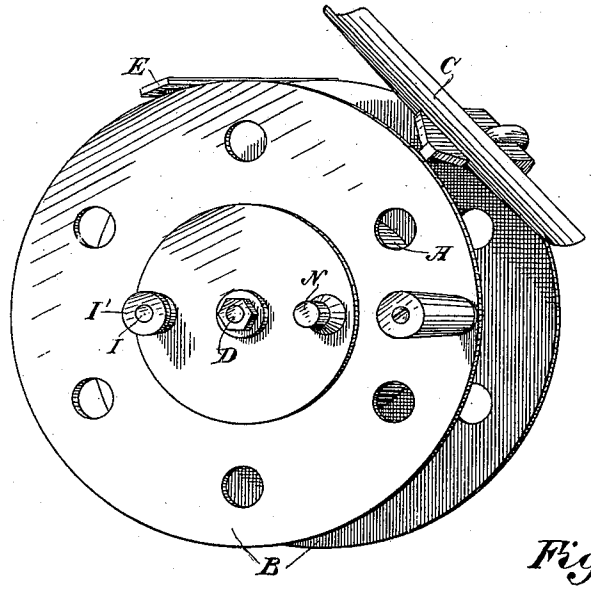


Fig. 2.

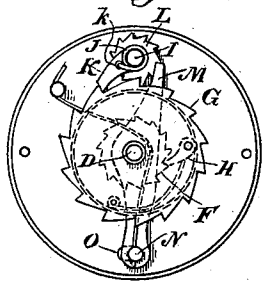
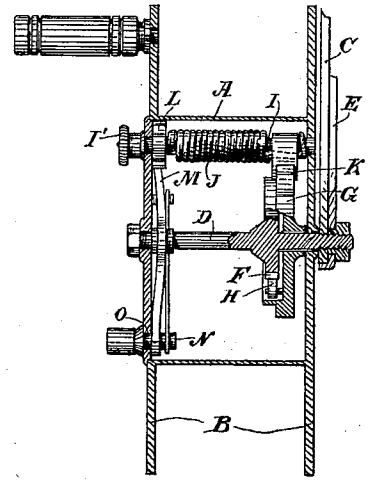


Fig. 3.



Witnesses,
H. F. Ascheck

Inventor
Andrew V. Chapin
By Dewey Thong & Co.
Atty.

UNITED STATES PATENT OFFICE.

ANDREW VERD CHAPIN, OF FERNDALE, CALIFORNIA.

FISHING-REEL TENSION ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 618,599, dated January 31, 1899.

Application filed April 14, 1898. Serial No. 677,525. (No model.)

To all whom it may concern:

Be it known that I, ANDREW VERD CHAPIN, a citizen of the United States, residing at Ferndale, county of Humboldt, State of California, have invented an Improvement in Fishing-Reel Tension Attachments; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in reels such as are used by fishermen and for similar purposes.

The object of my improvement is to provide for a varying tension upon the reel, whereby I am enabled to check the running out of the line or to relieve it, so as to run freely.

It also consists in details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a general view of the device. Fig. 2 is an inside view of the barrel. Fig. 3 is a vertical section through the reel.

A is the barrel of a reel, having flanges B, between which the line is to be wound.

C is the reel-holder, which is fixed upon the rod and has an arm extending to the center at one end and forming a support in which is secured the end of the shaft D, the latter extending centrally through the barrel, which is freely turnable on it, and E is the line-guide, these being of the usual or ordinary construction.

Upon the shaft D is fixed a ratchet-wheel F. Exterior to this and loosely turnable upon the shaft is the cup-shaped ratchet-wheel G, the cup being so made that the fixed ratchet-wheel F is essentially contained within the exterior turnable one. The exterior turnable ratchet-wheel has a spring-pressed pawl H in the interior of its cup, and this engages the teeth of the inner ratchet upon the shaft, so that the outer ratchet is allowed to turn in one direction.

I is a shaft extending through one of the heads B and lying inside of the barrel A. Around this shaft is coiled a spring J, the tension of which tends to turn the shaft in one direction. Upon the end of the shaft, which is in a plane with the ratchets G and F, previously described, is a pawl K, which is caused to engage the teeth of the outer ratchet G by the tension of the coil-spring. As at present shown, this spring is bent so as to pass through a hole *k* made in the pawl, and the spring, being so bent beyond the end of the main coil as to pass through this hole, is afterward bent toward the center, and a single turn is made upon the shaft, which holds the pawl in place. On the inner end of the shaft is a fixed ratchet L, and this is engaged by a spring-pressed lever-arm M, which, as here shown, is fulcrumed upon the main central shaft D, and its opposite end extends across to the other side of the head of the barrel or drum A, where it has a stud-pin N connected with it and projecting through a slot O in the plate or head to the exterior, where it is convenient to be handled by the operator. By pushing this pin so as to move in the slot toward one end the opposite end of the lever-pawl M is disengaged from the ratchet-wheel L, and the shaft I, carrying the coil-spring, is thus free to turn backwardly, and when it is so turned the pressure of the pawl K upon the ratchet-wheel is correspondingly relieved. Upon the outer end of this shaft I, which carries the coil-spring, is a milled head or thumb-piece I′, by which it may be turned. When it is desired to tighten the tension of the reel, as when a large fish is hooked and the line is running out, the operator turns this shaft by means of the milled head, thus coiling the spring J, and the spring thus coiled exerts a strong pressure upon the pawl K, which engages with the teeth of the exterior ratchet-wheel G, and thus greatly increases the power necessary to drag the pawl over said ratchet and correspondingly increases the pull or tension upon the reel. The pawl H engaging the inner ratchet, which is fixed to the reel-shaft, prevents the outer loose ratchet from turning while the spring-pressed pawl K is being dragged over its exterior teeth as the line runs out; but when the line is being wound upon the reel the pawl H slips easily over the teeth of the inner fixed ratchet with only the ordinary tension upon the line in winding it in. When it is desired to release the tension upon the outer ratchet, it is done by simply pressing the thumb-piece N, which is connected with the pawl M, so that the pawl is disengaged from the ratchet L, upon the tensional adjusting-shaft I, and the latter

instantly turns upon its axis until the tension of the coiled spring is relieved, and the reel is then free to turn in either direction without any strong pressure or tension upon either of the ratchets.

By this construction the backward tension, or that which takes place when the line is running out, may be regulated to any degree of nicety, and the reel can be used for either large or small fish, while the tension on the forward motion is not altered, and the line can always be wound up easily no matter what the backward tension may be.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a reel for fishing-lines, a winding-drum and centrally-disposed shaft upon which it is turnable, a ratchet fixed to the shaft and a second ratchet loosely turnable on the shaft, a pawl intermediate between the two ratchets by which the outer ratchet is prevented from turning in one direction, and is allowed to move in the opposite direction, an exterior pawl carried by the drum engaging the outer ratchet and moving it and the intermediate pawl over the inner ratchet when the drum is turned to wind the line in, and an adjustable spring whereby the pressure of the exterior pawl upon the ratchet is regulated, and the amount of power necessary to turn the reel in a reverse direction is increased or diminished.

2. A tension-regulating attachment for fishing-reels consisting of a shaft, a pawl fulcrumed upon the shaft and engaging the backward-turning ratchet of the reel, a spring carried by the shaft and adapted to press upon the pawl, an exterior turning device fixed to the shaft whereby it may be turned to increase the tension of the spring, and a second pawl and ratchet whereby the shaft is held at any desired point to which it may be turned.

3. A tension device for fishing-reels consisting of a shaft journaled and turnable in the winding-drum, a pawl fulcrumed upon the shaft and engaging the teeth of the ratchet which controls the backward movement of the reel, a spring carried by the shaft having one end fixed to the shaft and the other engaging and pressing upon the pawl, a turning-knob fixed to the shaft exterior to the reel whereby the shaft may be turned to increase the tension of the spring, a holding-ratchet fixed upon the shaft, a pawl adapted to engage said ratchet and hold it at any point of advance, and a means for disengaging the pawl and releasing the tension.

4. A tension-adjusting device for fishing-reels consisting of a shaft journaled in the reel essentially parallel with the main shaft thereof, a pawl journaled upon said shaft and engaging the exterior ratchet which controls the backward movement of the reel, a spring coiled upon the shaft having one end passing through a hole in the pawl and again coiled upon the shaft, the opposite end of the coil being secured to and turnable with the shaft, a ratchet fixed upon the shaft, a means for turning the shaft so as to coil and increase the tension of the spring, a pawl engaging said ratchet holding it at any point of advance, said pawl being centrally fulcrumed extending across the interior of the reel and having a knob connected with the opposite end whereby it may be moved so as to disengage the pawl from the ratchet and the latter be released from the tension of the spring.

5. A tension-regulating device for fishing-reels, consisting of a shaft journaled within the reel essentially parallel with the main ratchet-carrying shaft thereof, concentric ratchets whereby the reel is turnable in opposite directions and latched at any point, a means for regulating the tension of the ratchet which controls the outward movement of the line, consisting of a pawl fulcrumed upon the supplemental shaft, a coil-spring surrounding said shaft having one end engaging and pressing upon the pawl and the other end connected with the shaft, a means exterior to the reel-head whereby said shaft may be turned, a ratchet fixed upon the shaft, a pawl-arm centrally fulcrumed upon the main reel-shaft having one end adapted to engage the holding-ratchet of the supplemental shaft, and the other provided with a projecting operating-lug passing through a slot in the reel-head whereby the pawl may be disengaged to release the ratchet and allow the spring to uncoil and the tension to be removed from the reel.

6. An attachment for fishing-line reels consisting of connected pawl-and-ratchet mechanisms by which the reel is turnable to wind or unwind the line, and an intermediate device whereby the tension upon the unwinding line may be varied independent of that upon the line when moving in the opposite direction.

In witness whereof I have hereunto set my hand.

ANDREW VERD CHAPIN.

Witnesses:
JAS. SMITH,
L. H. MINER.