

(No Model.)

E. S. HOLMES.
FISHING REEL.

No. 470,130.

Patented Mar. 1, 1892.

Fig. 1.

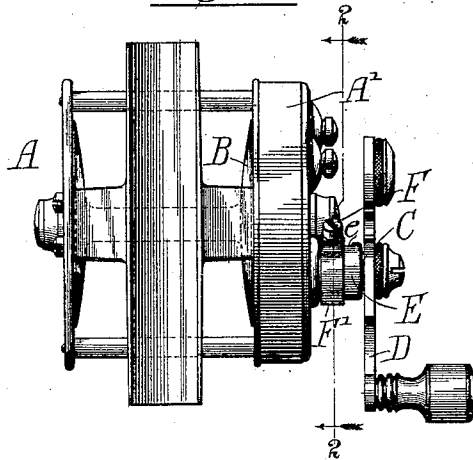


Fig. 2.

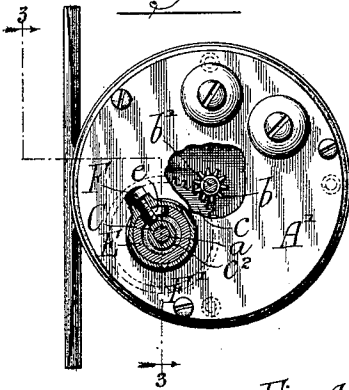


Fig. 3.

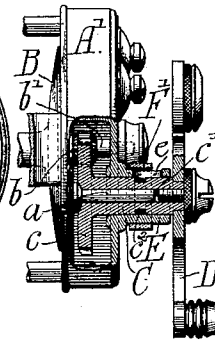


Fig. 5.

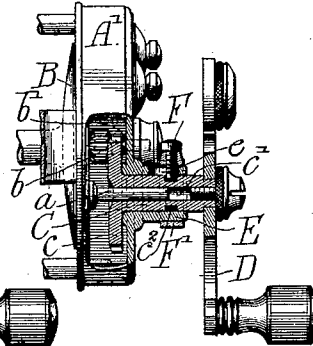


Fig. 4.

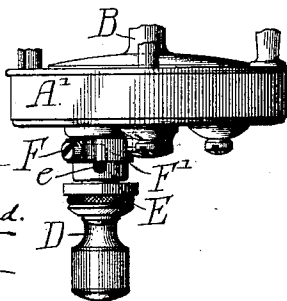
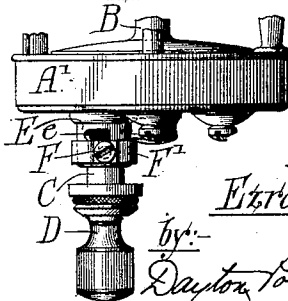


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

EZRA S. HOLMES, OF GRAND RAPIDS, MICHIGAN.

FISHING-REEL.

SPECIFICATION forming part of Letters Patent No. 470,130, dated March 1, 1892.

Application filed June 1, 1891. Serial No. 394,768. (No model.)

To all whom it may concern:

Be it known that I, EZRA S. HOLMES, of Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Reels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to fishing-reels, and has for its object to provide a reel the driving-gear of which may be readily and instantaneously connected with and disconnected from the spool, so that this latter may either be rotated by power applied to the crank or be allowed to run free without imparting motion to the driving-gear and crank.

To this end the invention consists in the matters hereinafter set forth, and specifically pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a bottom plan view of a reel embodying my invention. Fig. 2 is a sectional view taken on the line 2 2 of Fig. 1, a portion of the casing being broken away to show the internal construction. Fig. 3 is a detail view, partly in section, upon the line 3 3 of Fig. 2. Fig. 4 is a detail rear elevation. Fig. 5 is a view similar to Fig. 3, but showing the parts in another position. Fig. 6 is a view similar to Fig. 4, but showing the parts in another position.

In the said drawings, A indicates a reel-frame, of any approved construction, having at one side a casing A' to cover and protect the mechanism and carrying a spool B, provided with a pinion *b* on its projecting spindle *b'*.

C indicates the crank-shaft, which is mounted in the casing A', as hereinafter set forth, and which is provided on its outer end with the usual crank-handle D, by means of which it may be rotated. The inner end of the crank-shaft C is provided with a gear *c*, which is adapted to mesh with the pinion *b* on the spool-spindle. The parts thus far referred to may be of any suitable construction for their purpose, as the same forms in itself no part of my present invention.

The shaft C is mounted in a sleeve or tubular bearing E, extending outward from the casing A', and is capable of longitudinal motion in said sleeve in the direction of its axis

of rotation. The shaft C is additionally supported and guided by means of a pin *a*, mounted on the frame A and extending outward therefrom, the shaft C being provided with a central hole *c'* to receive said pin. I also provide a retaining device for the shaft C, consisting of a pin or screw F, mounted in a ring or annulus F' on the sleeve E, said screw extending inward through an L-shaped slot *e* in the sleeve E into a circumferential slot *c''* in the shaft C. The ring or annulus F' bears upon the sleeve E with sufficient friction to maintain itself thereon in any position to which it may be moved against accidental displacement, while at the same time the friction is not sufficient to materially interfere with the movement of the parts when directed by the hand of the operator. This frictional binding of the ring on the sleeve serves, of course, to also retain the shaft C and gear *c* in any position to which they may be moved.

When the parts are in the position shown in Figs. 1 to 4, inclusive, the gear *c* is in mesh with the pinion *b*, and rotary motion imparted to the shaft C by means of the crank-handle D will be transmitted to the spool B in an obvious manner. When in this position, the parts may be locked by turning the ring F' into the position shown, with the screw F engaged in the circumferential or laterally-projecting portion of the slot *c''*, in which position of the parts longitudinal motion of the shaft C and its connected parts will be prevented. When it is desired to disconnect the spool from its actuating mechanism, the ring F', being turned to bring the screw F in line with the longitudinal portion of the slot *c''*, it is only necessary to pull the shaft C outward, when the parts will assume the position shown in Figs. 5 and 6, and the spool will be entirely free to rotate independently of the actuating mechanism. The adjusting ring or collar F is at the point where the screw or pin F is attached to it provided with a raised boss, as shown in Figs. 2, 4, and 6, which not only affords a more secure and solid base for said pin F, but serves as an indicator by which to determine or ascertain whether the gear *c* is locked in engagement with the pinion *b* or in engagement therewith, but not locked, or free from said engagement.

It will be noted that the reel thus constructed is positive in its action and dispenses with the use of springs or other delicate parts, which may be apt to become disarranged at critical periods. The improvement may also be applied to old reels at a very trifling expense.

What I claim is—

1. The combination, with a reel-frame and a spool mounted therein and provided with a pinion, of a longitudinally-movable shaft provided with a circumferential groove and having at its outer end a crank-handle and at its inner end a gear adapted to mesh with said pinion, a fixed sleeve-bearing for said shaft provided with an L-shaped slot, and a ring or annulus frictionally engaging said sleeve and provided with a pin or screw extending through the slot in said sleeve-bearing into the circumferential groove of the shaft, substantially as described.

2. The combination, with a reel-frame and a spool mounted therein provided with a pinion, of a longitudinally-adjustable shaft provided with a circumferential groove and having at its outer end a crank and at its inner end a gear adapted to mesh with said pinion, a fixed sleeve-bearing for said shaft provided with an L-shaped slot, a ring or annulus mounted frictionally upon the sleeve-bearing and provided with a projecting boss, and a pin or screw projecting through the slot in the bearing-sleeve into the groove of the shaft, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

EZRA S. HOLMES.

Witnesses:

DELIA BRAINERD,
J. B. TISWOLD.