S. W. WARDWELL, Jr.

Fishing-Reel.

No. 220,776. Patented Oct. 21, 1879.

Fig. 1.

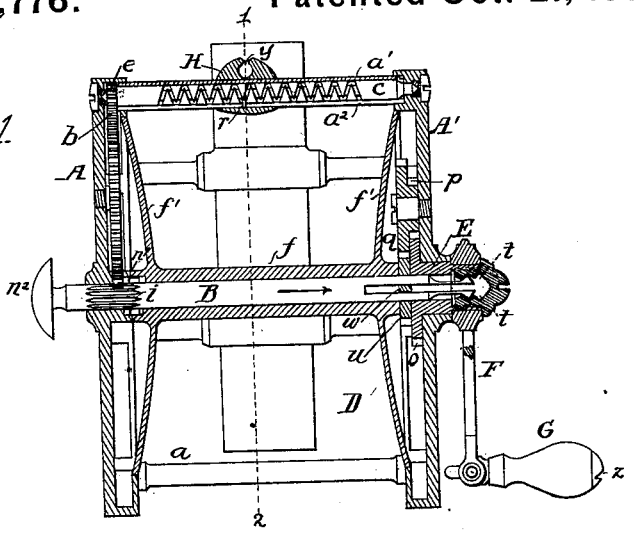


Fig. 2.

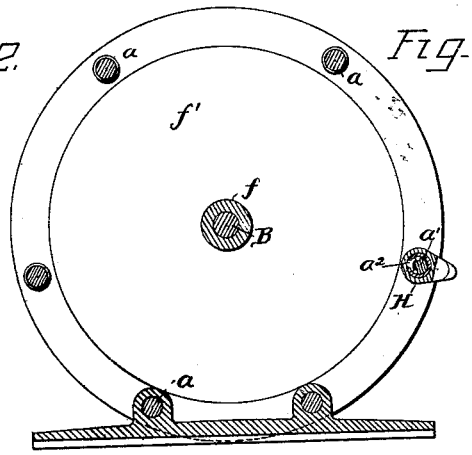


Fig. 6.

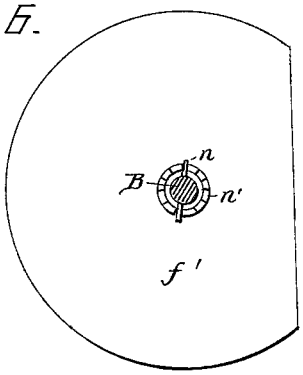


Fig. 5.

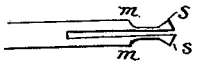


Fig. 3.

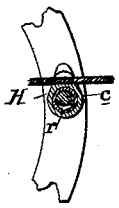


Fig. 4.

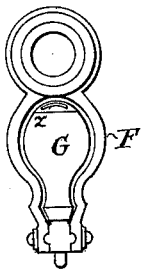


Fig. 7.

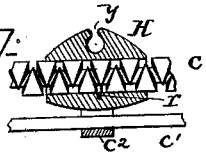
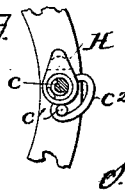


Fig. 8.



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UNITED STATES PATENT OFFICE.

SIMON W. WARDWELL, JR., OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN FISHING-REELS.

Specification forming part of Letters Patent No. **220,776,** dated October 21, 1879; application filed June 18, 1879.

To all whom it may concern:

Be it known that I, SIMON W. WARDWELL, Jr., of Providence, Providence county, State of Rhode Island, have invented an Improvement in Fishing-Reels, of which the following is a specification.

My invention relates to that class of reels intended to be applied to fishing-poles for facilitating the winding and casting of the line, and consists in combining with the bobbin a sliding spindle rotated from the crank-handle, and capable of being thrown in and out of connection with the reel; also, in the combination, with the reel, of a reciprocating line-guide, which may be turned to disconnect the line therefrom; and also in the combination, with the reel, of a crank provided with the handle pivoted to yield under pressure, to prevent it from breaking, all as fully described hereinafter.

In the drawings forming part of this specification, Figure 1 is a sectional plan through the center of my improved reel; Fig. 2, a transverse section on the line 1 2, Fig. 1; Fig. 3, a detached view, showing the line-guide in section; Fig. 4, a side view of the handle; Figs. 5 and 6, detached views, and Figs. 7 and 8 views showing a modification.

The case of the reel consists of the usual head-disks A A′, connected by cross-bars *a a′*, the latter being a tube with a slot, a^2, at one side, and containing a shaft, *c*, having a returning-thread, and with a pinion, *e*, at one end, driven by a toothed wheel, *b*, turning on a stud at the inside of the head A, and gearing with the long teeth *i* of the reel-spindle B, which both revolves and slides, as described hereinafter.

A cross-pin, *n*, of the spindle B is adapted to teeth *n′* in the end of the sleeve *f*, which, with heads *f′ f′*, constitutes the reel or bobbin D. One end of the spindle is provided with a knob, n^2, and the other end is reduced in diameter and split, forming two spring-fingers, *m m*, terminating in lugs *s*, adapted to notches *t t* in a stud, E, which extends through the head A′, and carries the handle F at the outer end, and at the inner end a toothed wheel, *o*.

In the drawings a screw-pin forms a part of the stud E—a construction which facilitates the construction of the handle, the two parts being practically one piece.

The wheel *o* gears with a pinion, *p*, secured to a toothed wheel, *q*, turning on a stud at the inside of the head A′, and the wheel *q* gears with the pinion *u* on the spindle B, a cross-bar, *w*, of the pinion *u* extending through the slot in the spindle, which can, therefore, slide independent of the pinion, while the two must turn together.

The tube *a′* may be turned in the heads A A′, its motion being limited by shoulders at its end striking a pin on the head A′, and on the said tube slides a guide, H, a pin, *r*, from which extends into the threads of the shaft *c*, so that the rotation of the latter carries the guide alternately back and forth between the heads.

A slot, *y*, in the guide serves for the passage of the line to and from the bobbin.

The handle F consists of spring-bars, between the ends of which is pivoted the crank G, having projections adapted to notches in the bars of the handle, so that the crank is secured in either position to which it may be turned, but not so firmly that it cannot yield should the device fall or be struck, thereby avoiding the breaking of the crank. The end of the crank has a notch, *z*, for the insertion of the thumb-nail in turning it outward.

When the spindle B is thrust in the direction of its arrow the pin *n* catches upon the teeth *n′* of the bobbin, which may be rapidly revolved through the medium of the multiplying-gear by turning the handle F, the line being laid regularly upon the bobbin by the action of the guide H.

When the line has to be cast or released it is only necessary to draw the spindle outward by the knob n^2, when the bobbin will be disengaged from the spindle and will rotate with perfect freedom.

There are three objects in running the bobbin free from engagement with the working parts—first, to enable the operator to cast a much greater length of line than with other reels; second, to prevent the overrunning and tangling of the line caused in other reels by the momentum of a heavy balance-handle or of heavy gear; third, to prevent injury to the

working parts by the sudden jerk of casting and to reduce the wear of working parts.

As the outgoing line might be liable to catch upon the guide, the latter may in such cases be turned to the position shown in Fig. 1, when the line can pass freely over it.

It will be noted that the spring-fingers *m* tend to maintain the spindle B in the position to which it may be adjusted without interfering with such adjustment when necessary.

In place of the slotted tube *a'*, a rod, *c'*, parallel to the shaft *c*, may be employed, as shown in Figs. 7 and 8, a slotted segment, c^2, of the the guide H receiving the rod, but permitting the guide to be turned to either position required.

Any required arrangement of multiplying-gear may be used, and any other convenient clutch may be substituted for the pin *n* and teeth *n'*.

I claim—

1. The combination, in a fishing-reel, of the sliding and rotating spindle B, bobbin D, rotating thereon, clutch for connecting the two, crank-handle F, and multiplying-gear for driving the spindle, substantially as set forth.

2. A reel provided with a sliding and rotating spindle, B, independent bobbin carried thereby, and connecting and disconnecting devices, whereby the bobbin and spindle may be caused to turn together or independently, as set forth.

3. The combination, with a reel, of a reciprocating line-guide, H, having a notch, *y*, to permit the ready connection or withdrawal of the line, substantially as set forth.

4. The combination of the bobbin-spindle B, threaded shaft *c*, and line-guide H, operated longitudinally by said shaft, and turning thereon, to throw it out of the way of the line, substantially as set forth.

5. The reel-spindle B, having spring-fingers *m m* and lugs *s s*, in combination with the revolving stud E and its notches *t t*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIMON W. WARDWELL, Jr.

Witnesses:

Edwin J. Peirce, Jr.,

Fred. H. Bishop.