W. M. Stuart,

Fishing-Line Reel.

No. 49,663. Patented Aug. 29, 1865.

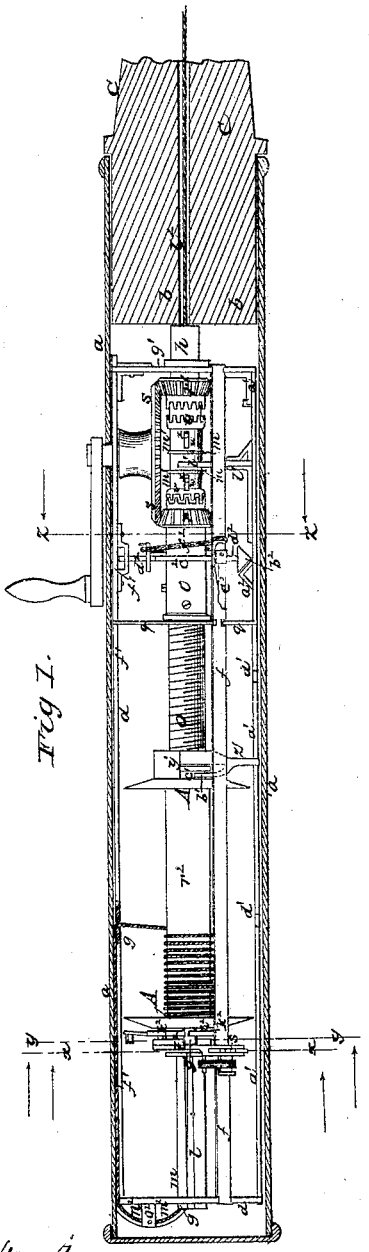

Fig. 1.

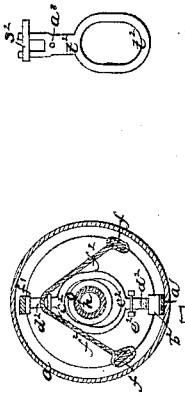

Fig. 4.

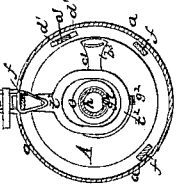

Fig. 3.

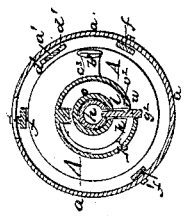

Fig. 2.

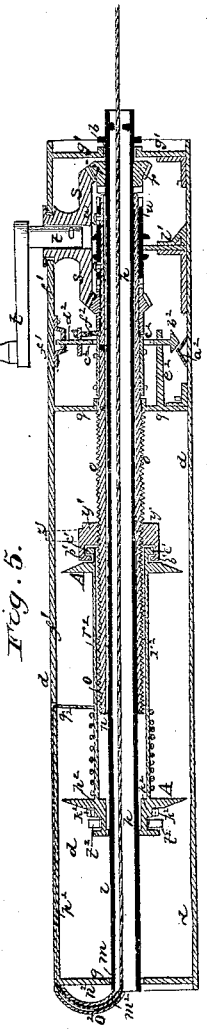

Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM M. STUART, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN FISHING-LINE REELS.

Specification forming part of Letters Patent No. **49,663**, dated August 29, 1865.

To all whom it may concern:

Be it known that I, WILLIAM M. STUART, of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Cord-Reeling Device; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates more particularly to an arrangement of mechanical devices to be applied to the handle portion of a fishing-pole for facilitating the reeling of the line; and it principally consists in imparting to the spool or reel upon which the line is wound a reciprocating rectilinear movement while being revolved, the reel and the operating devices being inserted and moving within any suitable outer casing of the pole.

In accompanying plate of drawings my improved cord-reeling device is illustrated, Figure 1 being a central longitudinal section of the outer casing, showing the reel or spool and mechanical devices used for operating the same; Figs. 2, 3, and 4, cross-sections of the same, taken, respectively, in the planes of the lines *x x*, *y y*, and *z z* of Fig. 1; and Fig. 5, a central longitudinal section of reeling devices.

a a in the drawings represent an outer casing or box, made of a cylindrical shape and of metal or any other desired material, secured at one end to the larger end *b* of a fishing-pole, *c*.

Within the casing *a*, and extending for nearly its entire length, is a frame, *d*, consisting of three longitudinal rods or bars, *f f f'*, secured at each end to and upon head or disk plates *g g'*, this frame being firmly set within the casing by means of screws or any other proper devices.

h is a hollow shaft turning at each end in bearings of the head-plates *g g'*. This shaft for a portion of its length has a narrow longitudinal slot, *l*, from its end *m* to the point *n* of the same, about one-third of its length, and from that point, passing through the intermediate partition plate or disk, *q*, fastened to the bars *f f*, is a loose sleeve-shaft, *o*, having a screw-thread for a portion of its length.

Between the head-plate *g'* and the intermediate plate, *q*, are two bevel-gear wheels, *r r'*, the one, *r'*, nearest the head-plate *g'* being secured upon the hollow shaft *h*, and the other turning loosely upon the sleeve-shaft *o*, but both interlocking with a common larger bevel-gear wheel, *s*, at points diametrically opposite to each other, turning in bearings of the bar-frame *f'*, and having a crank-handle, *t*, outside of the casing *a*. *u* is a sliding clutch moving upon sleeve *o*, between the two gears *r r'*, with each of which it is alternately thrown into connection, as will be presently described, by interlocking its prongs *v v* with corresponding prongs around the shafts *h* and *o* of the gears, the clutch having guiding-slots *w w*, with set-screws *x' x'*, which hold and retain it in connection with the sleeve *o*, so that as it is revolved by either the gears *r r'* the sleeve will be correspondingly actuated, they both moving as one in either case.

A is a reel or spool, on which the fishing-line or other cord to be reeled is wound, placed loosely upon the sleeve-shaft *o*, over which it is made to move forward and backward by means of a screw-nut, *y'*, in which the screw-sleeve turns, having a radiating arm, *z'*, moving upon the longitudinal sliding bar *a'* of the head and intermediate plates, *g*, *g'*, and *q*, and prongs *b' b'* interlocking with the groove *c'* around one end of the reel A, whereby the screw-sleeve, as it is revolved by the gear *r* or *r'*, according to which is in connection with the clutch *u*, causes the screw-nut to move either in a forward or backward direction, as the case may be, carrying with it the reel through its prongs *b' b'*.

The clutch is thrown alternately in connection with the gears *r* and *r'* by means of the projecting arm *z'* of the traveling nut *y'*, which, as it moves along upon the bar *a'*, before referred to, abuts against one of the shoulder-pieces *d' d'* of the same, according to the direction in which the reel is traveling, thus moving the bar sufficiently to cause its fixed arm *b'*, that at its outer end partially embraces the clutch to move in and between the raised lips *m'* of the same, against one of which it comes to a bearing, consequently sliding the clutch either to the right or left, and disconnecting it from one and connecting it with the other of the two gears, thereby reversing the rotation of the screw-sleeve, and consequently the direction in which the reel moves, until the nut-arm reaches the shoulder-piece toward the other end of the sliding bar, when the clutch is again moved and the connection of the gear-wheels with it again changed, as above de-

scribed, again reversing the movement of the reel, and so on, as long as may be desired or necessary. Thus a forward movement of the reel is secured, and its length of travel can be regulated to any degree desired by simply arranging the shoulder-pieces of the sliding bar either nearer to or farther from each other, as is evident without further description; but it is only necessary that it should move a distance equal to its length.

On the sliding bar, for operating the clutch as described, is a fixed angular projecting block, a^2, that as the bar is moved slides over the inclined side of a similar shaped end, b^2, of an oblong circular frame, c^2, encircling the sleeve o, and moving, by its arms d^2, in guides of the fixed bar f' and fixed projecting piece e^2 of the intermediate plate, q, the end of the frame being held against the angular block by the tension and elasticity of its spring f^2, in order to prevent the bar from moving except when properly actuated by the device described.

g^2 is a catch placed in the raised lip h^2 of the outer end of the reel A, and interlocking with the longitudinal slot l of the hollow shaft h, where it is retained by a spring, k^2, bearing upon its outer end and passing entirely around the raised lip h^2, so that as the shaft h is revolved through its gear r' interlocking with the driving-gear s, the reel A necessarily revolves in conjunction therewith, the catch, as the reel moves back and forth upon the sleeve-shaft o, as before explained, sliding in and along the slot, whereby the reel is continuously revolved, and in one and the same direction, notwithstanding the lateral play of the same, as is evident.

Extending entirely through and for the whole length of the fishing-pole, in its center, I form a guiding-tube, l^2, as partially represented in Fig. 1, continuous with and in the same direction with the hollow shaft h, through which tube and shaft the fishing-line (shown in red in the drawings) is passed, and out at the head-plate g of the frame for the reeling devices, through and along a groove, m^2, of a circular-shaped end guide, n^2, having a sliding cap-plate, o^2, to and along the groove p^2 of the fixed bar f' of the frame for a short distance, and then through an aperture, q^2, of the same to the shaft r^2 of the reel A, upon which it is wound by turning the crank-handle in the proper direction through the devices connecting it therewith, as hereinbefore particularly explained and referred to, the reel being both moved in a lateral direction and at the same time continuously revolved.

From the above description it is evident that a perfect reeling of a fishing-line is secured, and with quickness and dispatch, the arrangement of devices for accomplishing the same being simple and effective in operation, the advantages of which are manifest to all persons expert in the use of fishing-lines.

By passing the fishing-line entirely through a central tube of the pole, as described, it cannot by any possibility become entangled with the fishing hook or hooks used, the importance of which is manifest to all.

When desired to unreel the line the spool on which it is wound is disconnected from the reeling devices by depressing the projecting end s^2 (on the outside of the reel-casing a) of the circular frame t^2, embracing the raised lip h^2 of the reel sufficiently to cause the said frame t^2 to abut against the outer end of the catch g^2 and throw it out of connection with the slot of the hollow shaft h, whereby, as is plainly apparent, the reel is then left free to revolve by itself, and with no lateral play upon the sleeve o, as no motion is communicated to the gears r and r', the catch being held out of the slot by the end u^2 of the spring k^2, which engages with the notch v^2 in the same, as shown in Fig. 2.

By relieving the pressure of the hand upon the frame t^2 and moving it back to its original position, the catch g^2 is then thrown into connection with the hollow shaft, when its slot comes opposite to it by the downward pressure of the spring resting upon it, the other end of the spring being previously disengaged from its notch by a stud or pin, a^3, of the frame abutting against and moving over the under side of the incline b^3, on the outer end of a fixed arm, c^3, of the spring, whereby the arm is caused to be sufficiently raised to relieve the spring from the notch in the catch, as desired.

In lieu of having the reel move forward and backward, as described, while it is revolved, it may be stationary, and the longitudinal or guiding bar of the reel-frame, over which the cord passes from the spool similarly operated to carry the thread along and over the length of the reel, so as to evenly wind the cord thereon, it being only necessary to disconnect the nut y' from the reel and connect it with the bar, then arranged so as to slide, as is evident without further explanation.

I claim as new and desire to secure by Letters Patent—

1. The arrangement of the mechanical devices herein described for winding a line upon a suitable reel or spool, operating together substantially in the manner and for the purpose set forth.

2. Connecting and disconnecting the reel from its driving-shaft by means of a frame, t^2, so constructed and arranged in combination with the spring k^2 on the reel as to interlock the catch g^2 or withdraw it from the shaft-slot l, substantially as described, and for the purpose specified.

3. Passing the line or cord through the center of the fishing-pole to the reel or spool, for the purpose described.

WM. M. STUART.

Witnesses:

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C. L. TOPLIFF.