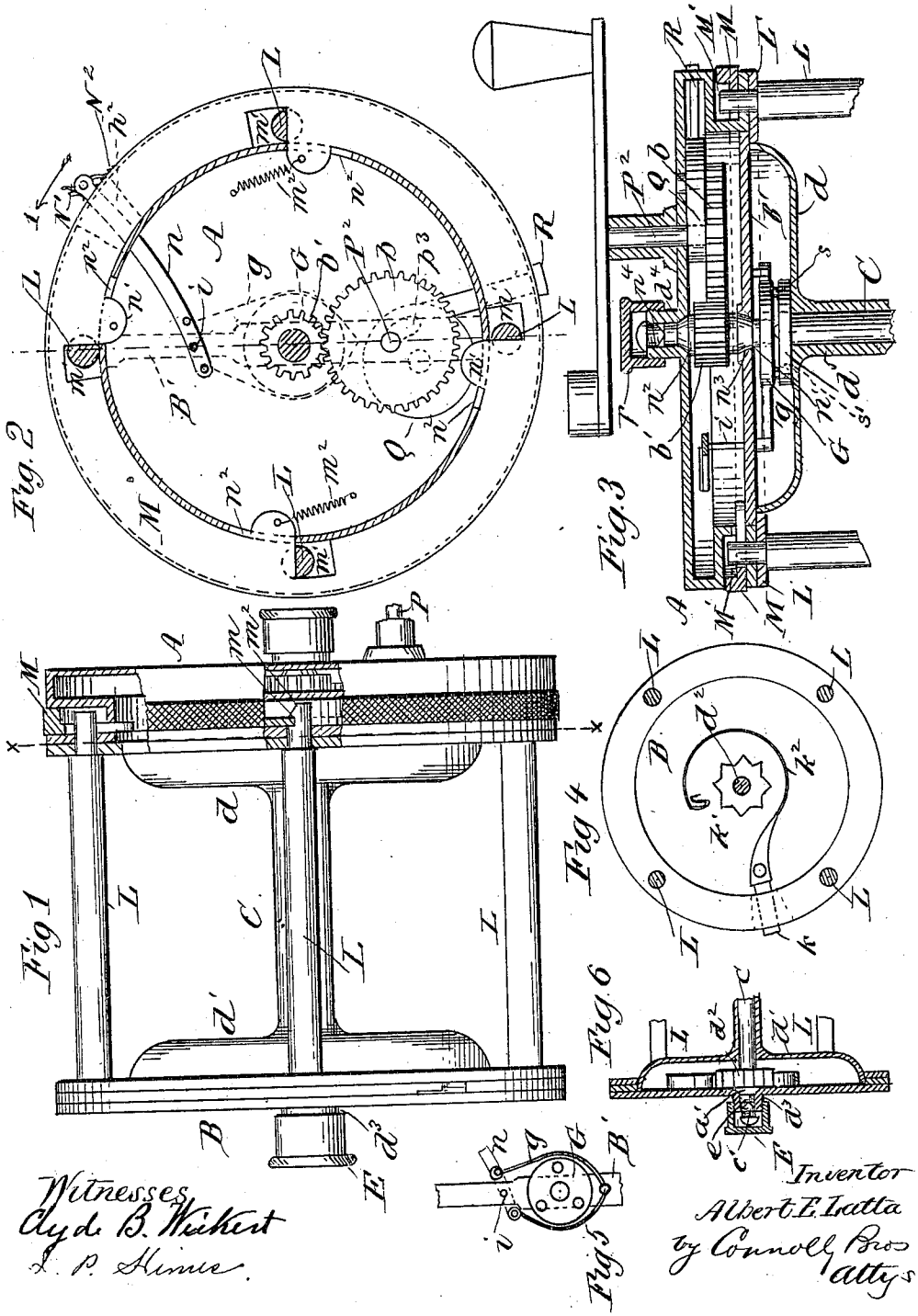
No. 837,080. PATENTED NOV. 27, 1906.

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FISHING REEL.

APPLICATION FILED JUNE 22, 1906.

2 SHEETS—SHEET 1.



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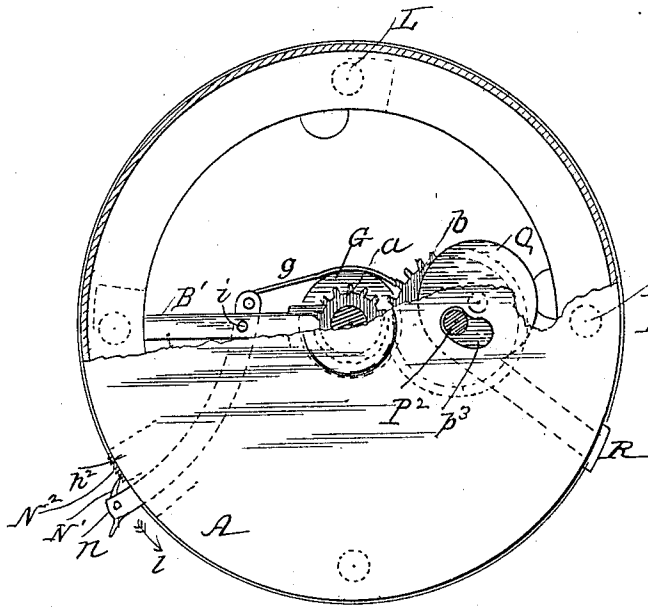


Fig. 7.

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UNITED STATES PATENT OFFICE.

ALBERT E. LATTA, OF WASHINGTON, DISTRICT OF COLUMBIA.

FISHING-REEL.

No. 837,080. Specification of Letters Patent. Patented Nov. 27, 1906.

Application filed June 22, 1906. Serial No. 322,882.

To all whom it may concern:

Be it known that I, ALBERT E. LATTA, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Fishing-Reels, of which the following is a specification.

This invention has relation to fishing-reels, and has for its object the provision of a reel which will permit the easy and expeditious removal and replacement of the spool without disarrangement of the other working parts and in which novel features of construction and arrangement are contained with reference to the click and drag and the mounting of the gearing and spool, whereby the reel is made thoroughly reliable, easy to manipulate, devoid of undue friction, and comparatively simple and economical.

In the accompanying drawings, Figure 1 is a side view, enlarged, of a reel embodying my invention, parts being broken away to show interior mechanism. Fig. 2 is a transverse section taken on the line x x of Fig. 1. Fig. 3 is an axial section through the gear-head. Fig. 4 is an inner face view of the head of the reel containing the click. Figs. 5 and 6 are detail views. Fig. 7 is an end view with part of head broken away to show gearing.

A designates the head of the reel, within which are mounted the gear-wheels b b, by which the spool is rotated, and B designates the head or casing within which is mounted the click.

The reel-spool comprises the spindle C and dished end plates or disks d d', secured rigidly to the spindle. The end of the spindle projecting through the disk d' has rigidly secured to it the toothed "click" d^2. The spindle outside the click-wheel has a conical shoulder a' journaled in a conically-recessed boss or central bearing d^3 of the head B. The journal e of the spindle is recessed in its end to receive the conical end of the screw c', which is fitted in a threaded hole in the center of the boss and serves as a means of taking up wear in the bearings of the spindle and for preventing end thrust or longitudinal play of the spindle. The outside of the boss d^3 is threaded and has fitted to it a cap E, which covers and protects the head of the screw c'.

The brake mechanism is located at the other or winding end of the reel and comprises a flat metallic spring-band g, bent around the brake-wheel G. The spring-band g is attached between its ends to the inner side of the cross-bar or bridge B′, spanning the inner edge of the head or casing A, and the ends overlap, as shown, and are pivotally connected to a lever n, fulcrumed on the bar B′, the connection of the ends of the spring-band to the lever being on opposite sides, respectively, of the fulcrum i. When this lever is moved in the direction indicated by the arrow l, the band is contracted and brought in contact with the periphery of the brake-wheel or collar under more or less controllable pressure to regulate the tension of the line. The brake-lever n projects through a slot h^2 in side of the head A and carries a dog N′, which takes into notches N^2 in the side of the head, thus retaining the lever in any desired position and keeping the brake or drag under any desired pressure.

The click mechanism comprises a lever k, mounted on the inner face of the head B and projecting through a slot in the side of the head B. The click-tooth k' is formed as part of or secured to a short flat spring-plate k^2, mounted on the inner end of the lever, and is brought into and out of engagement with the click-wheel by moving the lever to the right or left.

The frame bars or rods L which connect the end plates together are rigidly and permanently attached at one end to the head B and to the supplementary ring L′, forming part of the head A. At the head end said rods L project a short distance through the ring L′ and are notched, as shown at m, to engage with a locking-ring M, which turns in an annular recess M′ in the side of the winding-head and is formed with notches m', through which the notched ends of the rods L pass. The rods L are beveled, as shown at m^2, so that the ring will automatically engage the notched portion of the rods when the head A is being put on the reel, the ring being turned by contact of the edges of its notches with the beveled ends of the rods.

The ring M has inwardly-projecting tongues n', which pass through slots n^2 in the inner wall of the recess M′ and have retracting-springs m^2 to draw the ring into engagement with the notches m of the rods L. To release the ring from the rods and remove the head A, the ring is turned and the edges of the notches m disengaged from the rods.

The multiplying-gears are mounted inside the head A between the plate or bridge B′

and the end plate of the head A. Said bridge has at its center a boss n^3 with a conical opening in which the conical journal n' of the pinion-shaft n^2 has its bearing. The outer end of the shaft is supported by a pointed screw n^4, adjustable to take up wear, in a boss d^4, similar to the boss d^3, and provided with a cap E', similar to the cap E.

The shaft of the pinion is prolonged beyond the cone n^3 and has secured to it the brake-wheel G, before referred to, and from the face of said wheel pins s project. The end of the spindle C projecting through the disk d' has fixed to it a wheel or disk d^5 with holes s' into which the pins s enter when the reel parts are in position for use, and thereby motion is communicated from the pinion-shaft to the spindle. When the head A is removed from the rods L, the pins s are withdrawn from the disk d^5. The extreme pivotal end of the spindle is beveled to a point and has a bearing in the conically-recessed end of the pinion-shaft.

The large gear-wheel is rigidly mounted on the handle-shaft P^2, and the latter is mounted eccentrically on a disk Q, having an operating-arm R projecting through a bayonet-slot in the side of the head A. The shaft P^2 passes through a slot p^3 in the end plate of the head A concentric with the center of the disk Q. The gear b is shifted into and out of engagement with the pinion by moving the arm R. When the gear is in engagement with the pinion, the reel is operated in the usual way; but when the gear p is thrown out of engagement, as may be desirable in casting, the reel rotates freely and independently of the gear b and winding-crank.

Having described my invention, I claim—

1. In a fishing-reel, the combination with rods or bars, having notched ends, of a detachable head or casing containing the gearing, a locking-ring mounted on said casing and adapted to engage automatically with the notched ends of the rods, and a detachable line spool or bobbin.

2. In a fishing-reel having a detachable line spool or bobbin and a detachable head or casing comprising an end plate and a flange forming an inclosing wall containing the gearing, the combination with rods having notched ends terminating short of the outer end of the casing and projecting outside the inclosing wall of said casing, of a movable locking device adapted to engage with the notched ends of the rods.

3. In a fishing-reel having a detachable line spool or bobbin and a detachable gearing head or casing, the combination with the frame rods or bars, having notched and beveled ends, terminating short of the outer end of said casing, of a locking-ring surrounding said casing and notched, and provided with inwardly-projecting lugs, and a spring or springs connected to said lugs, the ring being adapted to automatically engage the notched ends of the rods, and to be released therefrom by the partial rotation of the ring.

4. In a fishing-reel having a head or casing containing multiplying-gearing, the combination with the line-spool, the toothed pinion through which motion is conveyed to the line-spool and the spur-gear, of a disk journaled on the casing and having the spur-gear shaft eccentrically secured thereto, and an operating-handle on said disk, whereby the spur-gear may be shifted into and out of engagement with the pinion.

5. In a fishing-reel the combination with the frame rods or bars and a removable line-spool, of a detachable head, consisting of a cylindrical casing and end plate, having at and across its inner open end a bridge or cross-bar, the gearing mounted within said head between the cross-bar and end plate of the casing or head, a brake-wheel mounted on the shaft of the pinion, and a brake-band and a brake or drag lever connected to the brake-band and mounted on said cross-bar or bridge.

6. In a fishing-reel, the combination with the longitudinal frame-rods, and a removable line spool or bobbin, of a detachable gear head or casing, a cross-bar bridging the inner end of the casing, a spur-gear, a pinion, cone-bearings for the pinion-shaft on the casing and cross-bar, and adjustable means for taking up wear on the bearing-pivots.

7. In a fishing-reel comprising a removable gear-casing and line spool or bobbin the combination with the line spool or bobbin of a brake comprising a brake-wheel, an elastic band embracing the brake-wheel, and a brake-lever connected on opposite sides of its fulcrum to the ends, respectively, of said band, and a manually-operable dog pivoted to said lever outside the reel-head and adapted to engage with a rack on the periphery of the head for locking the lever at different positions, substantially as described.

8. In a fishing-reel comprising heads A and B, the latter being slotted in its rim for the passage of a click-lever, a removable gear-casing a removable line spool or bobbin and a click on the head B, the combination with the click-wheel of a pivoted click- ever projecting through the slot in the rim of head B, a spring mounted on the inner end of said lever, and a click-dog on the end of said spring.

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

ALBERT E. LATTA.

Witnesses:
THOS. A. CONNOLLY,
JOS. B. CONNOLLY.