No. 803,165. PATENTED OCT. 31, 1905.

E. HOLZMANN.

FISHING REEL.

APPLICATION FILED JAN. 16, 1905.

Fig. 1.

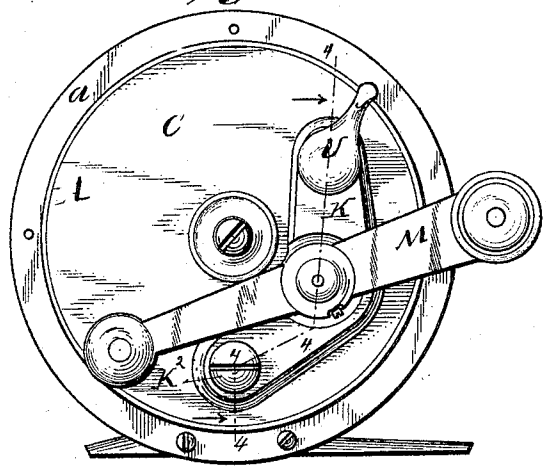


Fig. 2.

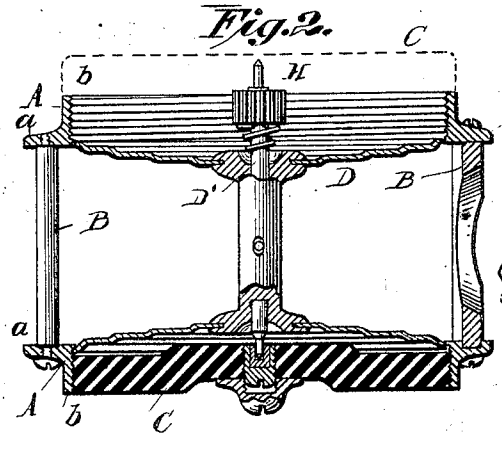


Fig. 3.

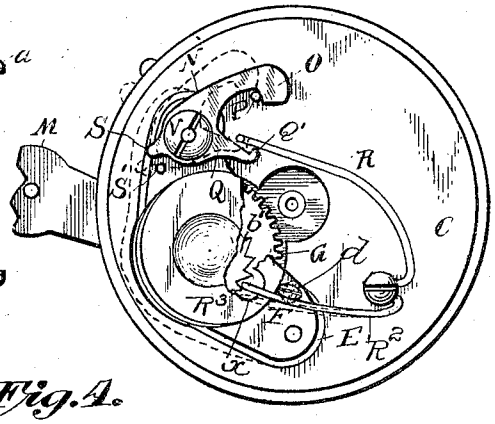
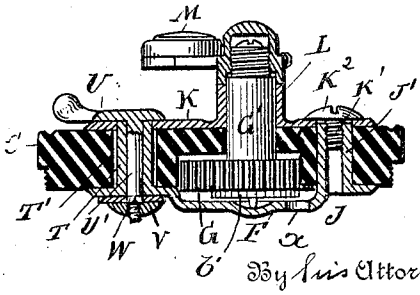


Fig. 4.



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UNITED STATES PATENT OFFICE.

ERNEST HOLZMANN, OF NEW YORK, N. Y.

FISHING-REEL.

No. 803,165. Specification of Letters Patent. Patented Oct. 31, 1905.

Application filed January 16, 1905. Serial No. 241,260.

To all whom it may concern:

Be it known that I, ERNEST HOLZMANN, a citizen of the United States, residing at the city of New York, borough of Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Fishing-Reels, of which the following is a specification.

This invention relates to improvements in fishing-reels; and the object of my invention is to provide a new and improved fishing-reel of this kind which is simple in construction, light, strong, and durable, and is provided with simple means for throwing it in or out of gear with winding cog-wheel with the pinion on the spool, at the same time throwing in and out of gear with the winding-spool an automatic drag which acts as a brake on the line when the fish pulls on the line, but does not act when the line is wound in or when the winding cog-wheel is disengaged from the spool-pinion.

The further object of my invention is to provide means for adjusting the reel in such a manner that the said drag is thrown out of use entirely.

In the accompanying drawings, in which like letters of reference indicate like parts in all the figures, Figure 1 is a side view of my improved reel. Fig. 2 is a cross-sectional view of the same. Fig. 3 is a face view of the inner side of the removable head carrying the winding mechanism. Fig. 4 is a sectional view on the line 4 4 4 4 of Fig. 1.

The reel is constructed with a frame composed of two rings A, united by cross-pieces B, the ends of which are secured in flanges *a* of the rings A, which flanges *a* are parallel with the longitudinal central plane of the reel. The rings A are also provided with outwardly-extending flanges *b* at right angles to the flanges *a*. The flanges *b* are screw-threaded internally and into each a head C is screwed, between which two heads the spool D is mounted in the usual manner. The heads C are of equal diameter and will fit in either flange *b*. They are therefore interchangeable, and by reversing their relative positions the reel can be changed from a right-hand to a left-hand reel. The heads can also be readily removed for adjusting, oiling, cleaning, or repairing parts without detaching any parts of the frame proper, and the reel can be put together or taken apart very easily and rapidly without the use of tools.

One head C is provided on its inner side with a recess E, in which a plate F is mounted to swing, which plate carries the cog-wheel G, which can be engaged with the pinion H on one end of the shaft D′ of the spool D.

The wheel H is connected with a suitable automatic brake, which is not shown and need not be described, as it forms no part of the present invention and may be of any well-known or suitable construction and may be omitted entirely.

The plate F is provided at one end with a tubular internally-screw-threaded pivot J, which extends through a hole J′ in the head C. A plate K rests loosely upon the outer face of the head C, and through a hole in one end of the same a screw K′ is screwed into the tubular pivot J, the head K^2 of the screw K′ resting upon the outer surface of the plate K. The arbor G′ of the cog-wheel G passes through an external neck L on the plate K, and on said arbor the winding or crank handle M of conventional shape and construction is secured. A latch N is pivotally mounted on the swinging end of the plate F, and is provided with a toe O, which can engage a pin P, projecting from the inner surface C of the head. It is also provided with an arm Q, against which the free end of a spring R bears, which is attached to the inner surface of the head C, and said arm is provided at its end with an offset Q′ to prevent the free end of the spring from slipping off. The latch has a projection S, which can rest against a pin S′, projecting from the plate K. A tubular pivot T projects from the swinging end of the plate F through a slot T′ in the head C and into an aperture in the swinging end of the plate K. A handle-lever U, resting loosely on the outer surface of the plate K at the swinging end of said plate, is provided with a pivot-pin U′, which is passed through the tubular pivot T, and adjacent to its inner end has a squared part W, which passes through a squared hole in the latch N, and beyond the squared part this pivot-pin U′ is provided with a screw-threaded part on which a nut V is screwed, which rests upon the latch N. It will thus be observed that the plates F and K, with their tubular pivots and connections passing through the openings in the head C, form a pivot-frame, of which one member rests on the outer face of the head and the other on the inner face and which two parts are connected by suitable connecting-pieces so as to make the frame an entirety.

When the spool is to be thrown out of gear with the winding mechanism, the handle U is

pushed outward—that is, toward the rim of the reel-frame. Thereby the toe O is disengaged from the pin P, and at the same time the projection S is pressed against the pin S′, so that the continued pressure moves the frame formed by the plates F and K outward toward the rim of the reel and the several parts into the positions shown in dotted lines in Fig. 3. The toe O rides upon the pin P, where it is held by the pressure of the spring R, thus keeping the cog-wheel G disengaged from the pinion H.

When the spool is to be thrown in gear with the winding mechanism—that is, immediately after throwing the line, as in casting—the handle-lever U is moved inward, and as the latch N cannot be turned as long as the toe O rests on the pin P it follows that the pressure of the handle-lever is communicated to the frame formed of the plates F and K, and this frame is swung inward, whereby the cog-wheel G is meshed with the pinion H. By this inward movement the latch N is moved down so far that the toe O slides off the pin P and by the action of the spring R is thrown into the position shown in full lines in Fig. 3, whereby the parts are again locked in place and retain these positions until the spool is again to be thrown out of gear with the winding mechanism.

A ratchet-wheel b' is mounted to turn with the wheel G, and is adapted to be engaged by the end of a spring R^2, mounted on the head C. The end of the spring R^2 is bent, and extends through a hole X in the plate F. This bent end forms a pawl or click, which will be engaged by the teeth of the ratchet-wheel b' when the spring R^2 is in the position shown in full lines in Fig. 3, and the ratchet-wheel will then act as a brake or drag. The spring R^2 rests against a cam-screw d on the plate F, and when the user does not care to use the brake or drag the head C is unscrewed and the cam-screw d turned ninety degrees to the position indicated by dotted lines in Fig. 3, and this will move the spring R^2 to the position indicated by dotted lines in said figure, it being understood that the hole in the plate F through which the bent end of the spring R^2 extends is large enough to permit this movement, and the bent end cannot then be engaged by the teeth of the ratchet-wheel b'.

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

1. In a fishing-reel, the combination with a frame, heads and spool, of a pinion on the spool, a cog-wheel mounted for engagement with said pinion, a frame carrying said cog-wheel, which frame is pivoted to one head, and is composed of two plates on opposite faces of said head, which plates are connected by connecting-pieces passing through apertures in said head, substantially as set forth.

2. In a fishing-reel, the combination with a frame, heads and spool, of a pinion on the spool, a cog-wheel mounted for engagement with said pinion, a frame carrying said cog-wheel, which frame is pivoted to one head, and is composed of two plates on opposite faces of said head, which plates are connected by two tubular pivots, substantially as set forth.

3. In a fishing-reel, the combination with a frame, heads and spool, of a pinion on the spool, a cog-wheel mounted for engagement with said pinion, a frame carrying said cog-wheel, which frame is pivoted to one head and is composed of two plates on opposite faces of said head, which plates are connected by two tubular pivots and members in said tubular pivots, substantially as set forth.

4. In a fishing-reel, the combination with a frame, heads and spool, of a pinion on the spool, a cog-wheel mounted for engagement with said pinion, a frame carrying said cog-wheel, which frame is pivoted to one head and is composed of two plates on opposite faces of said head, a latch pivoted on one end of said frame on the inner face of the head, and means on the outer face of the head for turning said latch, and a spring acting on the latch, substantially as set forth.

5. In a fishing-reel, the combination with a frame, heads and spool, of a pinion on the spool, a cog-wheel mounted for engagement with said pinion, a frame pivoted to one head and carrying said cog-wheel, a latch pivoted to the swinging end of said frame, and having a toe, a pin on the head for engaging the said toe, a spring acting on the latch, and a handle device connected with said latch and located on the outer face of the head, substantially as set forth.

6. In a fishing-reel, the combination with a frame, heads and spool, of a pinion on the spool, a cog-wheel mounted for engagement with said pinion, a plate pivoted to the inner face of one head and carrying said cog-wheel, a latch pivoted to the free end of said plate and having a toe, a pin on said head for engagement with said toe, a projection on said latch, a pin on the pivoted plate, against which pin the projection can rest, a spring acting on the latch and means for shifting said latch and swinging the pivoted plate, which means are located on the outer surface of the head, substantially as set forth.

7. In a fishing-reel, the combination with a frame, heads and spool, of a pinion on the spool, a cog-wheel mounted for engagement with said pinion, a plate pivoted on the inner face of said head, a latch mounted on the free end of said plate and provided with a toe, a pin on the inner surface of the head for engagement with said toe, a spring acting on said latch, a pivot-pin mounted to turn in said plate and provided with a handle-piece on the outer face of the head, which pivot-pin is provided at its inner end with a squared part passing through a corresponding aperture in

the latch, and a nut screwed on the said pivot-pin, for holding the latch in place on the pivot-pin, substantially as set forth.

8. In a fishing-reel, the combination with two circular frames having flanges, cross-pieces attached to said flanges and uniting the two frames, said frames having outwardly-extending flanges at right angles to the flanges connected by the cross-pieces, which outwardly-extending flanges are screw-threaded internally, interchangeable heads screwed into the said threaded flanges, a spool mounted between the heads and means for turning the spool, substantially as set forth.

9. In a fishing-reel, the combination with a frame, interchangeable heads removably connected to the frame and a spool mounted between said heads, of a cog-wheel for rotating said spool and means for turning said cog-wheel, a plate pivoted on the outer face of one head and serving to shift the cog-wheel into and out of engagement with the spool, and means on said plate for shifting it, substantially as set forth.

10. In a fishing-reel, the combination with a frame, of a plate pivoted to the same, a winding cog-wheel mounted on the same, a ratchet-wheel mounted to turn with the cog-wheel, a click-spring engaging said ratchet-wheel and passing through a hole in the pivoted plate, and means on said pivoted plate for holding said click-spring in or out of engagement with said ratchet-wheel, substantially as set forth.

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

ERNEST HOLZMANN.

Witnesses:
OSCAR F. GUNZ,
OLIN A. FOSTER.