(No Model.)

# A. LANG.

## FISHING REEL.

No. 283,496. Patented Aug. 21, 1883.

Fig. 1.

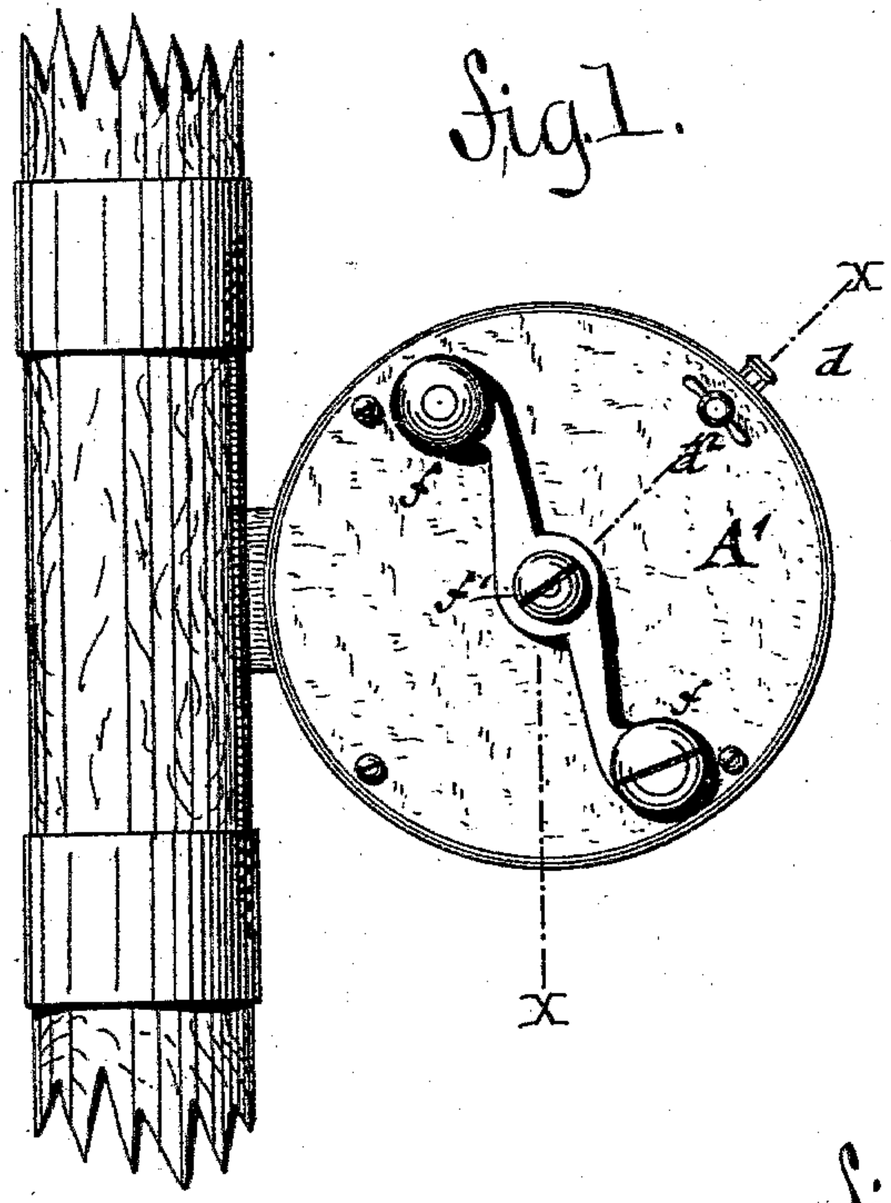



Fig. 2.

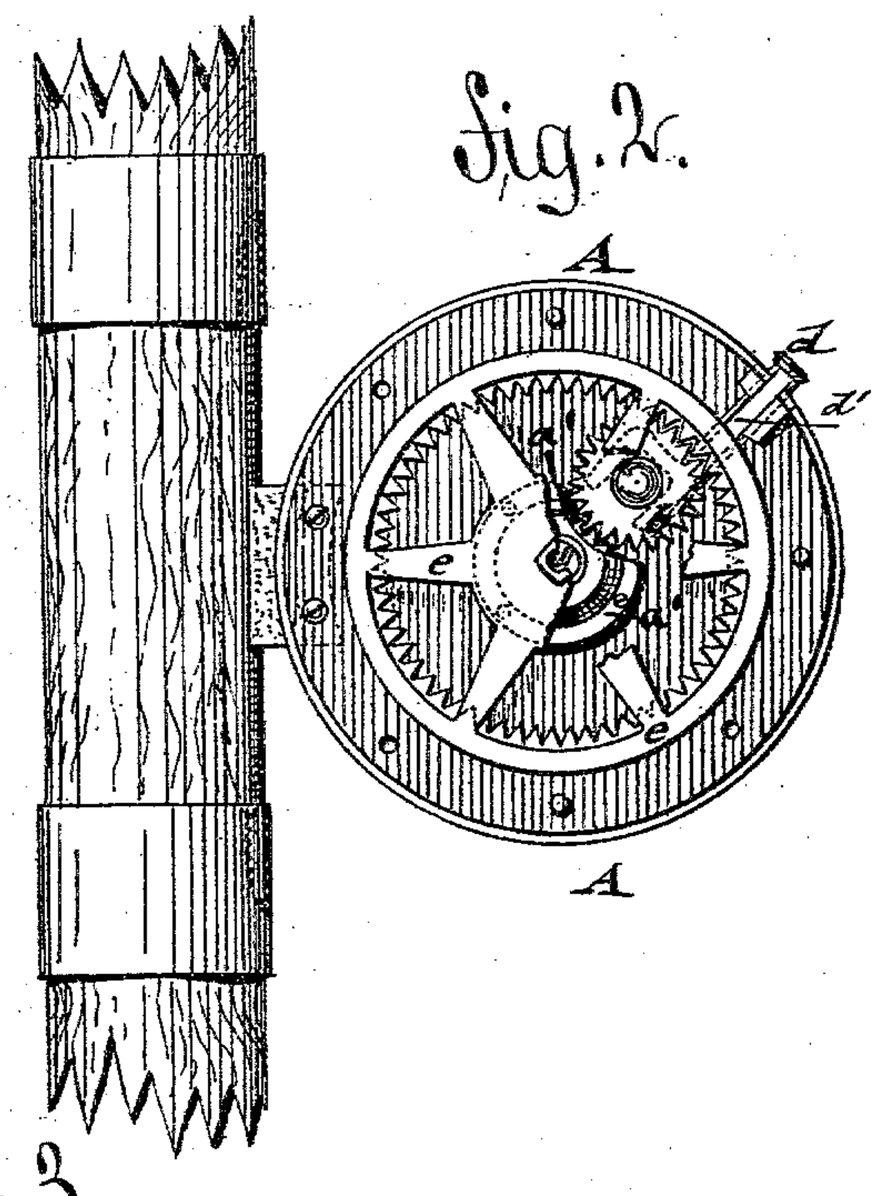
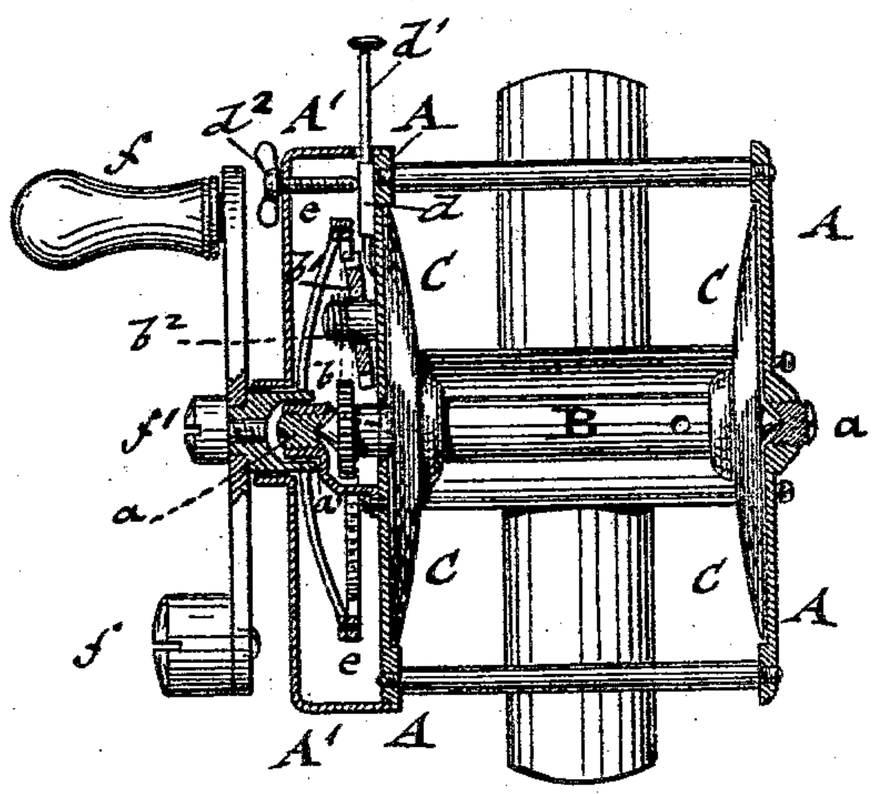



Fig. 3.

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ANTON LANG, OF BROOKLYN, NEW YORK.

## FISHING-REEL.

SPECIFICATION forming part of Letters Patent No. 283,496, dated August 21, 1883.

Application filed November 29, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ANTON LANG, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Fishing-Reels, of which the following is a specification.

This invention has reference to an improvement in fishing-reels by which considerable speed can be imparted to the spindle when the line is wound up, while in throwing out the line the spindle follows the motion of the line as the same is paid out.

The invention consists of a fishing-reel the spindle of which turns in independent steel bearings of the frame or housing, said spindle being provided with a pinion that can be thrown by an intermediate pinion into or out of mesh with a gear-wheel that turns on the bracket of the spindle-bearing and is operated by a crank-handle. A slide-piece throws the transmitting mechanism into gear for winding up the line at great speed, or out of gear to admit the independent motion of the spindle in throwing out the line, as will more fully appear hereinafter.

In the accompanying drawings, Figure 1 represents a side elevation of my improved fishing-reel. Fig. 2 is a side elevation of the motion-transmitting mechanism of the same, the end plate being removed and a part broken away; and Fig. 3 is a vertical longitudinal section of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the supporting-frame of the reel, which carries in steel bearings *a a* the spindle B, to which the line is attached in the usual manner. To the spindle B are keyed the end disks, C, which form, with the spindle, the pulley for winding up the line, the disks being set into circular depressions of the heads of the frame A, to prevent the catching of the line, as customary in fishing-reels. The ends of the spindle B are conically tapered and supported in correspondingly-shaped depressions or indentations of the steel bearings *a a*, one of which is centrally secured to one of the heads of the frame A, while the other is supported by a bracket-shaped support, *a'*, that is attached to the opposite head of the frame A, as shown clearly in Figs. 2 and 3. The spindle B passes through an opening of the last-mentioned head of the frame, so as to reach its bearing *a*, which is arranged at some distance from the head. The spindle B is provided at that end which protrudes beyond the head of the frame with a fixed pinion, *b*, outside of the frame, said pinion meshing with an intermediate pinion, *b'*, that is placed loosely on a fixed pivot of said head and pressed against the head by a spiral spring, $b^2$, interposed between the pinion and the end of the pivot. A fork-shaped slide-piece, *d*, having tapering inner ends, is guided radially on the head of the frame A, and provided with a shank, *d'*, that is extended beyond the frame A, as shown in Fig. 2. When the slide-piece *d* is pushed inwardly, it raises the intermediate pinion, *b'*, against the pressure of the spiral spring $b^2$, and throws it into mesh with the pinion *b*, while, when the slide-piece *d* is pulled outwardly, the pinion *b'* is thrown by its spring out of gear with the pinion *b*. When the intermediate pinion, *b'*, is thrown into gear with the pinion *b*, it also meshes with a gear-wheel, *e*, of larger diameter, that is toothed at its inner circumference. The gear-wheel *e* turns on the bracket-shaped support *a'* concentrically to the spindle-pinion *b*, and is connected to the actuating crank-handle *f* by means of a fastening-screw, *f'*, which is inserted into a central threaded socket-hole of the hub of the wheel *e*, as shown clearly in Figs. 1 and 3. By the gear-wheel *e* and the transmitting-pinions *b' b* a rapid winding-up motion is imparted to the spindle on turning the crank-handle *f*, so as to admit the hauling in of the line with great speed. When, however, the intermediate pinion, *b'*, is thrown out of gear with the pinion *b* and gear-wheel *e*, the spindle B revolves entirely independently of the transmitting mechanism, and admits thereby the throwing of the hook and paying out of the line at a speed that corresponds exactly to the tension exerted on the spindle by the line. The spindle is thus not impeded in its motion by the transmitting mechanism, which is thrown into gear only when the line is to be drawn in, but out of mesh with the spindle-pinion when the line is thrown out.

To prevent the accidental moving in of the slide-piece *d* when throwing out the line, it is retained in drawn-out position by means of a thumb-screw, $d^2$, so that it cannot interfere with the motion of the spindle in paying out the line. As soon as the line is thrown out, the set-screw $d^2$ is loosened, the slide-piece *d* pushed in, and set again by the set-screw, after which the reel is ready to be quickly wound up to haul in the fish whenever a bite is obtained.

In place of the set-screw a frictional or other retaining device may be used if found more effective.

The transmitting gear-wheels are inclosed and protected by a cap-piece, A′, that is screwed to the head of the frame, as shown in Fig. 3.

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

1. As an improvement in fishing-reels, the combination of the reel-frame, a reel-spindle turning in bearings of the reel-frame and having a pinion at one of its ends, an actuating gear-wheel arranged concentrically to the spindle-pinion, an intermediate pinion, and means by which the latter is thrown in or out of gear with the spindle-pinion and gear-wheel, substantially as set forth.

2. As an improvement in fishing-reels, the combination of the supporting-frame having steel bearings for the spindle, one of said bearings being arranged in a bracket-shaped support, a spindle having a pinion at one end, an intermediate pinion, a gear-wheel revolving on the bracket-shaped support, and means for throwing the intermediate pinion in or out of gear with the gear-wheel and spindle-pinion, substantially as specified.

3. As an improvement in fishing-reels, the combination of the supporting-frame or housing A, spindle B, turning in steel bearings *a* *a*, spindle-pinion *b*, intermediate spring-pressed pinion, *b*′, gear-wheel *e*, turning on bracket-support *a*′, forked slide-piece *d*, and set-screw $d^2$, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ANTON LANG.

Witnesses:

CARL KARP,

SIDNEY MANN.