No. 887,753. PATENTED MAY 19, 1908.

M. A. BECK.

CASTING ROD.

APPLICATION FILED FEB. 17, 1908.

Fig. 1.

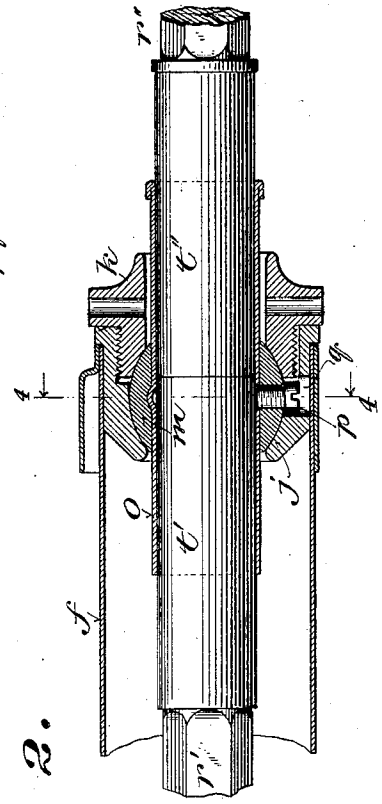


Fig. 2.

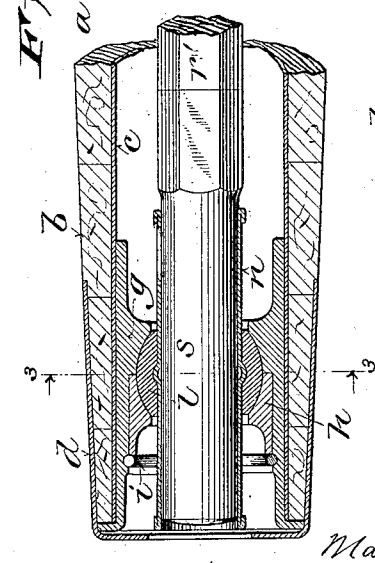


Fig. 4.

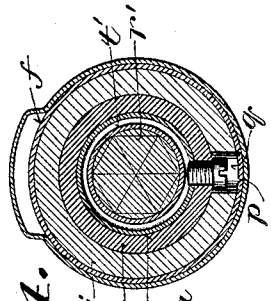
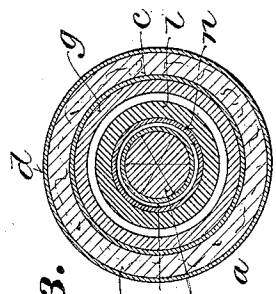


Fig. 3.



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CASTING-ROD.

No. 887,753. Specification of Letters Patent. Patented May 19, 1908.

Application filed February 17, 1908. Serial No. 416,181.

To all whom it may concern:

Be it known that I, MATTHIAS A. BECK, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Casting-Rods, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates to bait casting rods having tubular or hollow grips or handles in which the butts of the rods are flexibly held.

The main objects of the invention are to utilize the entire length of the rod for the reception of the energy applied at the grip in making the cast and to enable the material to give out without restraint the energy so applied; to soften the action of the rod and still maintain a body of sufficient dimensions to secure a maximum of strength and action for a given length; to provide for as much spring in the butt as possible, in order to secure a rapid acceleration of the tip at the instant maximum speed is required in order to give the greatest impetus to the bait or lure for a given effort at the grip; and generally to improve the construction and operation of fishing rods of this class.

The invention consists in certain novel features of construction and in the peculiar arrangement and combinations of parts as hereinafter particularly described and pointed out in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is an axial section of the tubular grip and elevation of the butt of a rod embodying the invention; Fig. 2 is a similar section and elevation on an enlarged scale, showing a modification, the greater part of the grip and butt of the rod between their universal joint connections being broken away; Fig. 3 is a cross section on the line 3 3, Fig. 2; and Fig. 4 is a similar section on the line 4 4, Fig. 2.

In constructing the rod to secure in a thoroughly efficient manner the action desired, it is necessary that the connections or bearings at the points of support of the rod in the grip or handle be such that the rod will be entirely free from restraint by reason of binding or friction during its action of bending and springing back, and that materials which tend to disintegrate when subjected to use or to the action of the elements must be avoided, as they not only deteriorate rapidly, but exert a choking effect on the action of the rod when the latter is secured tightly enough in the grip to prevent play or shake.

That part of the rod within the tubular grip or handle should, to secure the best results, be tapered so that its diameter at the butt end will be about two-thirds of its diameter at the other end of the grip, while the outer portion of the rod should be so tapered that its diameter at the tip will be about one-third of its diameter where it leaves the grip or handle.

Referring to the accompanying drawing, which illustrates in detail a preferred construction embodying the invention and designed to secure the ends and advantages hereinbefore mentioned, *a* designates a tubular or hollow hand grip or handle, which may be constructed of any suitable material or materials and of any desired pattern or form. In the present case the grip is shown as made up of rings of cork, *b*, mounted on a cylindrical metal tube *c*. At the butt end the cork is protected and the grip reinforced by a metal cap or thimble *d*. At the other end the cork fits into and is protected by a metal sleeve *e*. Upon the sleeve *e* is fitted and secured a metal tube *f*, which forms the front end of the handle and a seat for the reel. In the rear end of the tube *c* is fitted and secured a metal sleeve which is formed with an internal semi-spherical socket bearing *g*, and in said sleeve is removably fitted a cap or ring *h*, formed with a corresponding or complementary internal semi-spherical bearing. This ring or cap may be held in place, as shown in Figs. 1 and 2, by a severed elastic ring *i* seated in an internal groove in said sleeve.

In the front end of the tube *f* is fitted and secured a metal sleeve formed with an internal semi-spherical socket bearing *j*, and in the outer end of this sleeve is threaded a ring or cap *k*, which is formed with a corresponding or complementary internal semi-spherical bearing.

Ball or semi-spherical bearings *l* and *m* are fitted in the sockets *g* and *j* and are retained in place therein by the removable caps

or rings *h* and *k*. The balls or spherical bearings are formed with internally grooved or recessed cylindrical holes, and in these holes are fitted metal ferrules *n* and *o*, which are pressed or bent outwardly, as shown in Fig. 2, into the internal grooves or recesses in said balls or bearings, as shown in Fig. 2, to immovably hold them in place therein. The ball or bearing *m* is provided with a screw or stud *p*, and the socket sleeve *j* is formed with a longitudinal groove or notch *q*, as shown in Figs. 2 and 4, to receive the projecting end of the screw or stud and thus prevent rotative movement of the ferrule *o* and its bearing *m* in the socket *j*, and at the same time permit a free rocking or rolling movement of said ferrule and its ball bearing in said socket. By this means the line guides on the rod are held in alinement with the reel which is mounted on the hand grip or handle.

The butt end of the rod *r* may be made in one piece with the body, only a part of which is shown in Fig. 1, of any suitable resilient wood or material. In the present case it is shown of hexagonal form as built up from longitudinal sections of split bamboo. At its rear end it is provided with a metal ferrule *s*, which has a sliding fit in the ferrule *n*. It is also provided at a suitable distance from the end with a metallic ferrule *t* which fits into the ferrule *o* with sufficient snugness to hold the rod securely in place in the grip or handle and prevent axial and rotative movement thereof relative to the grip or handle.

The butt of the rod may be made in a separate section from the body or tip, as shown in Fig. 2, in which *r'* designates the butt section and *r''* the body or tip section. The butt section in this case, and the body or tip section, are provided with separate ferrules *t'* and *t''*, which have a snug fit in the ferrule *o*, the body or tip section being removable therefrom.

With the construction herewith shown and described it will be seen that the butt end of the rod within the tubular grip or handle is perfectly free to bend in all directions whether it is made in one piece with the body or tip or in a separate section, the ball and socket or universal joints firmly supporting the rod adjacent to the ends of the grip or handle offering little or no resistance to its bending, and the slipping of the ferrule *s* endwise in the ferrule *n* allowing for the slight change of length incident to the flexure of the rod between its bearings.

The metal ferrules *s* and *t* with which the rod is provided fitting into the oscillatory ferrules *n* and *o* with which the hand grip is provided, not only afford means for firmly supporting the rod in the grip, but also serve to prevent injury to the rod by wear or abrasion at the points where it is supported in the grip.

Various changes in details of construction and arrangement of parts may be made, as for example, in the construction and location of the universal joint or flexible connections between the oscillatory ferrules *n* and *o* and the grip or handle *a*.

I claim:

1. A casting rod including a tubular grip and a flexible rod butt having universal joint bearings in said grip, substantially as described.

2. A casting rod including a tubular grip provided with interior ferrules having universal joint connections therewith, and a flexible rod butt fitting into said ferrules, substantially as described.

3. A casting rod comprising a tubular grip provided with internal socket bearings, ferrules having external ball bearings fitted and held in said socket bearings, and a flexible rod fitting into said ferrules, substantially as described.

4. A casting rod comprising a tubular or hollow hand grip or handle provided with internal socket bearings each having a removable section, ferrules provided with external ball bearings fitted in said socket bearings, and a flexible rod fitting into said ferrules, substantially as described.

5. A casting rod comprising a tubular hand grip, ferrules arranged axially in said grip and having ball and socket joint connections therewith, and a flexible rod fitting into said ferrules, substantially as described.

6. A casting rod comprising a tubular hand grip having internal socket bearings, ferrules having external ball bearings fitted and held in said socket bearings, one of the ball bearings being provided with a stud to prevent rotative movement of the associated ferrule, and a flexible rod fitting into said ferrules, substantially as described.

7. A casting rod comprising a tubular hand grip provided with internal socket bearings, spherical bearings fitted and held in said socket bearings and intersected by internally recessed cylindrical holes, ferrules fitted in said holes and pressed outwardly into the recesses therein, and a flexible rod fitting into said ferrules, substantially as described.

8. A casting rod comprising a tubular grip provided with internal oscillatory ferrules, and a flexible rod fitting into said ferrules, substantially as described.

9. A casting rod comprising a tubular grip provided with internal oscillatory ferrules having flexible connections therewith, and a flexible rod fitting into said ferrules, substantially as described.

10. A casting rod comprising a tubular hand grip provided with internal socket bearings one of which has an adjustable retaining ring or cap, ferrules having external ball bearings fitted in said socket bearings, and a flexible rod fitting into said ferrules, substantially as described.

In witness whereof I hereto affix my signature in presence of two witnesses.

MATTHIAS A. BECK.

Witnesses:
CHAS. L. GOSS,
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