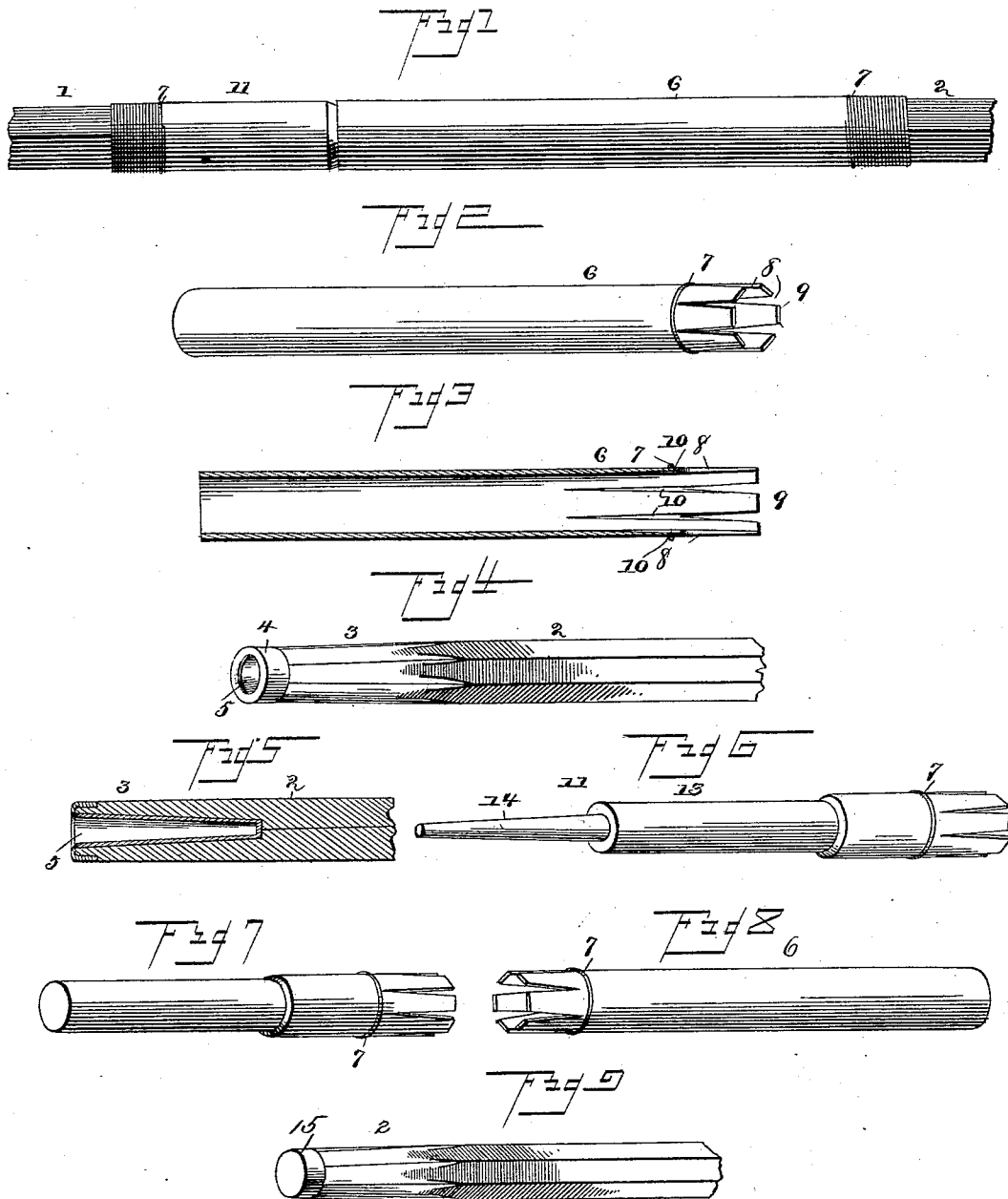


(No Model.)

G. I. VARNEY.
JOINTED FISHING ROD.

No. 422,470.

Patented Mar. 4, 1890.



Witnesses:

John Imrie
J. S. L. L. L.

By his Attorneys,

C. A. Snow & Co.

Inventor

George I. Varney

UNITED STATES PATENT OFFICE.

GEORGE I. VARNEY, OF CENTRAL VALLEY, NEW YORK.

JOINTED FISHING-ROD.

SPECIFICATION forming part of Letters Patent No. 422,470, dated March 4, 1890.

Application filed September 3, 1889. Serial No. 322,886. (No model.)

To all whom it may concern:

Be it known that I, GEORGE I. VARNEY, a citizen of the United States, residing at Central Valley, in the county of Orange and State of New York, have invented a new and useful Jointed Fishing-Rod, of which the following is a specification.

This invention has relation to improvements in jointed fishing-rods, and has special reference to an improvement in the construction of the joints and in that class of fishing-rods known as "split bamboo." In this class of rods difficulty has been experienced in preventing a separation of the bamboo along the glue joints thereof, and by reason of the extreme delicacy of the rod-sections difficulty has been experienced in the construction of a joint capable of withstanding the strain which naturally falls thereon and at the same time retain the desired likeness of the rod and its graceful outline. To obviate these difficulties it has been the practice to provide the ends of the rod-sections with metallic sleeves and ferrules for removably fitting the same. The objection, however, has mainly laid in the fact that by reason of the cutting away of the polygonal corners of the rods near their ends for fitting the ferrules said rods have been weakened, in that the cutting was abrupt and the strain at the joint came at the edge of the cylindrical ferrule, which was unyielding, and was transferred then to the weakest portion of the rod.

By my invention I propose to so connect the ferrules with the ends of the rod-sections as to distribute the strain along a considerable portion of the rod-sections and to gradually change the polygonal contour of the sections to a cylindrical contour, whereby there will be no weak point between the connection.

My invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 represents an elevation of a joint of a split bamboo rod constructed in accordance with my invention. Fig. 2 is a perspective of the ferrule-receiving sleeve, the same being detached. Fig. 3 is a longitudinal section of the same; Fig. 4, a perspective of the end of the rod adapted to receive said sleeve; Fig. 5, a lon-

gitudinal section of the same. Fig. 6 is a detail in perspective of the ferrule adapted to be received by the sleeve. Fig. 7 is a perspective of a modified construction of ferrule, the same being adapted for insertion in the end of the sleeve illustrated in Fig. 8. Fig. 8 is a perspective of a modified construction of sleeve; and Fig. 9 is a detail in perspective of a modified construction of glue-joint-protecting cap, the same being adapted for use in connection with the ferrule and sleeve illustrated in Figs. 7 and 8.

Like numerals indicate like parts in all the figures of the drawings.

Referring more particularly to the first six figures of the drawings, 1 and 2 represent two adjacent sections of the rod, which in this instance is a hexagonal shape in cross-section and formed of split bamboo glued together in the usual manner. At a suitable distance back of the end of the rod the same is shaved or gradually reduced, so that its hexagonal outline gradually merges into a cylindrical outline, as at 3, the merging being gradual and hardly perceptible, and, in reality, forming a true circle at a point near the end of the section.

4 represents a metallic binding-ring set in flush with the cylindrical end of the rod and inclosing the same, said ring being, in fact, a glue-joint-protecting cap, and by the use of the same the damp atmosphere and moisture are prevented from gaining access to the glue joints at their vulnerable points—namely, at their ends—whereby a primary separation of the bamboo splits is avoided.

5 represents a metallic socket or bushing closely fitting the internal periphery of the cap and extending up into the section.

6 represents the metallic joint-forming and ferrule-receiving sleeve, and the same is of a bore adapted to approximate the external circumference of the cylindrical end of the bamboo joint, and said sleeve is provided near one end with the usual wrapping-silk-receiving bead 7. A series of cuts 8—in this instance six—agreeing with the ridges or angles of the section are formed in that end of the sleeve which is to receive the end of the rod-section, said cuts forming intermediate thinned tongues 9, adapted each to lie upon

one of the flat surfaces of the section, said tongues extending about one-third of the distance from the end of the sleeve to the bead on said sleeve. Now, by forcing the sleeve upon the section it will be seen that there is no distinct point of junction between the section and sleeve, by which the former would be subjected to any strain, and in order to further insure a thorough and even disposition of the strain over a considerable surface of contact the slits forming the tongue are continued and gradually diminished by shallow grooves or file-kerfs 10. By this arrangement it will be apparent that the angle to the sections will extend for a considerable distance within the sleeve. The opposite section 2 is provided with a similar reduced end as is its companion, and over the same is snugly fitted the ferrule 11, the receiving end of which is constructed exactly similar to the receiving end of the sleeve, and will therefore not require further description in that regard. The ferrule 11 is provided with a reduced sleeve entering portion 13, and in this instance terminates in a still further reduced and slightly-tapered tenon 14, adapted to be received by the internal bushing in the end of the opposite section.

From the above construction it will be apparent that an excessively strong, light, and serviceable joint is formed.

In Fig. 9 I have illustrated a modified construction of glue-joint-protecting cap. In this instance the difference merely consists in an imperforate cap 15 and in the omission of the internal bushing.

The ordinary sleeve 6, (see Fig. 8,) it will be understood, is inserted over the cap 15 the same as it is over the end of the rod, as mentioned in the detailed description of Figs. 1 to 6, and the only difference made in the ferrule is, as shown in Fig. 7, in the omission of the tenon 14.

Having described my invention, what I claim is—

1. A fishing-rod section formed of bamboo strips cemented or glued together, in combination

with a metal cap encircling the section and fitting over the ends of the strips of the section, substantially as specified.

2. The combination, with a rod-section polygonal in cross-section and gradually reduced and merging into a cylindrical end, of a metallic sleeve having a series of slits in one end agreeing in number with the angles of the section and forming intermediate resilient tongues overlapping each of the flat surfaces occurring between the angles, substantially as specified.

3. In a split bamboo rod, a polygonal-shaped section reduced near one end to form a cylinder, in combination with a metallic sleeve having a series of narrow V-shaped slits terminating in internal gradually-diminishing grooves or kerfs, said slits agreeing with the angles of the section, which gradually diminish in conformity with the slits and grooves, substantially as specified.

4. In a fishing-rod, the combination, with two adjacent sections, one end of one of the sections of which is provided with an internal bushing and the opposite section of which is provided with a ferrule terminating in a tenon designed to fit the bushing, and a sleeve fitting the ferrule and the end of the adjacent section in which is located said bushing, substantially as specified.

5. In a fishing-rod, a section polygonal in cross-section and having one end gradually reduced to cylindrical form, in combination with a ferrule the upper end of which is provided with a series of slits agreeing in number and adapted to receive the angles of the section and continued beyond the ends of the slit in internal gradually-diminishing grooves in which the angles gradually terminate, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEO. I. VARNEY.

Witnesses:

BART. G. LEEPER,
VIRGIL C. SMILEY.