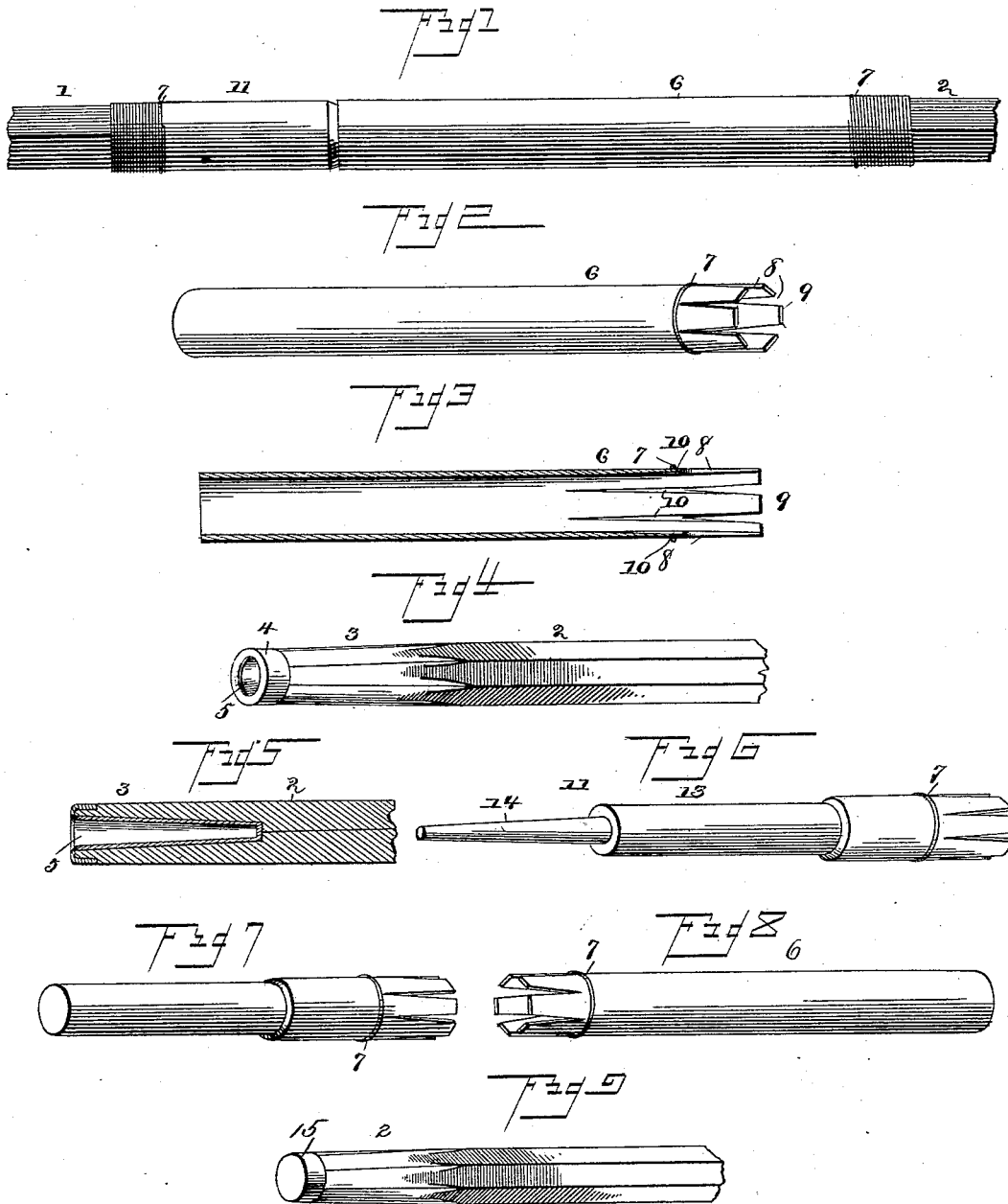


(No Model.)

G. I. VARNEY.
JOINTED FISHING ROD.

No. 422,470.

Patented Mar. 4, 1890.



Witnesses:

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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 dis-
tance from the end of the sleeve to the bead
on said sleeve. Now, by forcing the sleeve
5 upon the section it will be seen that there is
no distinct point of junction between the sec-
tion and sleeve, by which the former would
be subjected to any strain, and in order to
further insure a thorough and even disposition
10 of the strain over a considerable surface of
contact the slits forming the tongue are con-
tinued and gradually diminished by shallow
grooves or file-kerfs 10. By this arrange-
ment it will be apparent that the angle to
15 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
20 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
25 this instance terminates in a still further re-
duced 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 ap-
parent that an excessively strong, light, and
serviceable joint is formed.

In Fig. 9 I have illustrated a modified con-
struction of glue-joint-protecting cap. In
this instance the difference merely consists
35 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 men-
40 tioned in the detailed description of Figs. 1
to 6, and the only difference made in the fer-
rule is, as shown in Fig. 7, in the omission of
the tenon 14.

Having described my invention, what I
45 claim is—

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

nation with a metal cap encircling the section
and fitting over the ends of the strips of the
section, substantially as specified. 50

2. The combination, with a rod-section
polygonal in cross-section and gradually re-
duced and merging into a cylindrical end, of
a metallic sleeve having a series of slits in
one end agreeing in number with the angles 55
of the section and forming intermediate res-
ilient tongues overlapping each of the flat
surfaces occurring between the angles, sub-
stantially as specified.

3. In a split bamboo rod, a polygonal-shaped 60
section reduced near one end to form a cyl-
inder, in combination with a metallic sleeve
having a series of narrow V-shaped slits ter-
minating in internal gradually-diminishing
grooves or kerfs, said slits agreeing with the 65
angles of the section, which gradually dimin-
ish 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 70
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 sec- 75
tion in which is located said bushing, sub-
stantially as specified.

5. In a fishing-rod, a section polygonal in
cross-section and having one end gradually
reduced to cylindrical form, in combination 80
with a ferrule the upper end of which is pro-
vided with a series of slits agreeing in num-
ber and adapted to receive the angles of the
section and continued beyond the ends of the
slit in internal gradually-diminishing grooves 85
in which the angles gradually terminate, sub-
stantially 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.