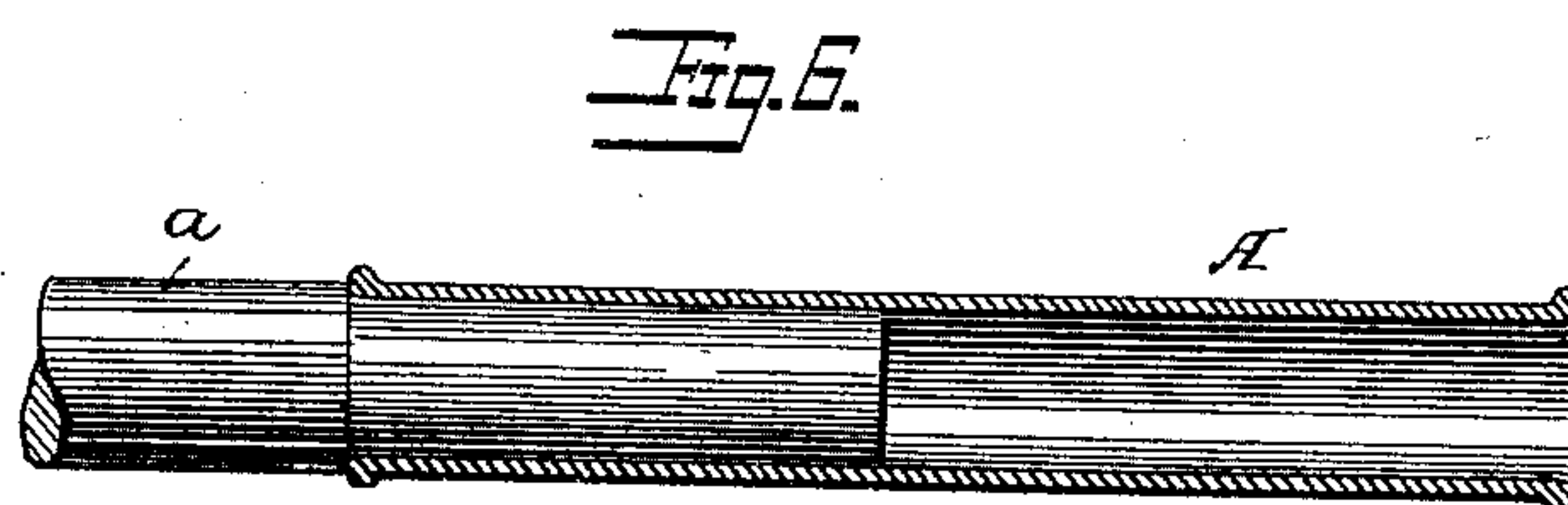
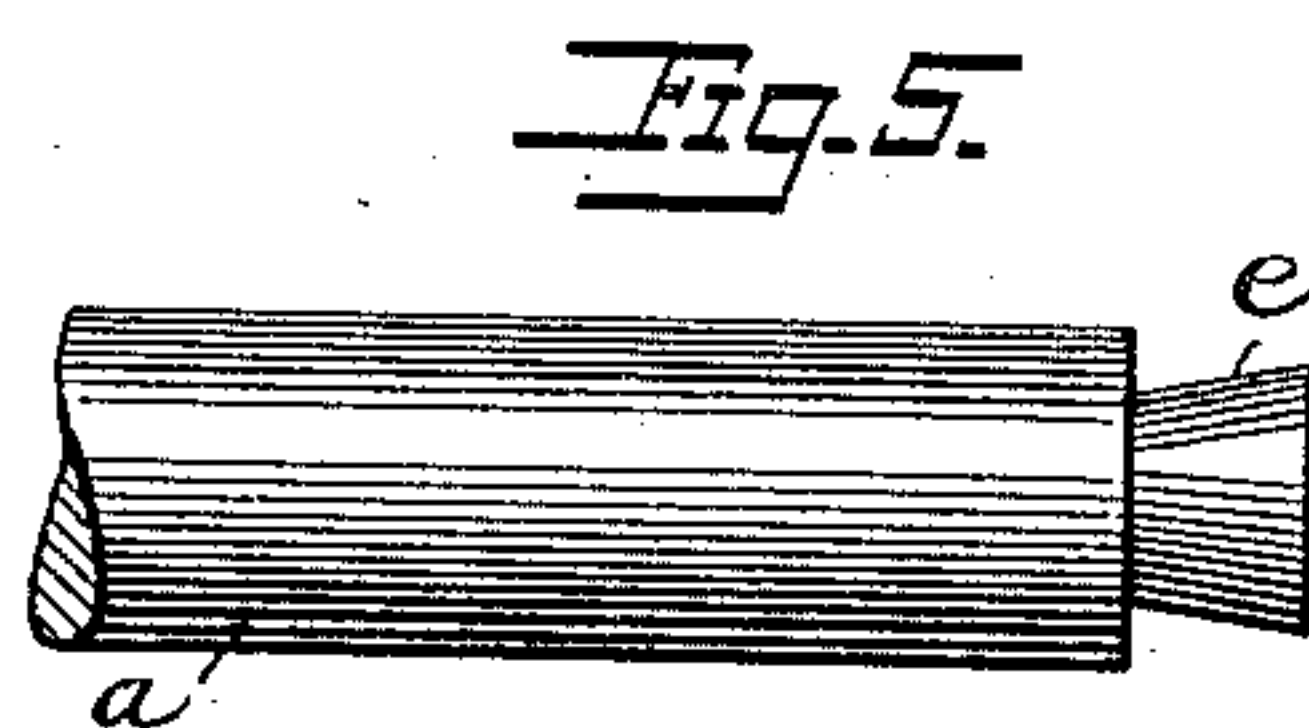
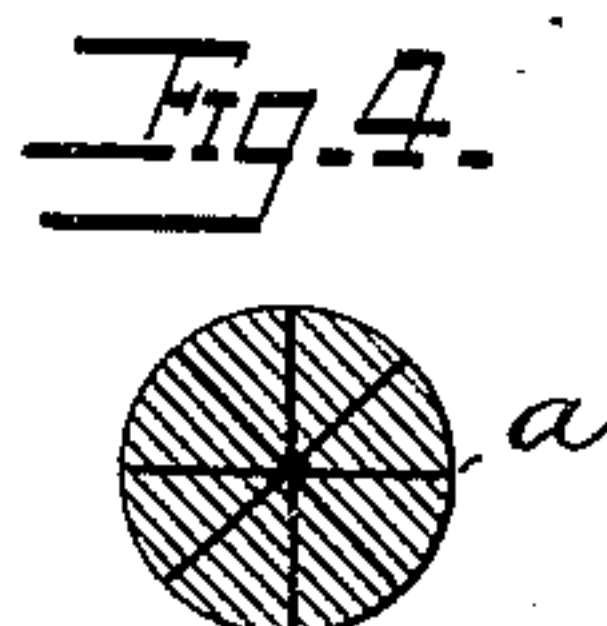
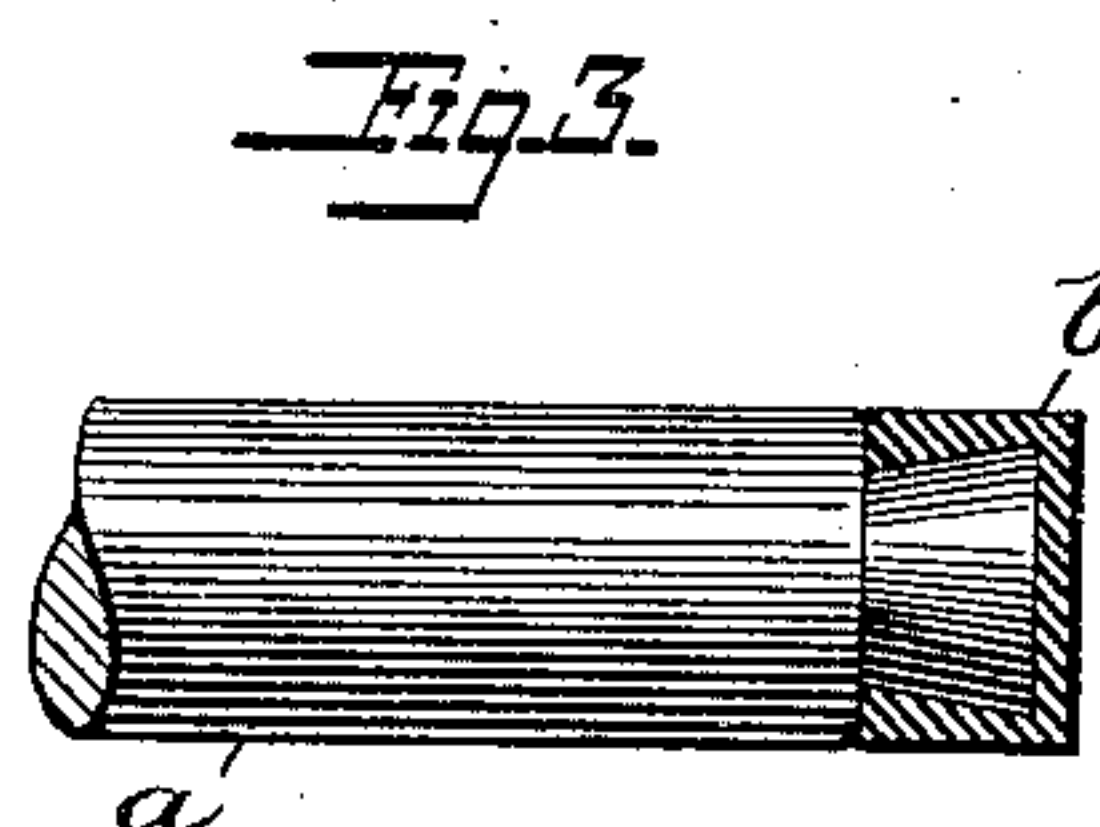
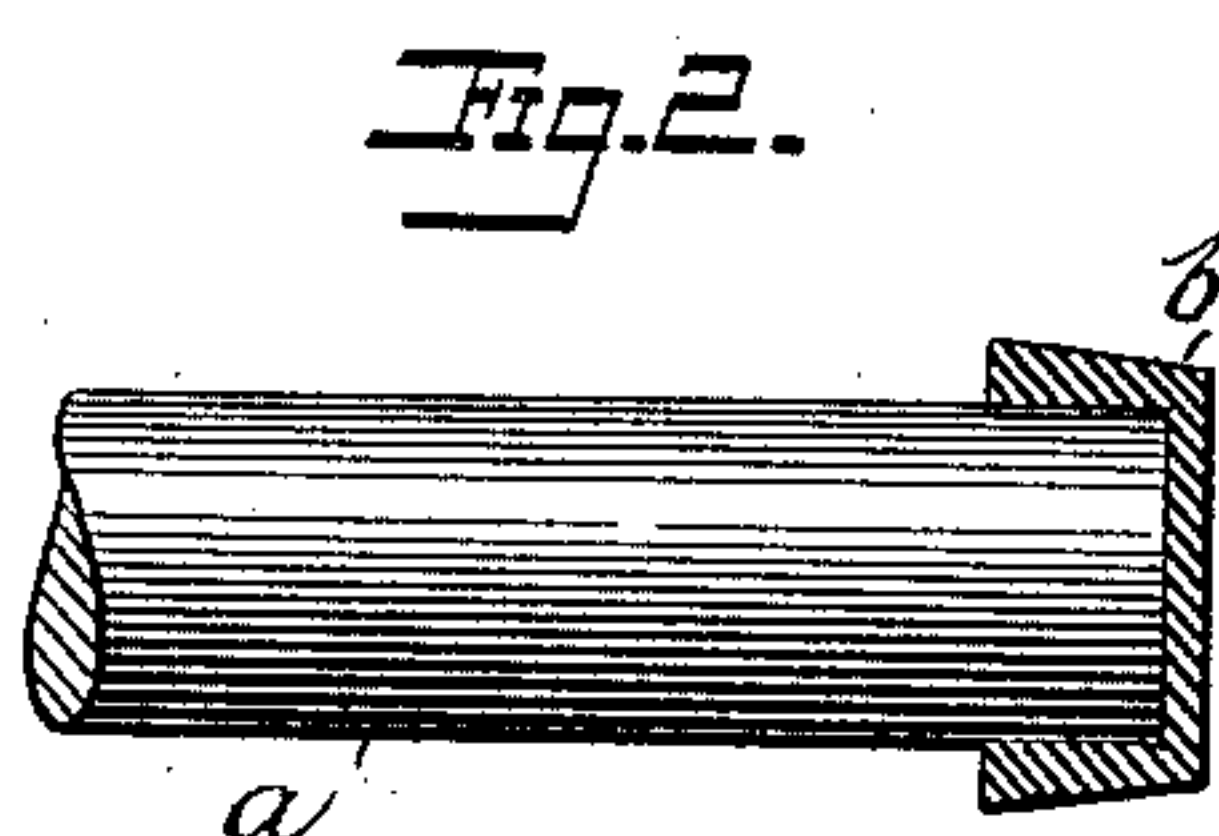
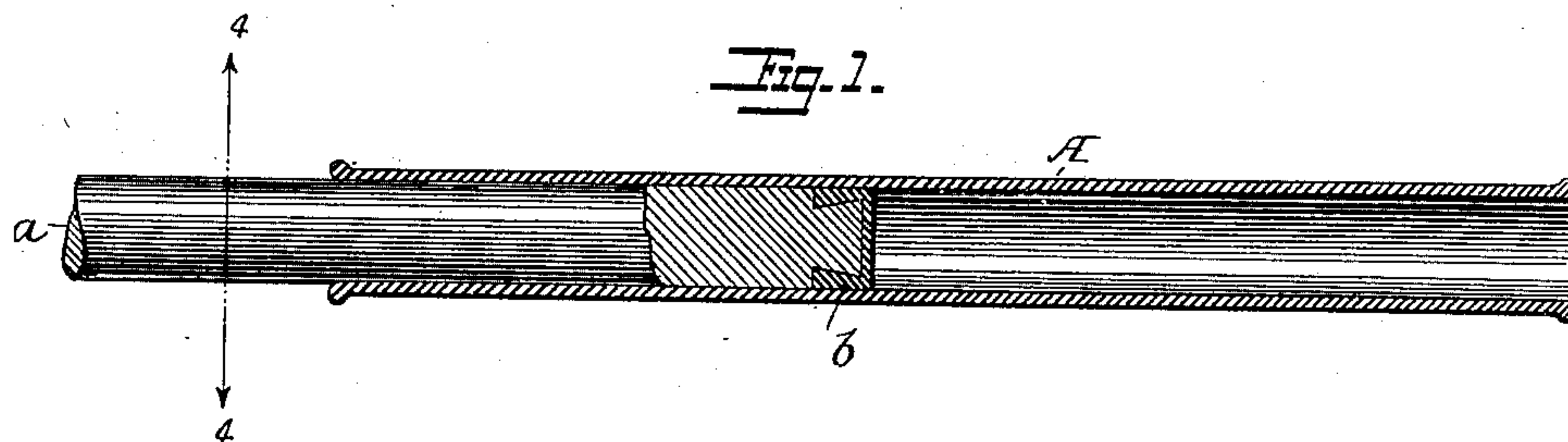


(No Model.)

L. N. HAWES.  
FISHING ROD.

No. 428,755.

Patented May 27, 1890.



Witnesses  
*Geo. G. Hinkel.*  
*Ch. S. McArthur*

Inventor  
*Loman N. Hawes.*  
By his Attorneys  
*John Freeman*

# UNITED STATES PATENT OFFICE.

LOMAN N. HAWES, OF CENTRAL VALLEY, NEW YORK.

## FISHING-ROD.

SPECIFICATION forming part of Letters Patent No. 428,755, dated May 27, 1890.

Application filed February 26, 1890. Serial No. 341,834. (No model.)

*To all whom it may concern:*

Be it known that I, LOMAN N. HAWES, a citizen of the United States, residing at Central Valley, Orange county, New York, have  
5 invented certain new and useful Improvements in Fishing-Rods, of which the following is a specification.

In the manufacture of jointed fishing-rods it is common to apply to the end of each stem  
10 *a*, of bamboo or other material, a ferrule of metal consisting of a tube or socketed piece, the hollow end or socket receiving the end of the stem. The stem is usually made of a series of sector-like strips of bamboo glued to-  
15 gether to form a cylindrical rod, and any access of moisture to the end of the stem causes the latter to swell, softens the cement, loosens the pieces, and impairs the strength of the rod. To obviate these objections I construct  
20 each section as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the point of a fishing-rod illustrating my inven-  
25 tion. Figs. 2 and 3 are sectional views illustrating the mode of applying the cap. Fig. 4 is a section on the line 4-4, Fig. 1. Fig. 5 illustrates a modification. Fig. 6 is a section illustrating the usual construction.

30 *A* represents one of the ferrules in the form of a tube open at both ends, and *a* represents the bamboo stem, one end of which extends into one end of the ferrule, the other end of the latter constituting a socket for the end  
35 of the next joint or section. To the end of the stem *a* I apply a metallic cap *b*, which is forced and tamped onto the end, as shown in Figs. 2 and 3, and is then compressed around the flanges to force the latter into the wood,

so as to form a practically dovetailed socket 40 with the compressed end of the stem fitting therein. The end of the stem is then inserted and secured in the socket of the ferrule, as usual. By applying a cap to the end of the stem the sections of which the stem is 45 composed are prevented from separating, the access of moisture to the ends of the fibers is prevented, while, by compressing the flange upon the end of the stem, the latter is condensed, the parts are firmly bound together, 50 and the cap is secured in its place. If it is not considered necessary to compress the fibers in any case, the end of the stem may be cut to form a dovetailed projection *c*, as shown in Fig. 5, and a cap may then be placed on 55 the projection and compressed to fit it or cast on of soft metal.

Without limiting myself to the precise construction and arrangement of parts shown, I claim— 60

1. The combination, in a fishing-rod, of a stem-section, a cap covering the end of said section, and a ferrule or sleeve extending beyond the cap to form a socket, substantially 65 as and for the purpose described.

2. In a sectional fishing-rod, a cap for covering the ends of sections having a dove- 70 tailed recess for receiving a dovetailed projection on the end of the section, substantially as described.

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

LOMAN N. HAWES.

Witnesses:

BENJAMIN E. THORP,  
MINIE PEMBLETON.