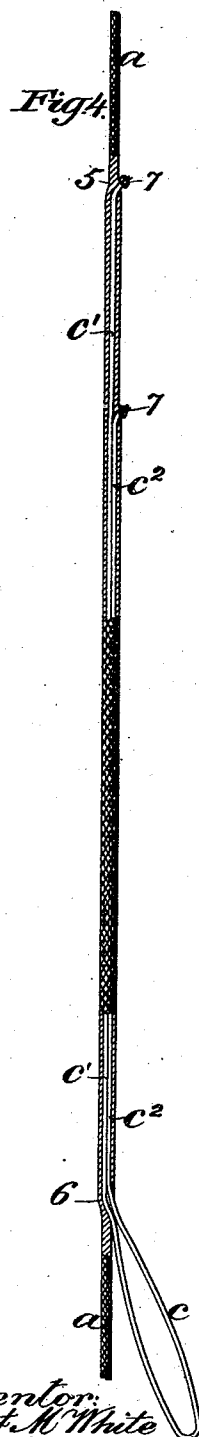
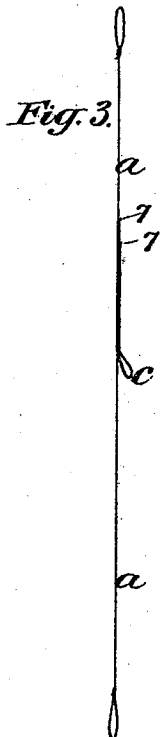
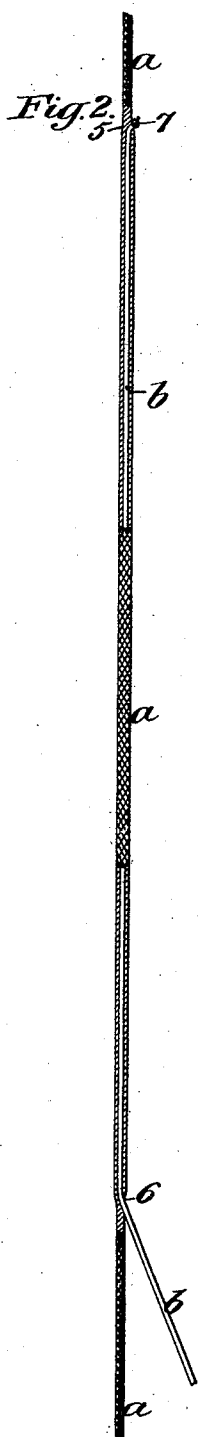
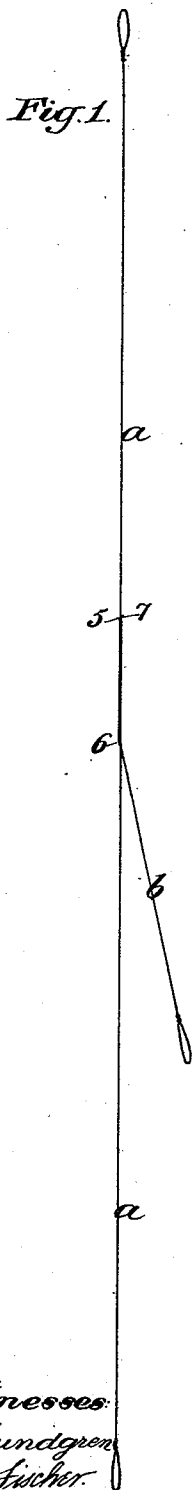


(No Model.)

A. M. WHITE.
LEADER FOR FISH LINES.

No. 473,038.

Patented Apr. 19, 1892.



Witnesses:
C. Sundgren
F. C. Fisher.

Inventor:
Albert M. White
by attorneys
Brown & Seward

UNITED STATES PATENT OFFICE.

ALBERT M. WHITE, OF WATERBURY, ASSIGNOR OF ONE-HALF TO NATHANIEL S. PERKINS, OF NEW LONDON, CONNECTICUT.

LEADER FOR FISH-LINES.

SPECIFICATION forming part of Letters Patent No. 473,038, dated April 19, 1892.

Application filed July 15, 1891. Serial No. 399,597. (No model.)

To all whom it may concern:

Be it known that I, ALBERT M. WHITE, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Leaders for Fish-Lines, of which the following is a specification, reference being had to the accompanying drawings.

The object of this invention is to provide leaders for fish-lines without knots or other unsightly protuberances at the points of junction of the droppers, hangers, and loops.

In carrying out my invention I use a braided leader, and for the purpose of my invention I ingraft the dropper, hanger, or loop into the leader by braiding the leader around it.

Figure 1 is a longitudinal view of a fish-line leader and an attached dropper or hanger embodying my invention. Fig. 2 represents, on an enlarged scale and partly in section, a portion of the leader with the upper part of the hanger or dropper ingrafted thereinto corresponding with Fig. 1. Fig. 3 is a longitudinal view of another leader having an attached loop, also embodying my invention. Fig. 4 is an enlarged partly-sectional view showing the connection of the loop with the leader corresponding with Fig. 3.

I will first describe the example shown in Figs. 1 and 2. *a* designates the main strand of the leader, consisting of an ordinary round braid. *b* is the hanger or dropper, which may be of any suitable material and which is ingrafted into the main strand *a* in the process of braiding the said strand. This may be done in the following manner: The braiding, commencing at the upper part of the strand, is continued to the point 5. The up-

per end of the dropper or hanger is then placed in the center of the braiding-machine and the braiding continued around it to as great a length as is desirable—as, for instance, to the point 6. The hanger or dropper is then drawn aside from the braid and the braiding of the strand *a* continued with the dropper or hanger outside of it. In this example, as is shown in Fig. 2, it will be observed that the portion of the dropper or hanger ingrafted into the braid is only single.

In the example shown in Figs. 3 and 4 a double portion of the thread or strand of which the loop *c* is composed is ingrafted into the main strand *a*. One half *c'* of this double portion is continued single beyond the other half *c''* in order to prevent an abrupt enlargement of the leader at the point where the braiding in of the loop commences. The braiding of the main strand *a* may be performed around the thread or strand of the hanger, dropper, or loop tightly enough to give security to the attachment; but I prefer to make a knot 7 at the upper extremity or extremities of the strand *b* or *c* in order to insure the latter against being drawn out.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with a braided leader for a fish-line, of a dropper, hanger, or loop around which the main strand of the leader is braided, so that the said dropper, hanger, or loop is ingrafted into the said strand, substantially as herein set forth.

ALBERT M. WHITE.

Witnesses:

CHAS. W. GILLETTE,
SAML. J. MARSH.