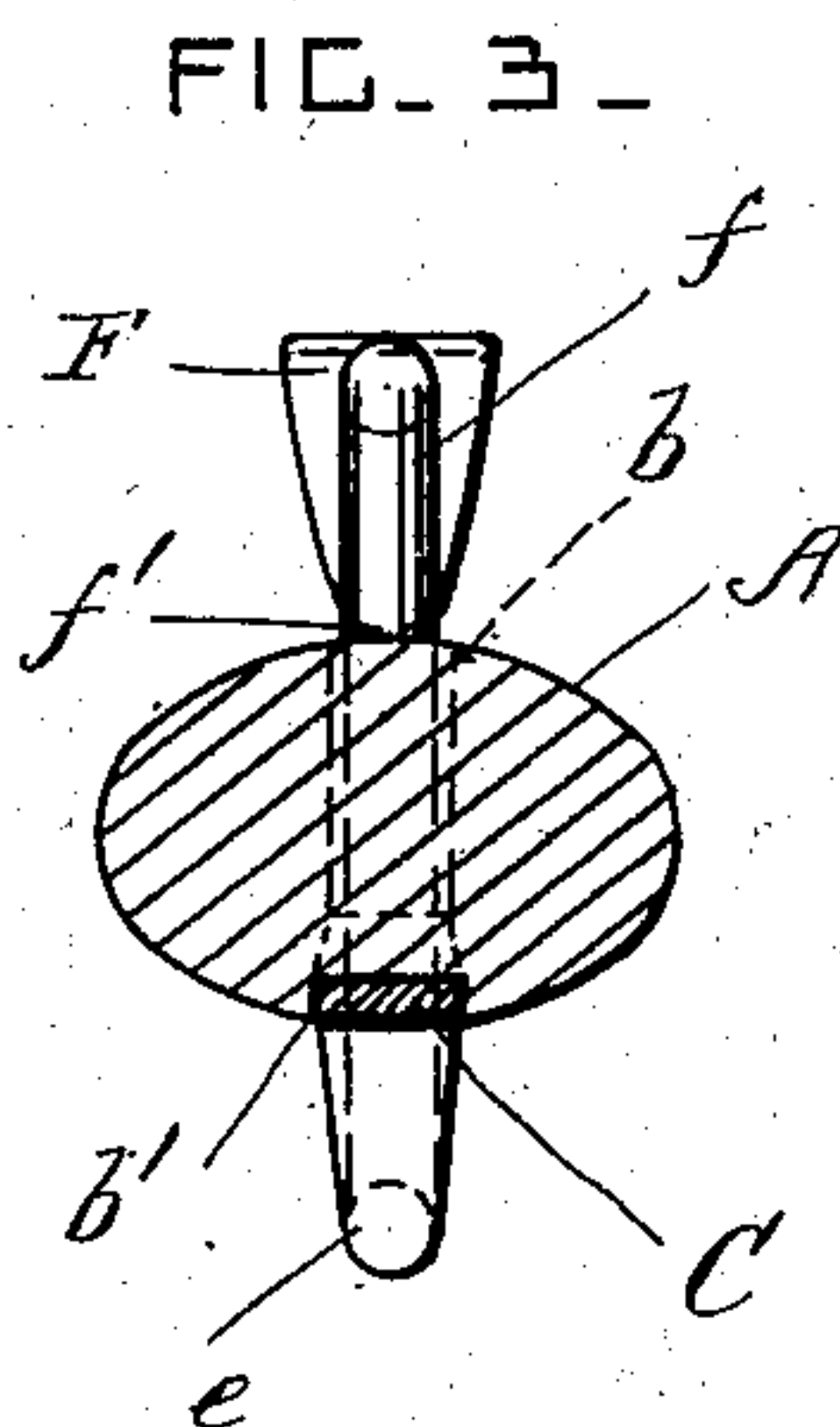
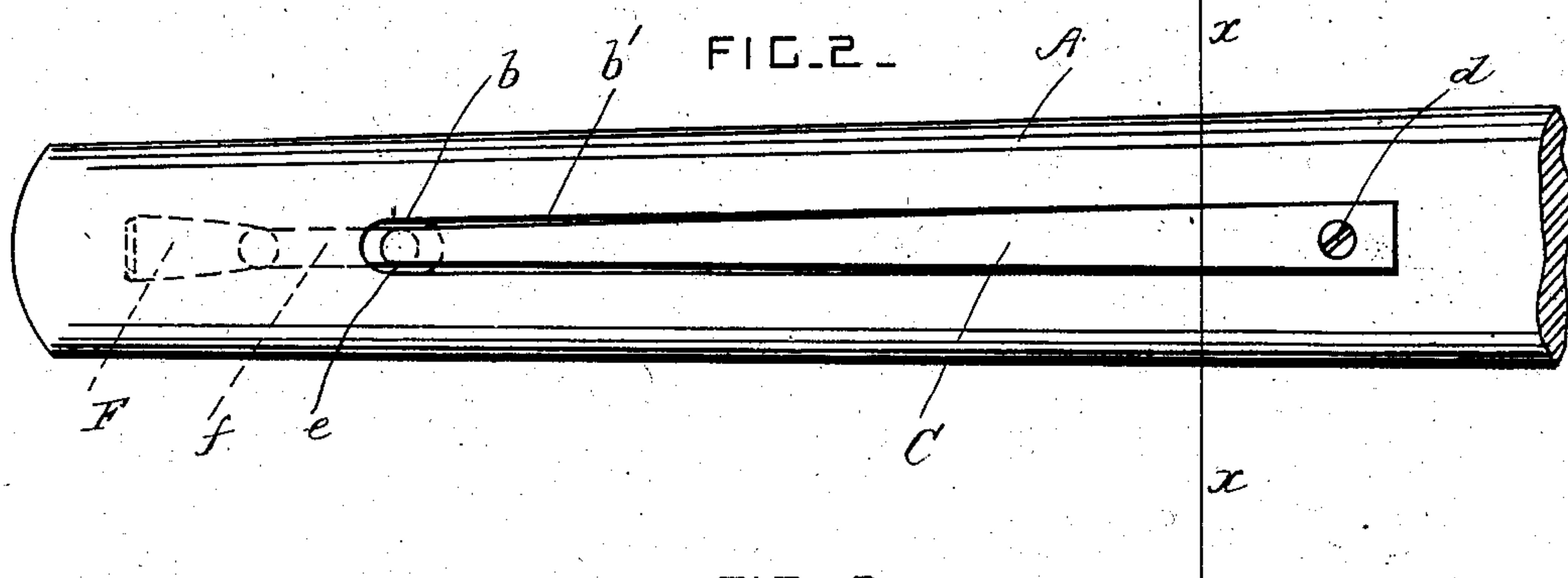
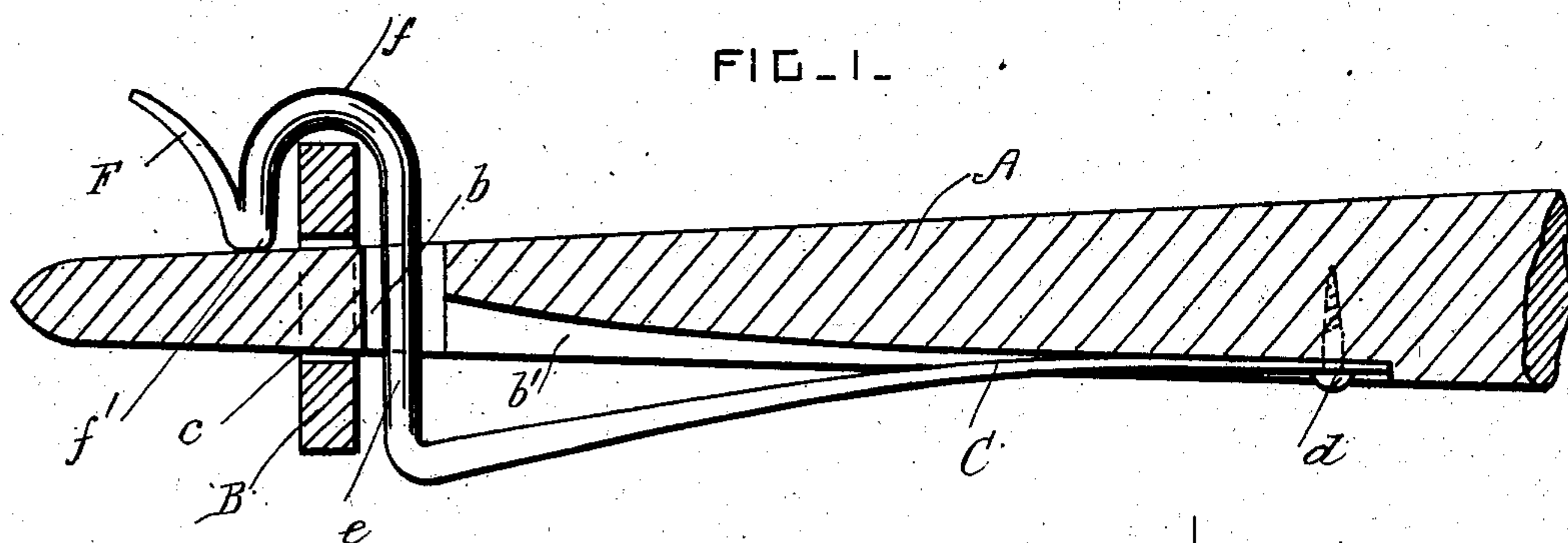


No. 728,489.

PATENTED MAY 19, 1903.

J. U. METZGER.
TRACE HOLDER.
APPLICATION FILED OCT. 1, 1902.

NO MODEL.



WITNESSES

J. Spring Pool
James T. Hany

INVENTOR

John U. Metzger
by *Herbert W. Jenner*
Attorney

UNITED STATES PATENT OFFICE.

JOHN U. METZGER, OF OWANECO, ILLINOIS.

TRACE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 728,489, dated May 19, 1903.

Application filed October 1, 1902. Serial No. 125,596. (No model.)

To all whom it may concern:

Be it known that I, JOHN U. METZGER, a citizen of the United States, residing at Owaneco, in the county of Christian and State of Illinois, have invented certain new and useful Improvements in Trace-Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to trace-holders; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the trace-holder, showing a portion of the singletree in section. Fig. 2 is a plan view of the same. Fig. 3 is a cross-section taken on the line *xx* in Fig. 2.

A is a portion of a singletree provided with a hole *b* near its end and having a central longitudinal and tapering groove *b'* extending from the said hole toward the middle part of the singletree.

B is the end portion of a trace, provided with a slot *c* in the usual manner for engaging with the end portion of the singletree.

C is a flat spring-arm secured in the groove *b'* of the singletree by a screw *d*. The spring-arm is widest and thinnest at its fixed end and tapers in each direction toward its free end. At the free end of the arm C there is a round rod *e*, which is set at substantially a right angle to the said arm C and which slides in the hole *b*. At the other end of the rod *e* an inverted-U-shaped loop *f* is formed, the end *f'* of which forms a stop which normally rests on the singletree. An outwardly-curved and inclined finger-piece F projects from the stop *f'* away from the loop *f*. This finger-piece is flattened and tapered. The trace is slid into engagement with the loop

by pressing it hard against the inclined finger-piece, so as to raise the loop. The loop holds the trace securely connected to the singletree until the loop is raised by hand. The groove of the singletree protects the spring-arm, and the peculiar double-tapering form of the spring-arm enables it to withstand wear and accidents, which would otherwise distort it, and still be very elastic. The bottom of the groove forms a stop, which prevents the spring-arm from being sprung to such an extent as to injure its elasticity.

The spring-arm C is inclined downwardly in one direction, and the bottom of the guide-groove *b'* is inclined upwardly in the reverse direction, so that when the finger-piece F is raised the bending of the spring-arm is distributed over its length, the bottom of the groove forming a bearing for the spring-arm to bend upon.

What I claim is—

The combination, with a singletree having a hole near one end and a guide-groove extending from the said hole and having an inclined bottom, of a spring-arm secured at one end to the said singletree and working in the said groove, said spring-arm being widest and thinnest at its fixed end and tapering in each direction toward its free end and normally inclined in the reverse direction to the bottom of the said groove which forms a bearing for it to bend on, said spring-arm having a rod at its free end which slides in the said hole and a loop at the end of the said rod for engaging with the trace, substantially as set forth.

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

JOHN U. METZGER.

Witnesses:

W. H. BARRETT,
A. E. LAWTON.