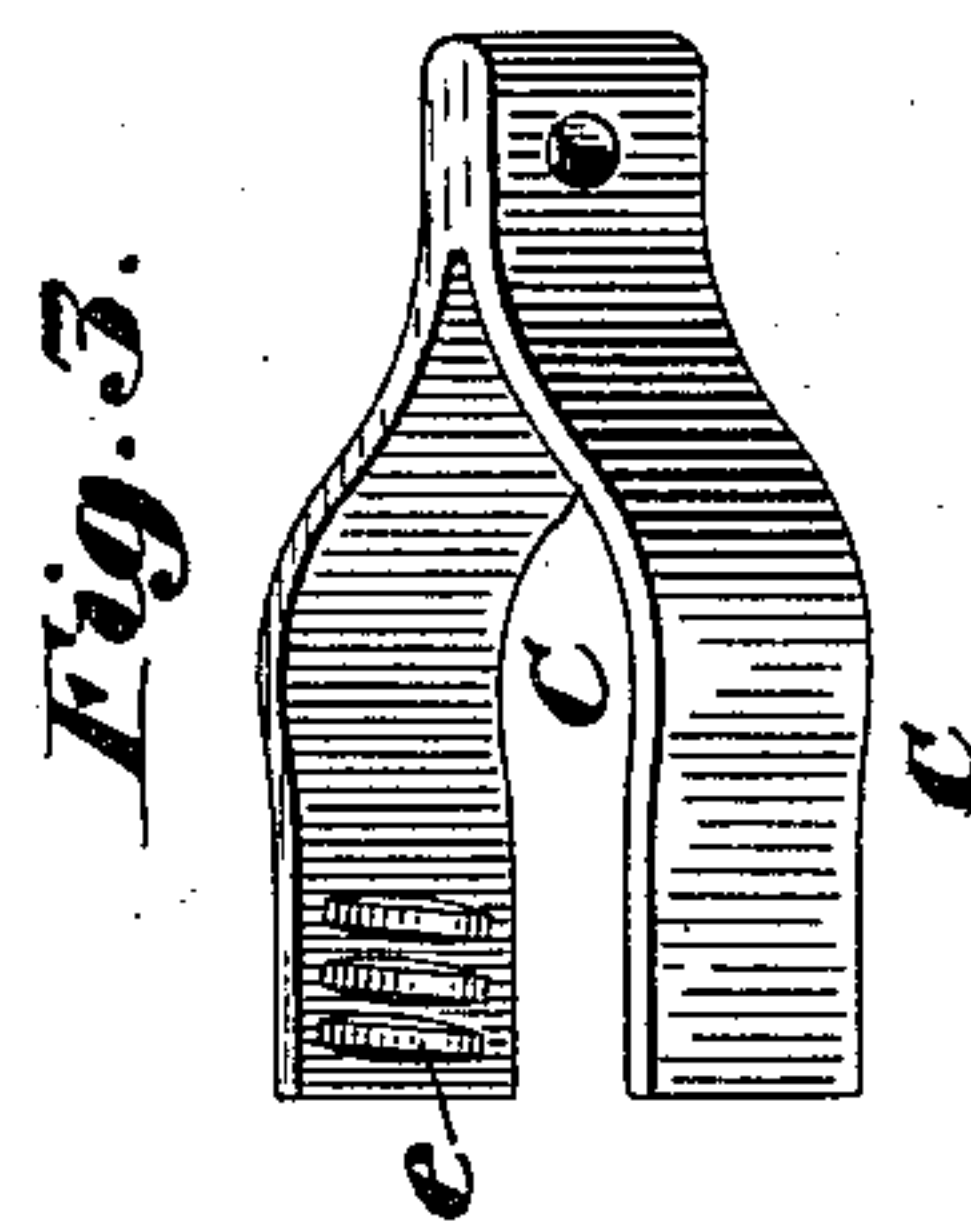
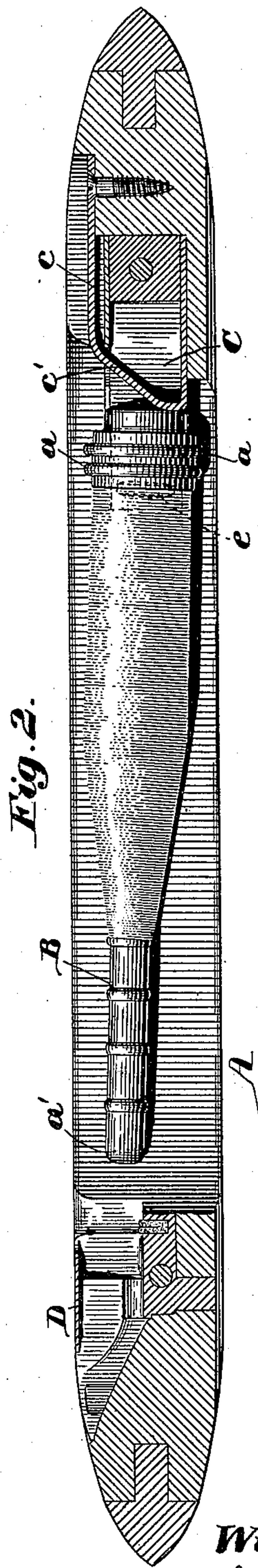
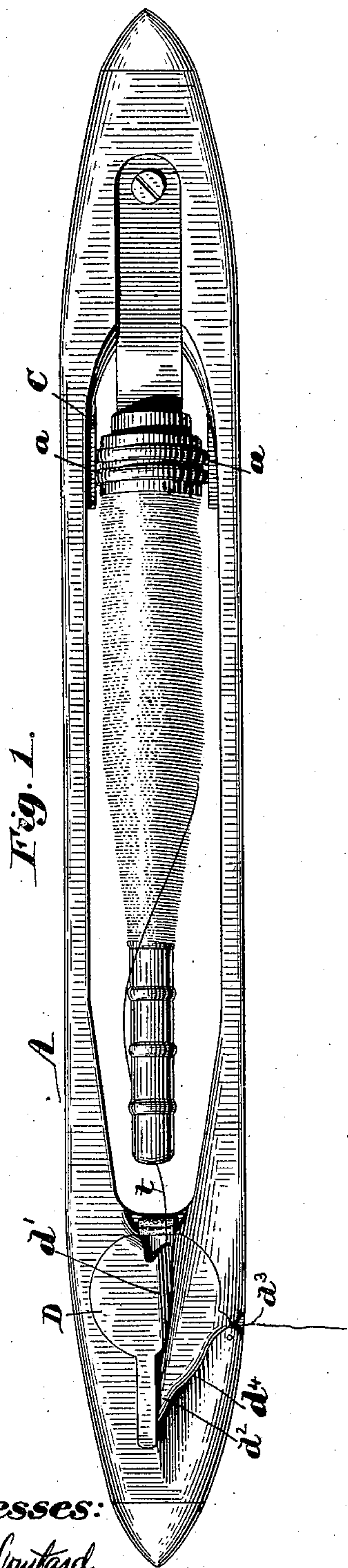


(No Model.)

W. F. DRAPER.
LOOM SHUTTLE.

No. 574,864.

Patented Jan. 5, 1897.



Witnesses:
Walter E. Luntard.
Thomas J. Drummond.

Inventor:
William F. Draper,
by Erastus Gregory. **Attys.**

UNITED STATES PATENT OFFICE.

WILLIAM F. DRAPER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO
GEORGE DRAPER & SONS, OF SAME PLACE.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 574,864, dated January 5, 1897.

Application filed May 29, 1896. Serial No. 593,575. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. DRAPER, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Loom-Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention is intended as an improvement on the class of shuttle represented in United States Patent No. 538,507, dated April 3, 1895, wherein the head of a filling-carrier or bobbin is held between spring-jaws, the
15 bottom of the shuttle being open for the passage of a spent filling-carrier through it, and the delivery end of the shuttle having a self or automatically threading slot into which the thread on the cop-holder is threaded
20 during the movement of the shuttle through the shed. In this class of shuttle the thread as it is unwound from the end of the filling-carrier or bobbin, it then describing a circular path, is thrown into an open slot at the
25 top of the shuttle, and in practice it sometimes happens that the thread does not enter the slot instantly. To overcome this, I have provided means whereby the free end or tip of the filling-carrier is held in a slightly-elevated position, so that the thread can readily
30 enter the slot as it first starts to run off.

The shuttle referred to has spring-arms which constitute holders, the said arms at their interior having a series of grooves to be
35 centered by a series of rings surrounding the base of the filling-carrier, but the said grooves are perpendicular to a line drawn longitudinally through the shuttle. In this my invention the grooves are inclined so that the said
40 rings as they slide down in said grooves cause the filling-carrier to assume an inclined position with its tip elevated a little above the center line of the shuttle.

Figure 1, in top or plan view, shows a shuttle embodying my invention; Fig. 2, a longitudinal section, and Fig. 3 a detail of the jaws or holder for the filling-carrier.

50 The shuttle-body A and the inclined filling-carrier or bobbin-directing plate *c c'* and the filling-carrier or bobbin B, having the rings *a*, are and may be as in said Patent No. 538,507.

The holder to engage and hold the filling-carrier or bobbin consists of two like arms C, as in said patent, but herein the grooves *e* are so inclined as to receive and hold the filling-carrier with its tip or delivery end *a'* elevated substantially as in Fig. 2.

The self or automatic threading device D has a substantially straight slot *d'*, at one side of which is a horn *d''*, along the outer
60 side of which is a space *d'''*, so that the thread *t*, coming into the slot *d'* to get under the horn, may be led into the delivery-eye *d'''*.

The self-threading device D is not of my invention, and it is and may be of any usual or
65 suitable construction, as, for instance, substantially as in United States Patent No. 568,319, dated September 22, 1896.

Having described my invention, what I claim, and desire to secure by Letters Patent, 70 is—

1. A shuttle-body open at its top and under sides for the reception and passage through it of a filling-carrier, combined with a holder composed of open jaws provided with inclined
75 holding-surfaces to cooperate with annular projections on the filling-carrier and hold the same in an inclined position in the body of the shuttle, the top of the filling-carrier being elevated, substantially as described. 80

2. A shuttle-body open at its top and under sides for the reception and passage through it of a filling-carrier, and provided with an open-slotted self-threading device, combined with a holder composed of open jaws provided with inclined holding-surfaces to cooperate with annular projections on the filling-carrier and hold the same in an inclined position in the body of the shuttle, the top of the filling-carrier being elevated, whereby
90 the filling-thread as it is unwound from the filling-carrier is unerringly thrown into the open slot of said threading device, substantially as described.

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

WILLIAM F. DRAPER.

Witnesses:

GEORGE OTIS DRAPER,
FRED W. ABELE.