

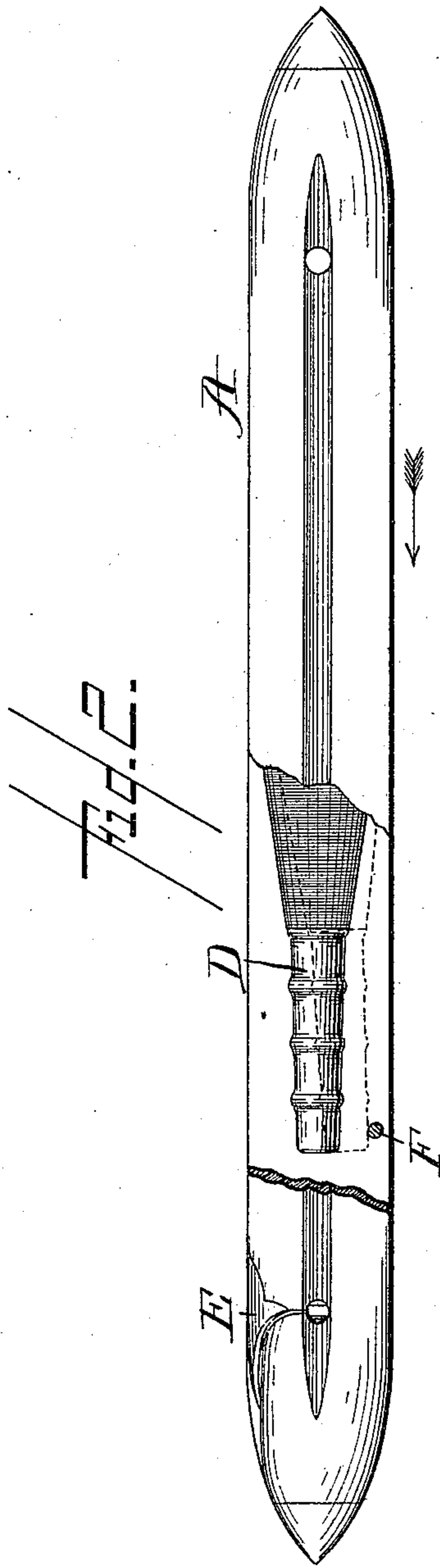
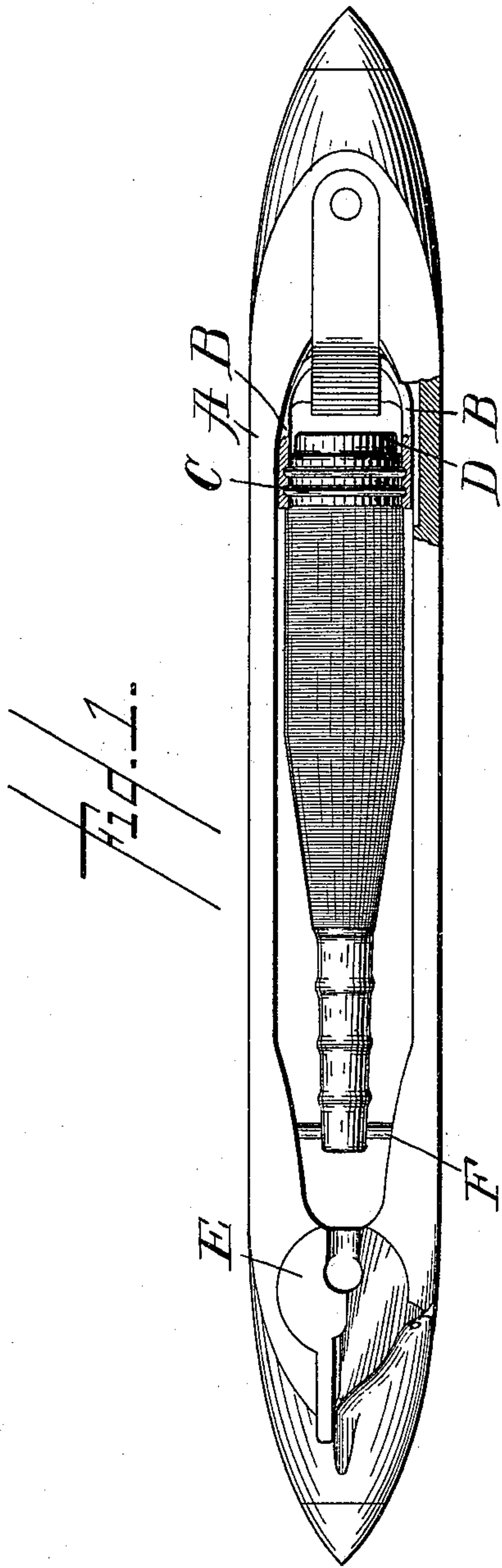
No. 619,720.

Patented Feb. 21, 1899.

J. A. CLARK.
LOOM SHUTTLE.

(Application filed Nov. 30, 1898.)

(No Model.)



WITNESSES.
Charles F. Logan.
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UNITED STATES PATENT OFFICE.

JOHN A. CLARK, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE
CROMPTON & KNOWLES LOOM WORKS, OF SAME PLACE.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 619,720, dated February 21, 1899.

Application filed November 30, 1898. Serial No. 697,830. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. CLARK, of Worcester, 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.

This invention is intended as an improvement on that class of shuttle, designated as "self-threading" and employed in looms, wherein a bobbin having filling is put automatically into the upper open side of the shuttle in operation when for any reason the filling fails in the shuttle in use and the bobbin containing the failed filling is ejected through the open lower side of the shuttle. The shuttle contains jaws to grasp and hold frictionally the head or base of the bobbin, said jaws and the head of the bobbin having cooperating notches and projections, whereby the bobbin may be retained in proper alinement in the shuttle. In order that the projections on the incoming bobbin may properly enter the notches of the jaws, it is essential that the position of the shuttle in the shuttle-box should be somewhat defined just as the pusher acts on a bobbin to put it into the shuttle, the incoming bobbin ejecting the spent bobbin from the shuttle. I have found by using a shuttle of this class that when the projections of the bobbin fail to enter the notches of the jaws the tip of the bobbin being driven into the shuttle moves faster than the base or head thereof, and said tip is liable to be carried down and get below the under side of the shuttle, in which condition it catches on the lay, to the detriment of the bobbin and shuttle. I have aimed to prevent the tip of the bobbin being put into the shuttle automatically from descending below the under side of the shuttle, and the discharged or spent bobbin is always discharged base or head first. I have accomplished my object by providing the shuttle, at a point just below the tip of the bobbin, properly held in the shuttle by the jaws thereof, with a rest, so that a spent bobbin when discharged, as well as any bobbin being inserted in the shuttle, will, in case the bobbin coming into the shuttle out of substantially a parallel line central to the length

of the shuttle, as by reason of the projections on the bobbin not entering correctly the notches of the jaws, meet said rest, it stopping the tip of the shuttle and preventing it from passing below the under side of the shuttle. After the tip of a bobbin being inserted meets said rest the bobbin is free to slide longitudinally somewhat for a sufficient distance to enable its rings to properly enter the grooves of the jaws.

In my invention the tip of the bobbin does not in use stand in contact with the rest, but a short distance above it.

Figure 1 is a top or plan view of a self-threading shuttle, partially broken out to better show its jaws for holding the bobbin; and Fig. 2 is a side elevation with one wall of the shuttle broken out to show the rest.

The shuttle A, the jaws B, notched or grooved at their inner sides to receive the projections C on the head of the bobbin D, and the self-threading contrivance E are and may be all of usual or suitable construction, said devices herein shown not being of my invention.

My invention consists, essentially, in providing this well-known form of shuttle with a rest, as F, it being herein shown as consisting of a stud of metal extended from one to the other side wall of the shuttle at or near its under side, the said rest occupying a position just below the tip of the bobbin.

The bobbin shown in the drawings when it becomes exhausted will be automatically discharged through the bottom of the shuttle by the action of an incoming full bobbin against it, the said full bobbin being put into the top of the shuttle while the latter is in the shuttle-box by a pusher, and the projections of the incoming bobbin ought to meet and enter the notches of the jaws B. If, however, the projections on the incoming bobbin happen to be out of line somewhat with relation to the notches in the jaws, then the tip of the incoming bobbin is apt to descend below the under side of the bobbin, so that when the shuttle is thrown in the direction of the arrow the tip of the shuttle will catch, to the injury of the bobbin and shuttle. The employment of the rest F obviates this completely, and in case the projections

on the incoming bobbin are not correctly placed with relation to the notches in the jaws the spent bobbin will be discharged base or head first, for the reason that the tip
5 of the bobbin will meet the rest and the incoming bobbin will also, under the conditions referred to, meet the rest and the tip will be immediately arrested, so that the continued action of the pusher enables the incoming
10 bobbin to slip or slide somewhat longitudinally, so that the projections enter properly the notches of the jaws.

This invention is not restricted to the exact shape shown for the rest.

15 I have spoken of projections on the bobbin entering notches of the jaws; but it will be understood that the presence of a projection includes a notch or space at each side of it, so the said terms "projections" and "notches"
20 are used relatively to include suitable similar

coöperating surfaces of the bobbin and jaws, so that a projection on one will coöperate with a notch of the other to form a frictional holding-surface.

Having fully described my invention, what 25 I claim, and desire to secure by Letters Patent, is—

The combination with a self-threading shuttle having jaws adapted to frictionally engage and hold a bobbin, of a rest located 30 below the tip of the bobbin, to operate, substantially as described.

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

JOHN A. CLARK.

Witnesses:

JUSTIN A. WARE,
JOHN B. SYME.