

P. LEAR.
Loom-Shuttle.

No. 159,764.

Patented Feb. 16, 1875.

Fig. 1.

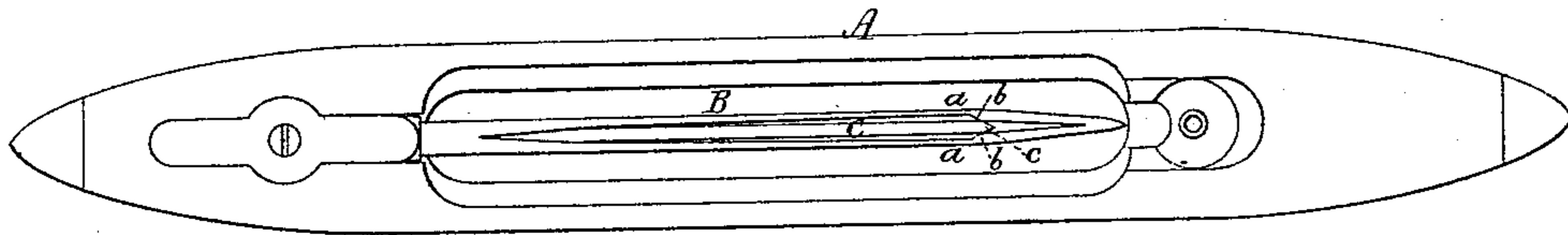


Fig. 2.

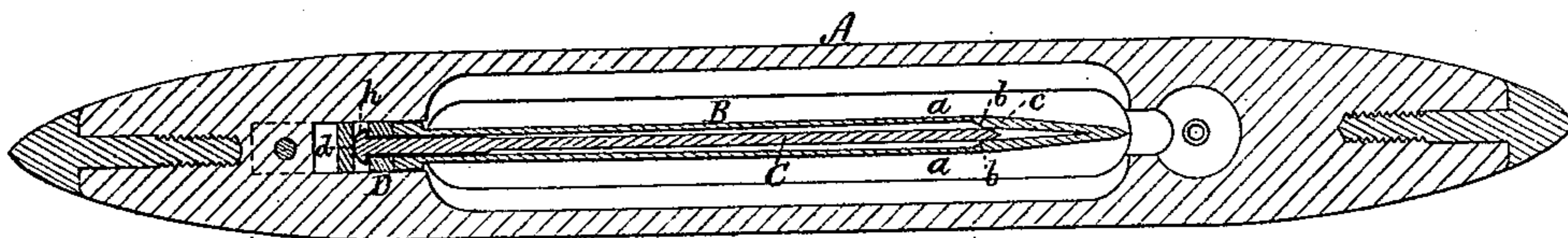


Fig. 3.

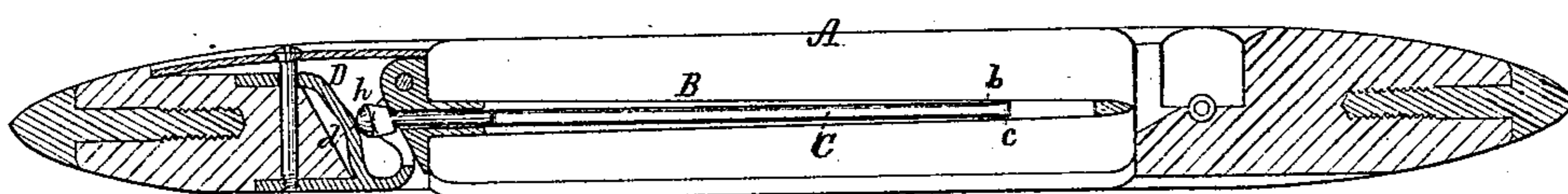
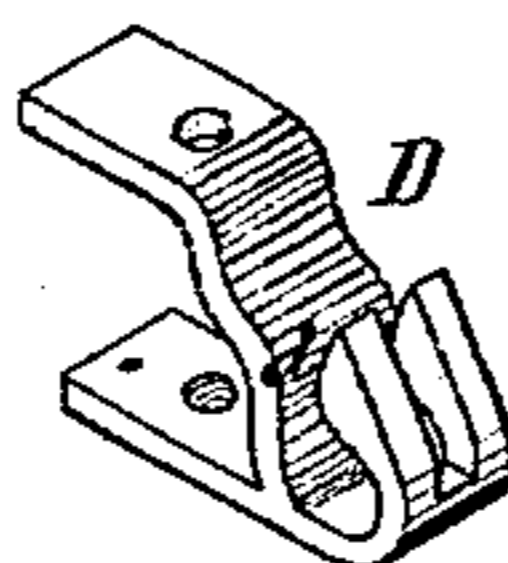


Fig. 4.



Witnesses.

S. N. Piper
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UNITED STATES PATENT OFFICE.

PETER LEAR, OF MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. **159,764**, dated February 16, 1875; application filed January 22, 1875.

To all whom it may concern:

Be it known that I, PETER LEAR, of Medford, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Loom-Shuttles; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a horizontal and longitudinal section, and Fig. 3 a vertical and longitudinal section, of a shuttle provided with my invention. Fig. 4 is a perspective view of the clawed holder of the spindle-expander.

My present invention has reference to that which constitutes the subject of Patent No. 156,027, dated October 20, 1874, and granted to me.

In carrying out my present improvement, I combine with the expansive shuttle-spindle, the expander thereof, and their cams and wedge or cone, a furcated holder, as herein-after described, whose purpose is to hold the expander while the spindle is being raised, so as to draw the cams away from the expander. It also answers as a back-stop for the expander.

Furthermore, I do not arrange the cams of the bows at or in close proximity with the middles of the bows of the spindle, but in advance of or in close proximity with the parts of the bows where the nose of the cop comes when on the spindle, the object being, when the bows are expanded, to support the cop from nose to heel by but one regular taper of the bows.

When each of the bows tapers in opposite directions within the cop, the front portion of the cop, or that portion in advance of the apexes of the bows, is liable to be thrown off the spindle, or to be broken away from the rear part; but by having the cams and apexes of the bows at or a little in advance of the nose of the cop, there is no such liability of breakage of the cop.

In the drawings, A denotes the shuttle-body, and B the spindle, they being arranged and applied together in the usual manner. The spindle is split lengthwise from near its heel to near its point, and has each portion *a a* bowed in manner as represented, the expansible parts *a a* being elastic, like a bow, and provided, at or near or a little in advance

of the part where the nose of the cop is to come, with two inclined surfaces, cams, or projections, *b b*, arranged and formed as shown. A rod, C, or expander, conical or wedge-shaped at its front end, as represented at *c*, is arranged within and applied to the spindle, so as to be capable of sliding lengthwise therein. It extends back through the spindle, and is provided with a head, *h*. Just in advance of this head the spindle is straddled by a clawed or furcated holder, D, shaped as shown in Fig. 4, and arranged in the shuttle-body, in manner as represented in the drawings. This holder serves not only to hold back the expander while the spindle may be in the act of being raised, but also to support the expander while the spindle may be in the act of being depressed, the sliding of the spindle on the expander causing the cams thereof to be advanced away from the expander as the spindle rises, in order to allow the bows to collapse or spring together.

While the spindle with a cop on it is in the act of being turned down within the shuttle, the expander will abut against the part *d* of the holder D, so that the spindle-cams will be moved against the expander, in a manner to cause expansion of the spindle.

I do not claim an expander provided with a hook at its heel to co-operate with a pin going through a chamber or space in the shuttle to receive such hook, all being as shown in the United States Patent No. 134,971.

With my forked stop or holder, and with the head on the expander, I gain the advantages of the hook and pin, and avoid the disadvantage of having the chamber open, so that waste can get into it to choke or estop the expander in its operations.

I claim—

1. In the shuttle, the forked back-stop or holder D, as described, in combination or for use with the expander C, provided with a head, *h*, and arranged with the split spindle B and its cams *b b*, as set forth.

2. The spindle-bow cams *a a*, arranged substantially as described, to cause the spindle, when, by them and the expander, it may be expanded within a cop, to have but one taper therein, all being as and for the purpose specified.

Witnesses:

R. H. EDDY,
J. R. SNOW.

PETER LEAR.