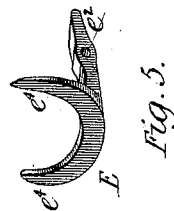
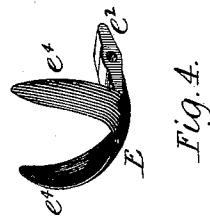
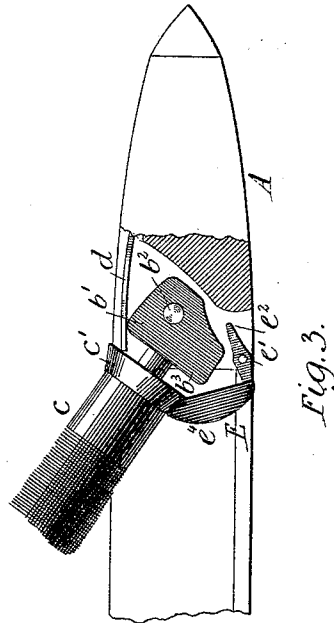
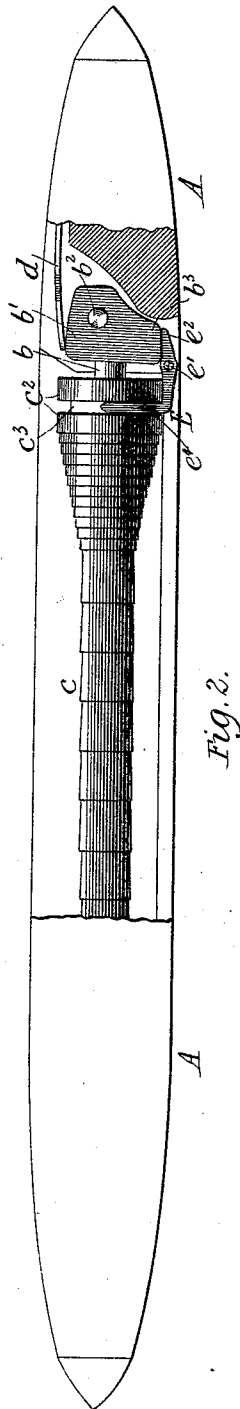
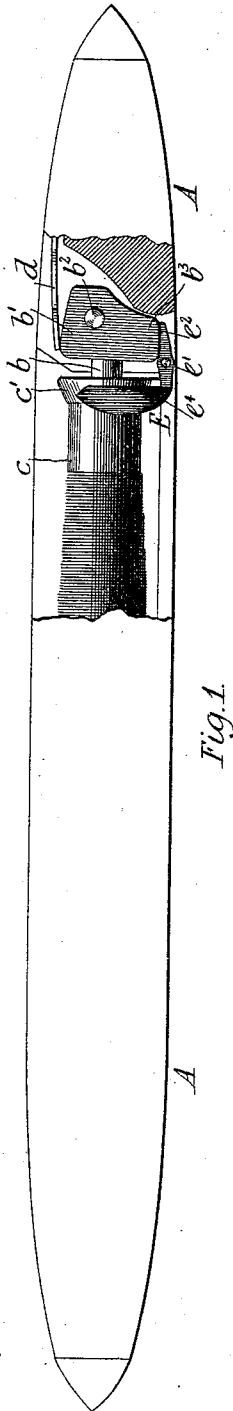


(No Model.)

T. HAMPSON.
BOBBIN SHUTTLE.

No. 542,160.

Patented July 2, 1895.



Witnesses

W. J. Norton
J. F. Brown

Inventör

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UNITED STATES PATENT OFFICE.

THOMAS HAMPSON, OF ANNISTON, ALABAMA, ASSIGNOR OF ONE-HALF TO
JAMES B. GOODWIN, OF SAME PLACE.

BOBBIN-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 542,160, dated July 2, 1895.

Application filed December 26, 1894. Serial No. 533,015. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HAMPSON, a citizen of the United States, residing at Anniston, in the county of Calhoun and State of Alabama, have invented certain new and useful Improvements in Bobbin-Shuttles; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention is directed to improvements in bobbin-shuttles, and has for its object the production of an improved clutch which, when operated by a part of the tongue, engages the bobbin-flange and holds the latter firmly in place.

Another object of the invention is to minimize the breakage of the bobbin, due to a rapid traverse, and to this end the clutch is provided with jaws which curve outwardly and upwardly to conform to the lower half of the bobbin-flange, thereby distributing the strain sufficiently to preclude breakage.

The invention will now be described in detail, and in connection with the description attention is called to the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of a bobbin-shuttle embodying my invention. Fig. 2 is a similar view showing a modified construction. Fig. 3 is a detail view with the parts in another position. Fig. 4 is a view in perspective of one form of clutch employed, and Fig. 5 is a perspective view of a modified form of clutch.

Referring to the said drawings by letter, A denotes a shuttle case or body of the usual construction, and *b* is the tongue which receives and holds laterally the bobbin *c*. The tongue *b* is pivotally secured at one end to the case or body within the usual slot by pivots *b*², extending laterally from the bearing-piece *b*¹. Said tongue also is held within the case or at an angle thereto to receive the bobbin by a leaf-spring *d*, engaging the upper end of the bearing-piece in the well-known manner. The bearing-piece is provided with a cam-extension *b*³, which in my preferred construc-

tion operates the clutch presently to be described; but said clutch may be operated independent of the movement of the tongue in various ways.

E denotes the clutch, which, as shown, comprises an arm *e*, having lateral pivots *e*¹, preferably formed by passing a pin through an aperture in the arm, said pivots being mounted in the case in a manner to permit the arm to rock freely, and one end *e*² of this arm in practice contacts with the cam *b*³. The other end of the arm terminates in two jaws *e*⁴ *e*⁴, which give a preponderance of weight to this end of the arm and consequently a constant tendency to fall. I have shown in the drawings two styles of bobbins, one having a single flange *c*¹ with an inclined inner side and the other having a double flange *c*², providing an annular groove *c*³. For the single flanged bobbin I use the construction of jaws shown in Figs. 1, 3, and 4, which conform in shape to the inclined inner side of the flange and in practice engage the same closely. For the double flanged bobbin I employ the construction of jaws shown in Figs. 2 and 5, which conform to the annular groove which they engage in practice. The jaws for both types of bobbins conform to the lower half of the bobbin, or, in other words, are semicircular in shape, and when in engagement the bobbin is so held as to distribute the longitudinal strain evenly over one-half of the flange, thereby overcoming the liability of breakage so common in the shuttles as ordinarily constructed.

The clutch, as before stated, may be operated independently of the movement of the tongue; but in my preferred construction such an arrangement is resorted to as a simple but very effective manner of carrying the invention into effect without modifying the construction of the shuttle. The clutch can be easily and quickly applied or attached to old as well as new shuttles and is very positive in action. With the two constructions of jaws shown any kind or type of bobbin can be firmly held against longitudinal displacement despite the rate of speed or excess of pick, and all friction is avoided.

The simplicity of the invention not only renders its application and operation easily

effected, but enables the same to be produced at a very small cost. The device moreover is very durable and not liable to disorder, and no lubrication is necessary for its proper operation.

5 I claim as my invention—

1. In combination with a shuttle and with the tongue pivotally secured therein, a bobbin clutch pivoted forward of the pivotal connection of the tongue and having jaws for engaging the bobbin, and means forming a part of said tongue for raising the jaws when said tongue is lowered.

2. In combination with a shuttle, and with 15 a bobbin having a flanged end, the tongue pivotally secured in said shuttle, a bobbin clutch pivoted forward of the pivotal connection of the tongue and carrying at one end two jaws extending upward and conforming to the 20 lower half of said flanged end, and means forming a part of the tongue for raising said jaws when the tongue is lowered.

3. A shuttle provided with a clutch for en-

gaging the bobbin flange comprising a pivoted arm and two jaws at one end thereof, said 25 jaws being curved outwardly and upwardly to conform to the lower half of said flange, in combination with a tongue pivotally secured in said shuttle and having a part adapted to operate the clutch, substantially as described. 30

4. In combination, a shuttle, a tongue pivotally secured therein and having a cam extension, a flanged bobbin, and a clutch consisting of an arm pivoted forward of the pivotal connection of the tongue, one end of which 35 is in contact with said cam and the other end of which carries two jaws adapted to be raised into engagement with the bobbin flange as the tongue is lowered.

In testimony whereof I affix my signature 40 in presence of two witnesses.

THOMAS HAMPSON.

Witnesses:

H. A. YOUNG,
J. L. WIKLE.