

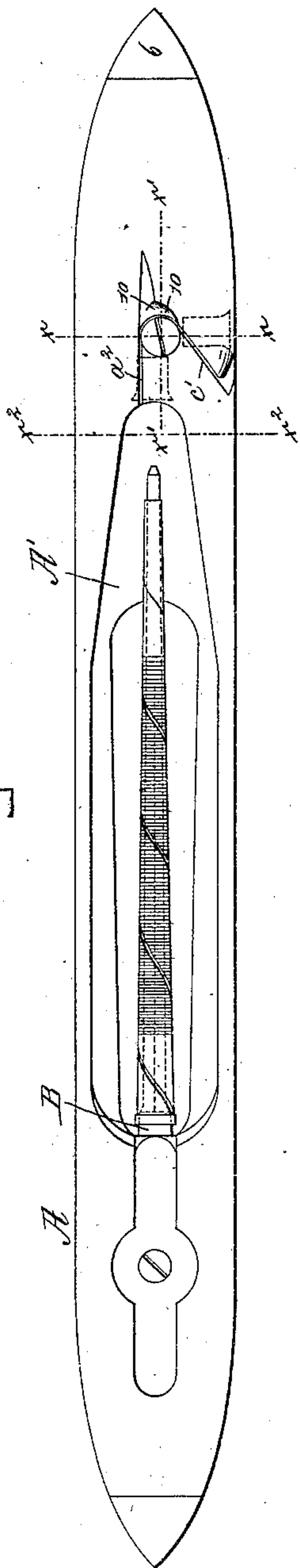
(No Model.)

L. GODDU.  
LOOM SHUTTLE.

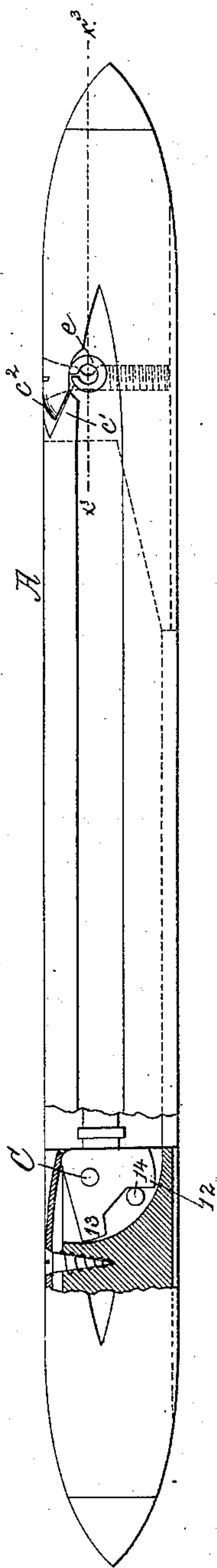
No. 353,405.

Patented Nov. 30, 1886.

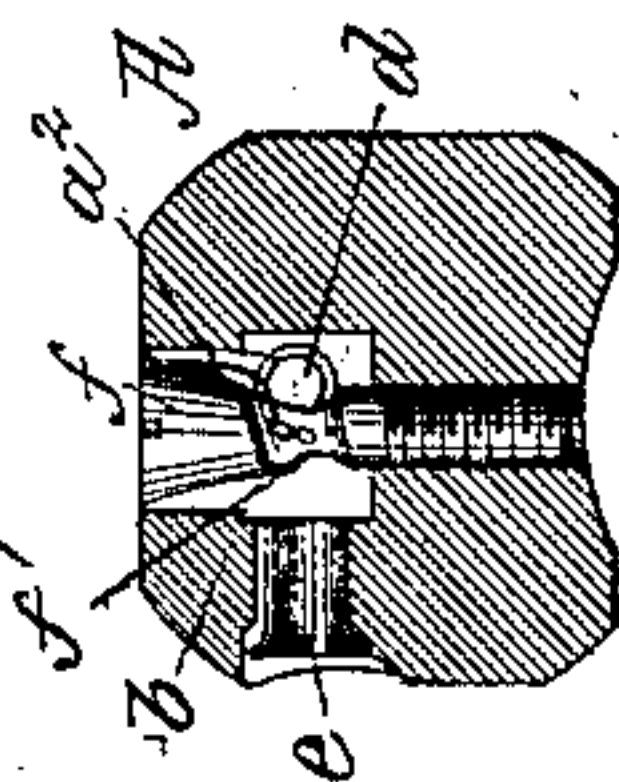
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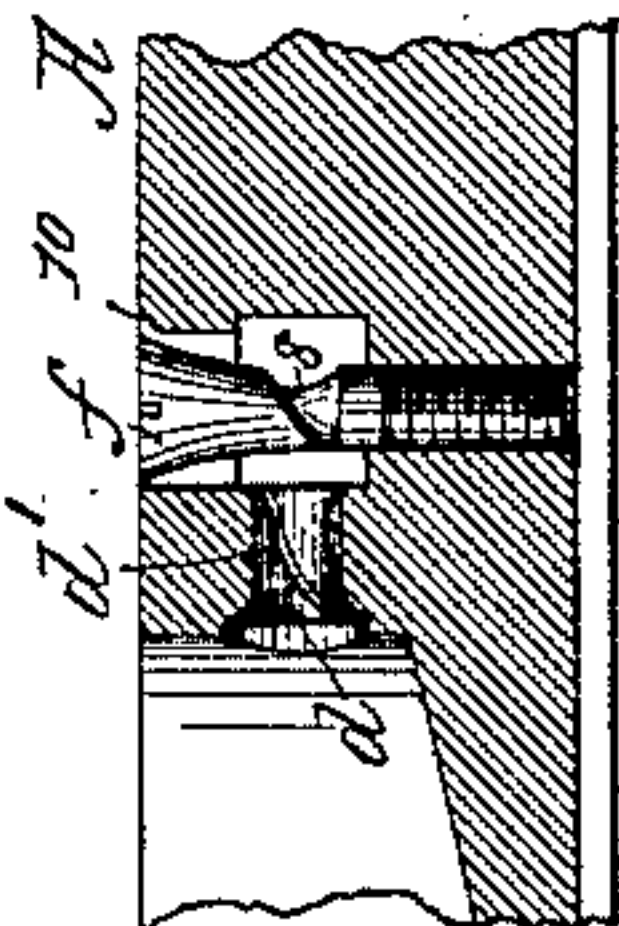
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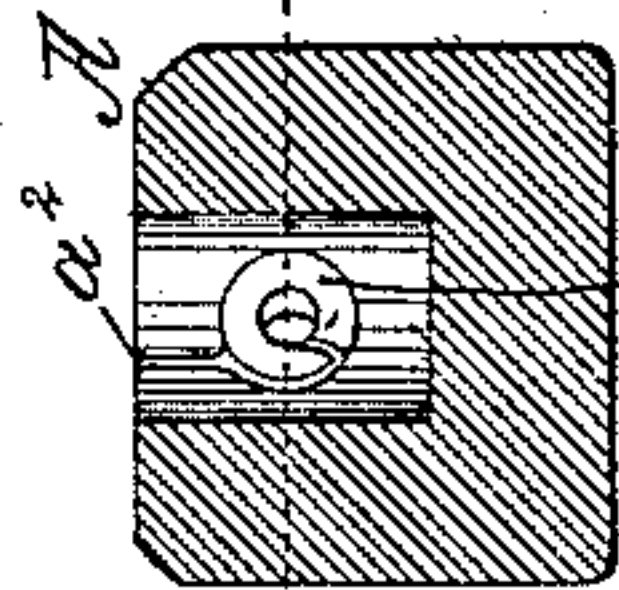
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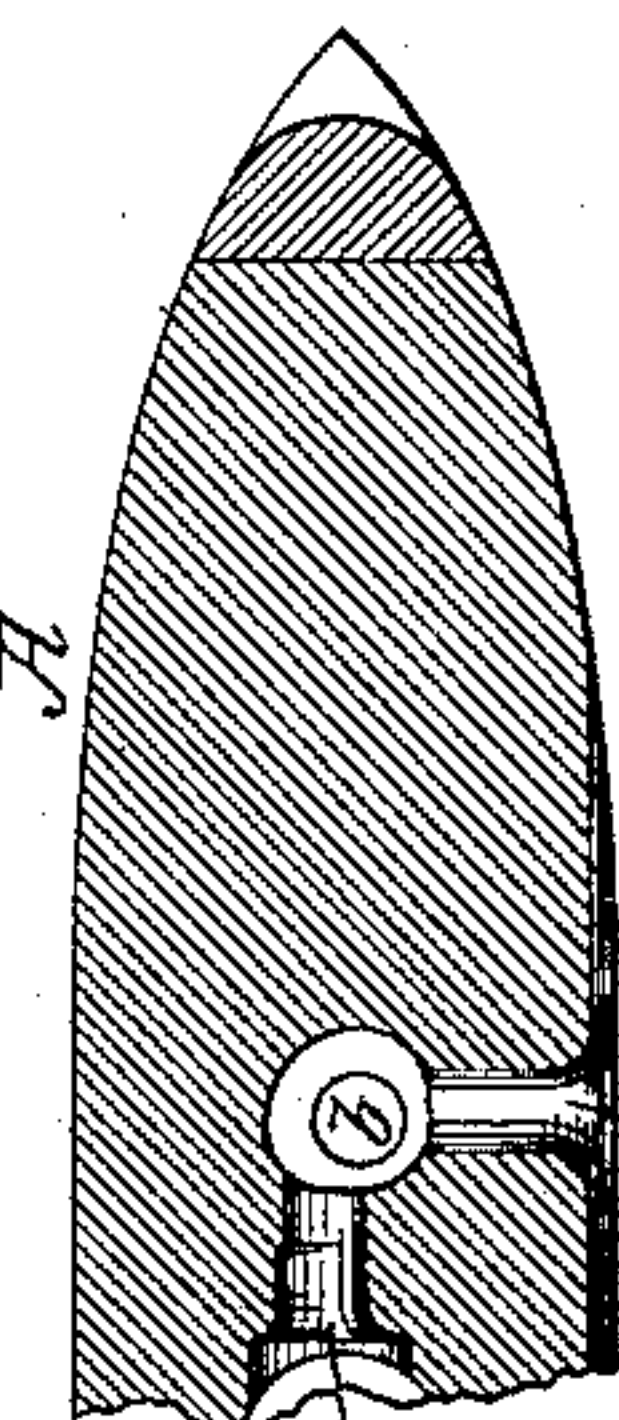
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9. 6. 17



7. 7.



Witnesses.

Arthur Lipperken.  
Fred L. Emery

Inventor.

Yours Godd u.  
by Crosby & Gregory  
Jtlys.



# UNITED STATES PATENT OFFICE.

LOUIS GODDU, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO THE GODDU  
IMPROVEMENT COMPANY OF MAINE.

## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 353,405, dated November 30, 1886.

Application filed March 18, 1885. Serial No. 159,280. (No model.) Patented in England March 3, 1885, No. 2,819, and in  
Belgium March 9, 1885, No. 68,073.

*To all whom it may concern:*

Be it known that I, LOUIS GODDU, of Winchester, county of Middlesex, and State of Massachusetts, have invented an Improvement in Loom-Shuttles, of which the following  
5 description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve  
10 loom-shuttles, whereby the thread to be delivered from them may be easily passed laterally into the eyes or guides of the shuttle, and whereby the tension on the shuttle-thread may be increased or diminished, as desired.

15 My invention consists in a shuttle-body provided with a series of three holes for the reception of eyes, and of a tension-regulating post or stud, the shuttle-body between the said holes being slotted diagonally, as will be  
20 described.

Other features of my invention will be pointed out in the claims at the end of this specification.

Figure 1, in top or plan view, represents a  
25 loom-shuttle embodying my invention. Fig. 2 shows a side elevation thereof, partially broken out to show the head of the shuttle-spindle and stop-pin. Fig. 3 is a section in the dotted line  
30  $xx$ , Fig. 1, looking toward the left, the tension-regulating and drawing-off post being in elevation. Fig. 4 is a partial longitudinal section in the line  $x'x'$ , Fig. 1, at right angles to the line  $xx$ , the tension-regulating post being shown in elevation. Fig. 5 is a section in the  
35 dotted line  $x^2x^2$ , Fig. 1, looking toward the right. Fig. 6 is a partial section of only the shuttle-body in the line  $x^3x^3$ , Fig. 2; and Fig. 7 shows the thread-delivery eye detached.

The shuttle-body A, of usual shape and material, has a spindle, B, pivoted at C. The  
40 head of the spindle is cut away at its under side to form two shoulders, 12 13, the shoulder 12 engaging the stop-pin 14 when the spindle is down in the shuttle-body, as in the drawings, the shoulder 13 engaging the said pin  
45 when the spindle is turned out to receive a cop-tube, or, it may be, a bobbin of usual construction, which latter, it is understood, may be used, if desired, the head of the shuttle-

bobbin in such case being engaged in usual  
50 manner by a spring-catch.

The spindle as herein shown holds a cop-tube, which in practice will be wound with thread in usual manner. The shuttle-body just beyond the point of the spindle is bored  
55 horizontally, or provided with a hole,  $a$ , (see Fig. 6,) then with a hole,  $b$ , from the upper to or nearly to the lower side of the shuttle, and with a third hole,  $c$ , from the side of the shuttle, the holes  $a$  and  $c$  intersecting the hole  
60  $b$ . The thread-receiving eye  $d$  is placed in the hole  $a$ . The said eye is slotted spirally at  $d'$ , the slot at the end of the said eye nearest the tip of the spindle being at or below a diametrical line,  $a'a'$ , there being a narrow space  
65 between the periphery of the said eye and the wood of the shuttle down to the slot in the said eye sufficient for the passage of the weft-thread drawn across said eye. (See Fig. 5.)

The shuttle-body is provided with a slot,  $a^2$ ,  
70 made through the wood between the cop-chamber A' and the hole  $b$ , and which, as indicated in Fig. 3, is more or less diagonal or slanting with respect to the vertical longitudinal plane of the shuttle-body, the said slot  
75 cutting into the hole  $a$ , and the wood between the hole  $b$  and the side of the shuttle is provided with a second diagonal slot,  $c'$ , leaving a horn or projection,  $c^2$ , the said slot cutting  
80 into and connecting the holes  $b$  and  $c$ . The hole  $c$  receives a thread-delivery eye,  $e$ , slotted from end to end, (see Fig. 7,) the outer end of the slot in the said eye being arranged just beyond the intersection of the slot  $c'$  with the  
85 hole  $c$  in which the said thread-delivery eye is placed. (See Fig. 2.)

The tension-adjusting post  $f$ , placed in the hole  $b$ , made through the shuttle-body, from top to bottom thereof, and screw-threaded at its lower end and screwed into the wood of the  
90 shuttle-body, is provided with a conical head of a diameter to nearly fill the said hole, the said post below its head having a neck provided with a screw or cam-like groove, 8. This cam-like groove has the upper wall or  
95 edge,  $f'$ , which, in connection with the surface of the groove or depression, as the said post is turned in one direction, acts to deflect or



bend the thread therein more or less about and against the interior of the said delivery-eye *e*. The more extended the contact of the thread with the inner face of the delivery-eye *e* the greater the tension on the thread. The post *f*, being in line with the point of the spindle, also acts as a drawing-off stud. The location of the slotted end of the eye *d* in the hole *a*, below the line *a' a'*, effectually prevents the escape of the shuttle-thread from the said eye by a lateral movement. The location of the corner of the eye *e* (left by slotting it) in the hole *c*, and just beyond the diagonal slot *c'*, acts to prevent the escape of the shuttle-thread laterally from the said eye.

The wood at the top of the shuttle, about the part of the hole *b* near the point 6 of the shuttle, is cut out, as at 10, to thus uncover and expose the edge of the head of the post *f*, in order that the thread may be readily caught under the edge of the said head.

I do not claim, broadly, a shuttle-body having its wall slotted to leave a horn, and a slotted thread-delivery eye to receive the thread from the slot made in the shuttle-body wall, the shuttle-body also having a drawing-off stud or post.

The shuttle-spindle having been provided with a cop of thread, the operator catches the said thread near its end, places a part of it under the edge of the head of the post *f* at the recess 10 of the shuttle, and drawing the said thread about the said post leads it under the prong *c'*, such manipulation of the thread, coupled with a slight pull thereon, causing the thread to pass down through the diagonal slot *a'* of the shuttle-body into the slotted eye *d*, and along the slot *c'* into the slotted eye *e*, and down about the post into the groove at its neck, the thread leaving the shuttle being drawn about the said post in the said groove 8.

To increase or diminish the tension on the shuttle-thread, the post *f* is turned with a screw-driver to cause the cam-surface or incline of the neck of the stud (see Figs. 3 and 4) to push the thread more or less in contact with the inner wall of the eye *e*.

I am aware that it is old to construct a shuttle with a slot through which the thread is carried into the hole on the side; but instead of the top slot, through which the thread is carried from the bobbin to the hole in the bottom and around the drawing-off pin or bolt, a prior shuttle shows a recess open at top, in which is arranged a wire bent and coiled in such manner that the thread from the bobbin is carried around between it and the sides of the cavity, and so brought into the side slot and side hole or eye. The operation of threading is substantially the same in this last-named construction as in mine; but the construction is different, in that it has no metal-lined hole for the thread to run through from the bobbin, and so around the stem of the bent-wire device to the side hole, and also in that the open recess or cavity serves to catch the dust, lint, &c. In my invention the openings and thread-slots are protected by the wood of the shuttle, they being so formed in the shuttle as to leave the wood overhanging them.

I claim—

1. The shuttle-body provided with the holes or openings *a b c*, and slotted diagonally at *a'* and at *c'*, the said slots connecting the holes or openings *a b c*, combined with the slotted metal eyes *d e*, substantially as described.

2. The shuttle-body provided with the holes or openings *a b*, and slotted diagonally, as at *a'*, between the said holes or openings, combined with a slotted thread-receiving eye and with a headed post or stud having a cam-surface, 8, the eye being placed in the hole or opening *a* and the post or stud in the hole or opening *b*, substantially as described.

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

LOUIS GODDU.

Witnesses:

JOS. P. LIVERMORE,  
G. W. GREGORY.