

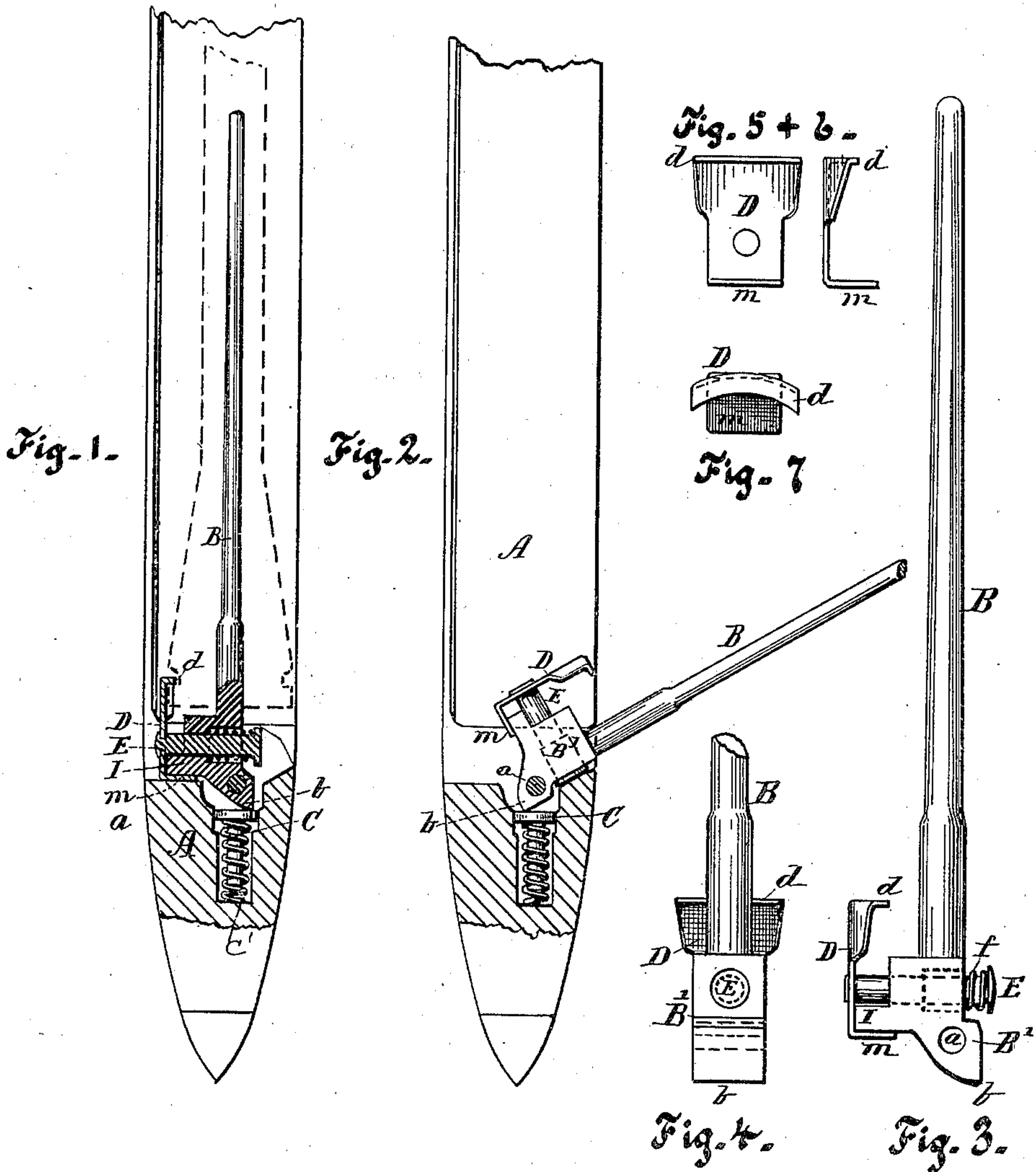
(No Model.)

E. W. MARBLE.

LOOM SHUTTLE.

No. 302,922.

Patented Aug. 5, 1884.



Witnesses -

Geo. M. Rice 2<sup>d</sup>

Austin W. Matthews -

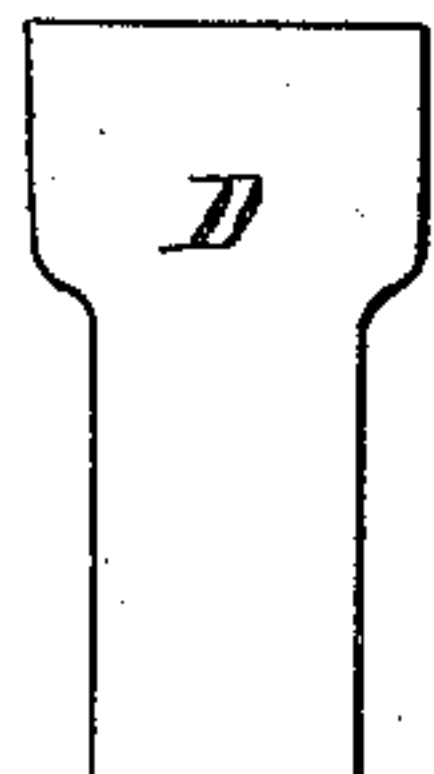


Fig. 8.

Inventor -

Ezra W. Marble

By Chas. H. Burleigh

Atty

# UNITED STATES PATENT OFFICE.

EZRA W. MARBLE, OF SUTTON, MASSACHUSETTS.

## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 302,922, dated August 5, 1884.

Application filed June 27, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EZRA W. MARBLE, a citizen of the United States, residing at Sutton, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Loom-Shuttles; and I declare the following to be a description of my said invention, sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My present invention is an improvement in the construction of that kind of shuttle-spindle mechanism for which Letters Patent No. 114,167 were granted to me, dated the 25th day of April, A. D. 1871; and it consists in making the bobbin-catch from sheet metal or steel punched and swaged to proper form by dies, and in providing the said catch with an inwardly-extending end or lip that fits over and against the rear side of an angular portion of the spindle-head for guiding and retaining the catch in proper relative position.

In the drawings, Figure 1 is a longitudinal section of such parts of a shuttle as are necessary to illustrate the nature of my invention. Fig. 2 is a longitudinal section, showing the spindle in its outward position. Fig. 3 is a side view of the spindle and bobbin-catch separate from the shuttle-body. Fig. 4 is a top view of the same, showing only a portion of the spindle. Figs. 5, 6, and 7 are top, side, and end views of the catch-piece separate from the other parts; and Fig. 8 is a plan view of the punched blank from which the catch is formed.

In the references, A denotes the wood or body of the shuttle.

B indicates the spindle, which is pivoted to swing on the pin *a*, with the point *b* of its head B' working in contact with the stud C, pressed against the spindle-head by a spring, C', by means of which said spindle is retained in either elevated or depressed position in the usual manner.

D indicates the bobbin catch-piece, which piece is rigidly fixed to the end of the stud E, which passes through an opening in the

head B', and is provided with a spring, *f*, for drawing down the catch into the bobbin-groove. The catch-piece D is, by means of suitable dies, punched from thin sheet metal, preferably sheet-steel, the blank being of a form similar to that shown in Fig. 8. It is then by other suitable dies swaged or struck up into the form indicated in Figs. 5, 6, and 7, the forward part being rounded to fit the curved periphery of the bobbin-head and its edge turned inward to form the curved flange or lip *d*, for engaging the bobbin-head groove. The rear end of the piece is bent inward at a right angle to form the lip or guiding extension *m*, so that when said catch-piece is fixed to the stud E and connected with the spindle B the lip *m* extends over and rests against the rear of the angular projection I on the spindle-head, and serves as a guide and support for retaining the catch-piece firmly and squarely in proper relative position, and prevents it from swinging around to one side while guiding it as it moves inward and outward in the action of the mechanism when locking or releasing the bobbin. The lip *m*, by locking over the projection I in the manner shown, also serves to prevent the catch-piece from being drawn forward by any hard draft on the bobbin, and thereby straining the stud E against the forward side of its opening and causing wear and looseness of the stud E within the head B'. Consequently the catch-piece is by the lip *m* retained more firmly and guided more squarely and positively, so that it operates in a more satisfactory manner and the devices are more durable than the old form of construction.

The operation of the mechanism is indicated by the drawings, and will be understood without further description.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. A bobbin catch-piece for shuttles, provided at its rear end with a projection or lip extending inward at a right angle, and adapted for guiding and supporting said catch-piece, in combination with the shuttle-spindle B, stud E, and spring *f*, constructed in the manner hereinbefore set forth.



2. The combination of the body A with the spindle B, having the head formed with the projection I, the stud E, the spring *f*, and the bobbin-catch D, fixed on the stud E, and provided with the lip or inward extension *m*,  
5 resting against the rear of said angular projection, in the manner shown, and for the purposes set forth.

Witness my hand this 25th day of June, A.  
D. 1883.

EZRA W. MARBLE.

Witnesses:

CHAS. H. BURLEIGH,  
S. R. BARTON.