

(No Model.)

J. BOLTON.  
SHUTTLE FOR SEWING MACHINES.

No. 470,283.

Patented Mar. 8, 1892.

Fig. 1.

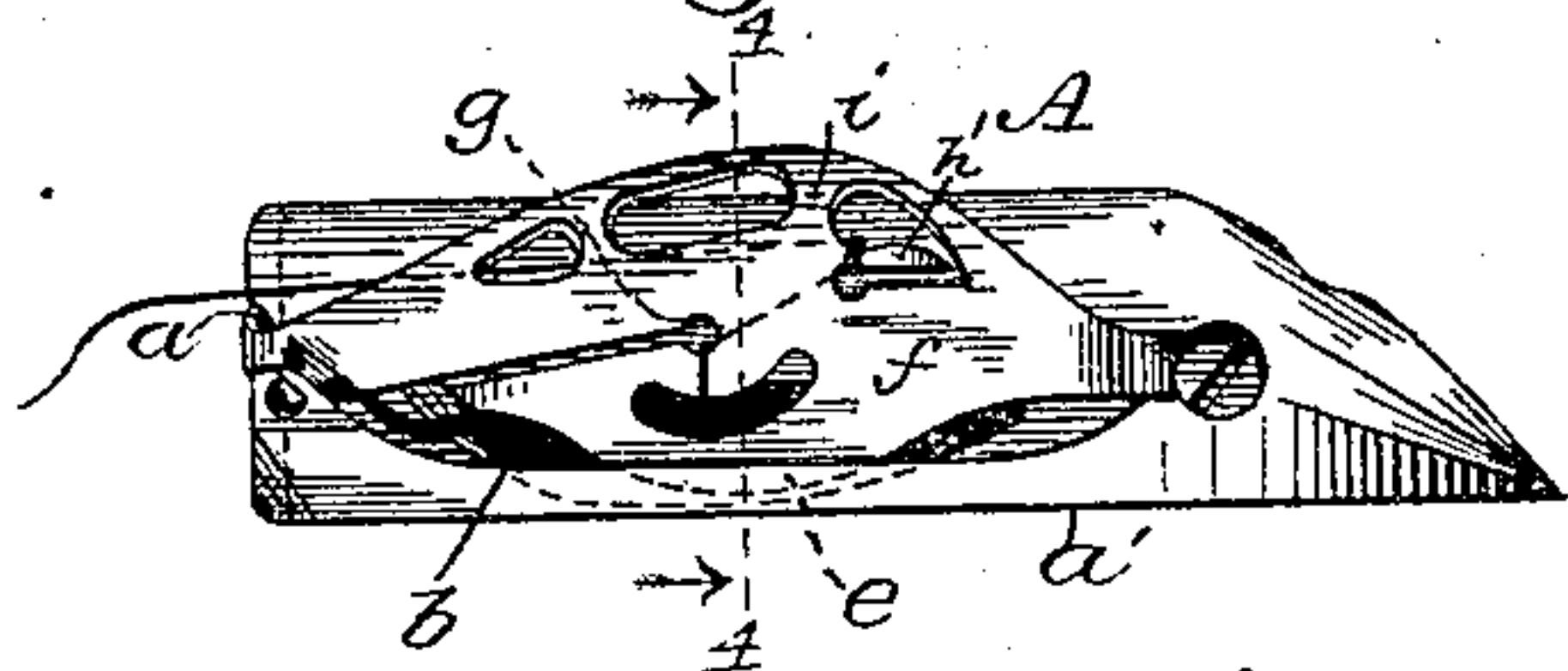


Fig. 2.

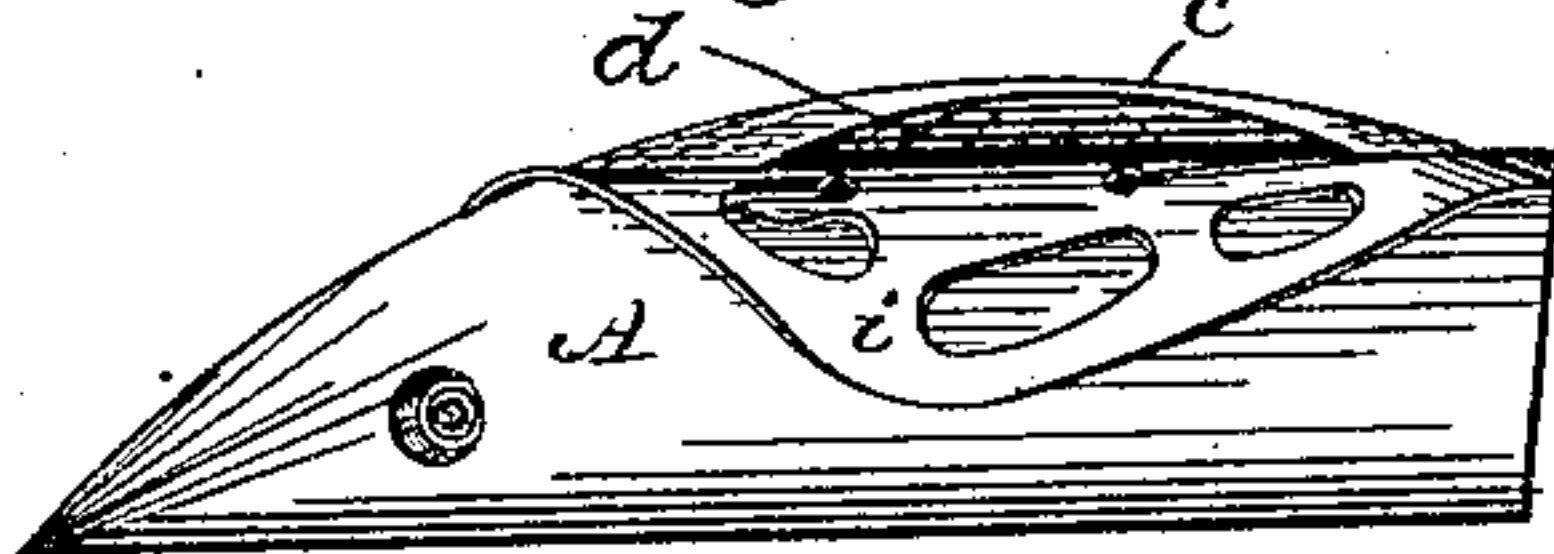


Fig. 3.

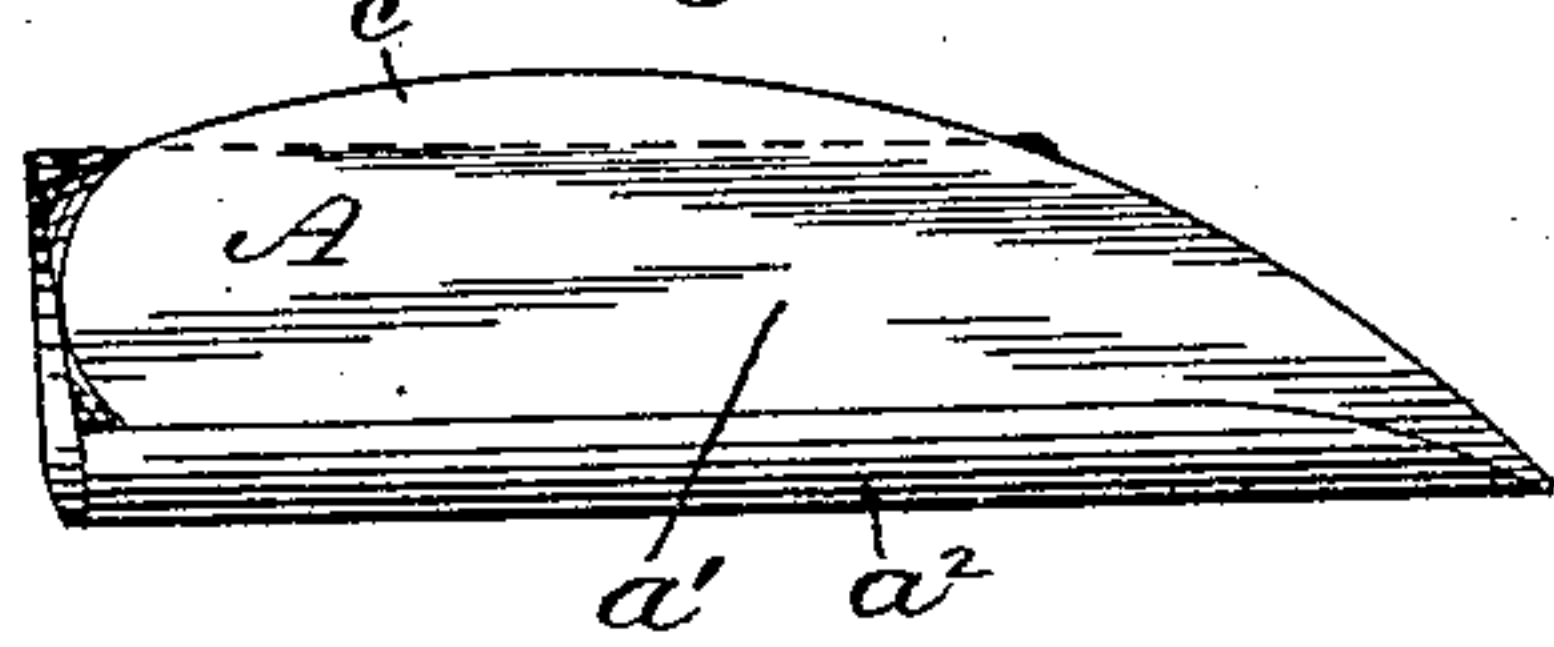


Fig. 5.

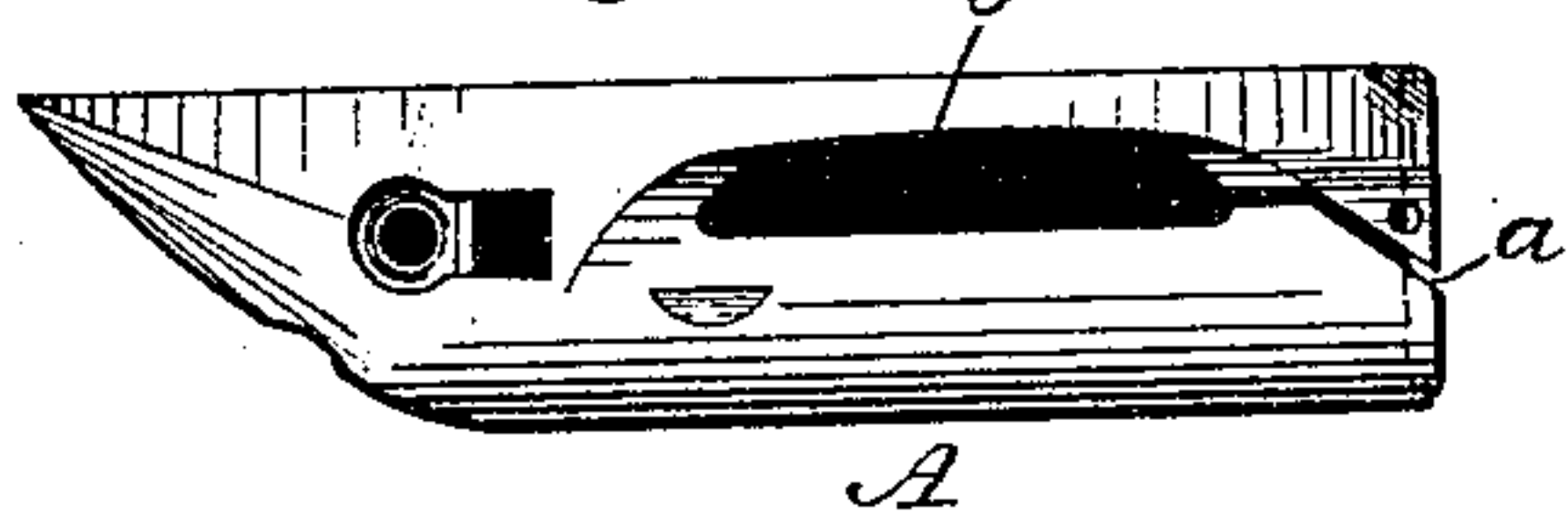


Fig. 4.

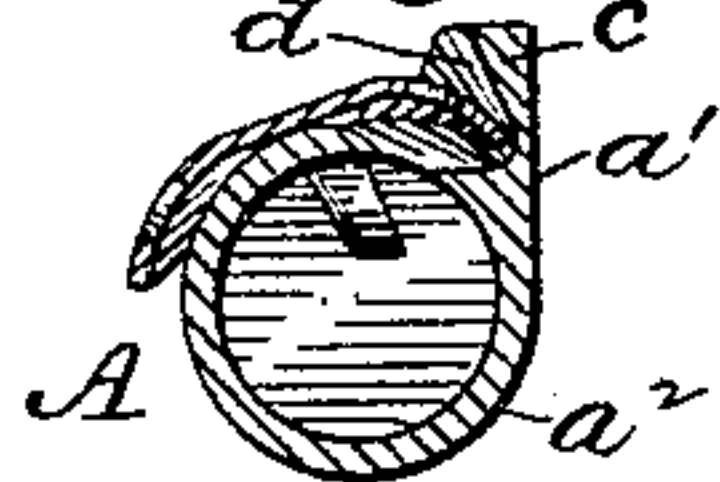
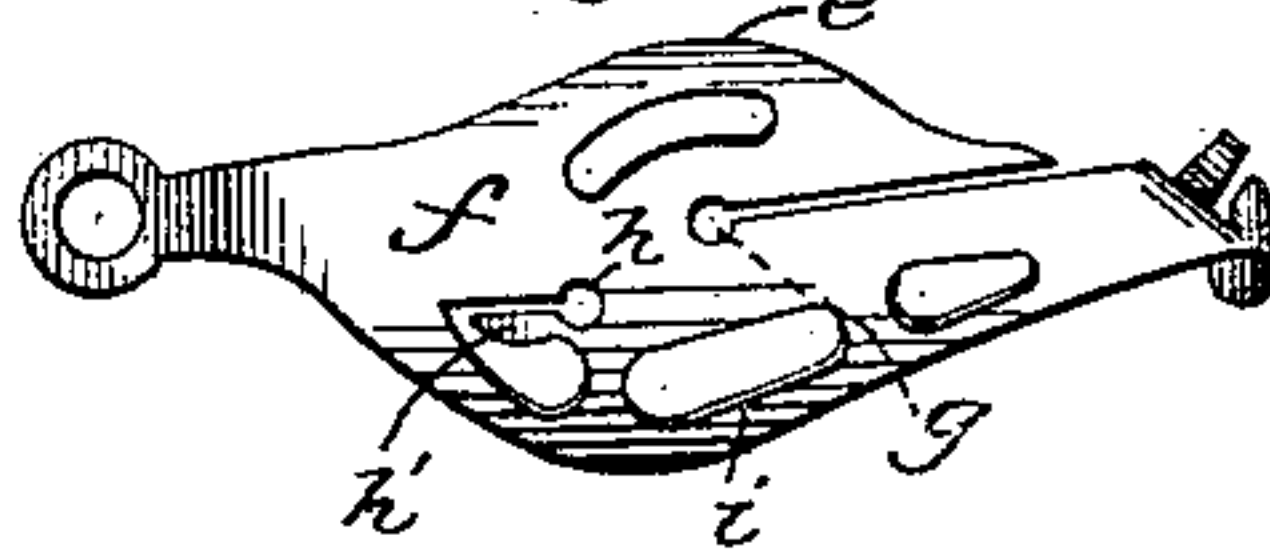


Fig. 6.



Witnesses:

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Inventor:

James Bolton  
by Henry Lawler,  
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# UNITED STATES PATENT OFFICE.

JAMES BOLTON, OF CHICAGO, ILLINOIS.

## SHUTTLE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 470,283, dated March 8, 1892.

Application filed July 19, 1890. Renewed January 29, 1892. Serial No. 419,623. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BOLTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have  
5 invented certain new and useful Improvements in Sewing-Machine Shuttles, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention has for its object to provide a cylindrical sewing-machine shuttle from which the thread will run smoothly and evenly and which is more especially adapted for use in machines having vertically-vibrating shut-  
15 tle-drivers.

In the accompanying drawings, Figure 1 is a top or plan view of my improved shuttle. Figs. 2 and 3 are opposite side views thereof. Fig. 4 is a cross-section on line 4 4, Fig. 1.  
20 Fig. 5 is a plan view of my shuttle with the tension-spring removed, and Fig. 6 is a detail view of the tension-spring.

A denotes the body of the shuttle, which is provided at its heel with a diagonal open-  
25 ended threading-slot *a*, running into the larger thread-delivery slot *b*.

The body *A* is provided on its face side *a'*, which is mainly flat, as more clearly shown in Figs. 3 and 4, (but which is rounded or cut  
30 away on the lower part of said face side at *a''*), with an integral segmental rib *c*, projecting above the said body and provided with an undercut recess *d*, into which extends the edge of the thread-distributor *e*, formed on  
35 the tension-spring *f*, said thread-distributor overlying the said thread-delivery slot *b*. The rib *c* bears against a curved overhanging lip on a vertical shuttle-race, when the shuttle is in use in the machine shown in my applica-  
40 tion, Serial No. 359,279, filed simultaneously herewith, and thus serves to steady and guide the shuttle, and it also serves, when provided with the undercut recess *d*, as a housing for the thread-distributor, so that the latter cannot catch the loops of needle-thread and cannot be injured or bent in use.

By forming the face side *a'* of my cylindrical shuttle mainly flat and extending the flat portion to the point of the shuttle the latter  
50 will have a firm bearing against the vertical race on which it is vibrated and will have its

point against the shuttle-race, and by rounding the lower part *a''* of the said flat face proper space is left between the shuttle and its race for the thread carried by the eye of  
55 the needle when said needle-eye is below the shuttle during the early part of the forward movement of the latter in passing through a loop of needle-thread, so that said rounded or cut-away part *a''* of the flat face of the shuttle  
60 prevents the needle-thread from binding between the shuttle and its race. The rear end of the tension-spring loosely overlies the diagonal threading-slot *a* and protects the end of the same, so that loops of needle-thread  
65 cannot catch therein.

When the threaded shuttle is in operation, the thread in emerging at the delivery-slot *b* draws over the thread-distributor *e* into the slotted eye *g*, (which latter is about midway  
70 the length of said distributor,) thence beneath the tension-spring to the slotted eye *h*, next over the fin *h'*, and thence rearward beneath the thread-guard *i* in the usual manner. As the thread pays out, it runs from one end of  
75 the bobbin to the other, and in doing so it draws evenly over the curved thread-distributor, so that there is no danger of breakage, even when the bobbin is nearly empty.

My shuttle-body has a straight lower edge  
80 and an integral upper edge curved in the true arc of a circle and meeting said straight lower edge at the point of the shuttle, thus making the same what is known in the art as a "high-pointed" shuttle, or a shuttle the  
85 point of which is at the top of a vertical shuttle-race when taking a loop of needle-thread, and being thereby adapted for use with comparatively short needles.

I claim—

1. A cylindrical sewing-machine shuttle  
90 having a flat front or bearing face provided at its upper edge with an integral longitudinal segmental rib *c*, projecting above the body of the shuttle, substantially as set forth.

2. A sewing-machine shuttle having a thread-delivery slot and a flat front or bearing face provided on its upper edge with a longitudinal segmental rib *c*, projecting above  
95 the body of the shuttle and having a recess on its inner side, or the side opposite said face, combined with a tension-spring provided  
100



with a curved thread-distributor overlying said slot and having its edge over which the thread passes housed in the said recess.

5 3. A cylindrical sewing-machine shuttle the body of which has a straight lower edge and an integral upper edge curved in the true arc of a circle and intersecting or meeting the said straight lower edge at the point of the shuttle, substantially as set forth.

10 4. A cylindrical sewing-machine shuttle having a flat front face  $a'$ , which extends to the point of the shuttle and the lower part  $a^2$

of which is rounded or cut away, as shown, the said shuttle having a straight lower edge and an upper edge which is curved in the true arc of a circle and which intersects the said straight lower edge at the point of the shuttle. 15

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

JAMES BOLTON.

Witnesses:

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HENRY CALVER.