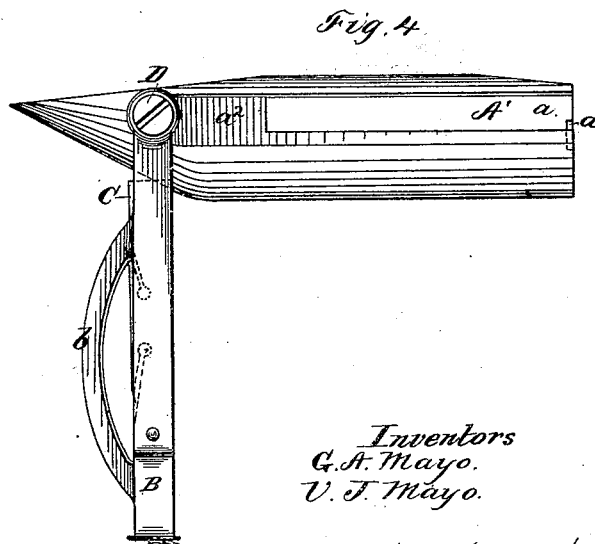
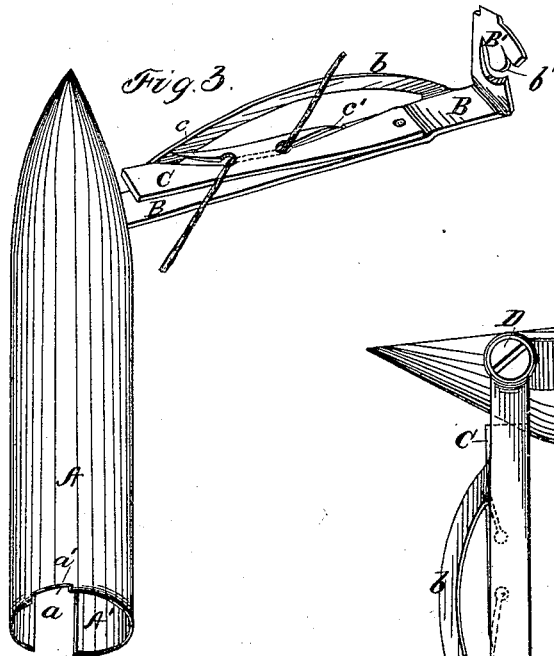
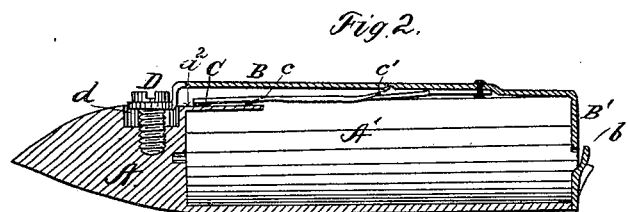
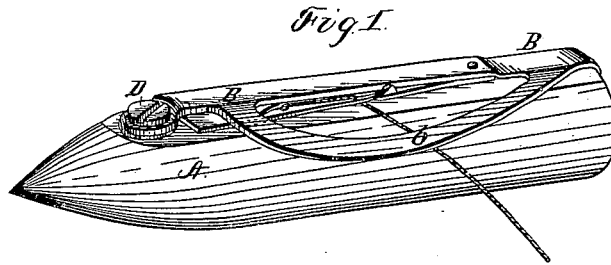


(No Model.)

G. A. & V. J. MAYO.
SEWING MACHINE SHUTTLE.

No. 265,335.

Patented Oct. 3, 1882.



Witnesses
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Att's

UNITED STATES PATENT OFFICE.

GOODRICH A. MAYO AND VIRGINIUS J. MAYO, OF ERIE, PENNSYLVANIA,
ASSIGNORS TO GEORGE H. NOBLE, OF SAME PLACE.

SEWING-MACHINE SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 265,335, dated October 3, 1882.

Application filed March 1, 1882. (No model.)

To all whom it may concern:

Be it known that we, GOODRICH A. MAYO and VIRGINIUS J. MAYO, citizens of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Sewing-Machine Shuttles; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and the letters or figures of reference marked thereon.

This invention relates to that class of sewing-machine shuttles known as "cylinder-shuttles;" and it consists in providing new and improved means for regulating the tension.

The objects, purposes, and scope of the invention will appear in the following description and claims.

The device is illustrated in the accompanying drawings, as follows:

Figure 1 is a perspective view of the shuttle ready for use. Fig. 2 is a longitudinal vertical section. Fig. 3 is a plan view of the bottom of the shuttle with the cover thrown open, and showing a perspective view of the under side of the same. Fig. 4 is a plan view of the top of the shuttle with the cover in the same position as in Fig. 3.

The letters of reference indicate parts as follows:

A is the body or shell of the shuttle. A' is the bobbin-chamber. *a* is a slot or opening along the top of the shell. *a'* is a notch into which the cover catches when in place. *a*² is a flat space on the top of the shell, and serves as a seat for the tension-producing spring. B is the cover of the cylinder, and it is pivoted on the screw D. *b* is a guard on the side of the cover. C is the tension-producing spring. B' is the end of the cover, which is bent down and serves as a bobbin-support at the butt-end of the cylinder. *b'* is an opening in the end B' to receive the journal of the bobbin. *c c'* are slotted thread-guides in the spring C. *d* is a cavity or countersink below the head of the screw D in the body of the shuttle.

The thread passes from the bobbin through the slot *a* and the thread-guide *c* under the spring C, and back through the thread-guide *c'*. This brings the thread between the spring C and the cover B, as is clearly shown in Figs.

1 and 3. The tension is regulated by the degree of pressure given the spring upon the cover, which degree can be regulated by the screw D, as follows: When the cover is in place, as shown in Figs. 1 and 2, the loose end of the spring is seated on the flat space *a*² on the top of the body A. The end of the cover, at the point where it is pivoted to the screw D, is made small enough to pass into the countersink *d*, and as the screw is screwed in that end of the cover is depressed, and this will lessen the distance between the spring and the cover through which the thread passes as it passes from the thread-guide *c* to *c'*. In other words, by the action of the screw D the thread can be more or less pressed upon or pinched between the spring C and cover B. Of course to secure this action the other end of the cover must be held down, which is done by the end B' catching in the notch *a'*. To open the shuttle the end B' can be unclasped by prying it off with the thumb-nail.

It will be seen that in this device the thread can be passed into the thread-guides *c c'* without being threaded through them, as they are slotted out to the side of the spring, and the thread can be caught upon the points of the slots and drawn into place, and the thread can be slipped into the slot *a* and put in place below the tension-producing spring C almost instantly.

In our device the change of tension can be effected quickly and accurately—much more so than where it has to be done by bending a spring-bar so as to make it press more or less, or where the catch on the end of the spring-bar is lengthened or shortened by a slide and clamp-screw.

The guard *b* serves to hold the thread away from the points of the thread-guide slots *c c'* while the shuttle is in operation, and also keeps it from catching at the butt of the shuttle when in operation.

We are aware that shuttles have been provided with a longitudinal slot opening into the heel and covered by a spring pivoted near the toe of the shuttle, and an independent spring provided with a lip which holds the bobbin within the shuttle; that shuttles have been provided with adjustable tension-regulating springs having a finger passing over the heel

to hold the bobbin in place, and a projection to hold down the outer end of the spring; that shuttles have been provided with a pivoted plate which closes the opening in the heel and serves as a bearing for the bobbin, and that tension-springs have been provided with open-ended slots to allow the thread to be readily inserted; and to these we make no claim; but

10 What we claim as new is as follows:

1. The combination, with a cylinder-shuttle, of the swinging cover B, having end piece, B', with a slot serving as a bearing for the bobbin, and bearing on its under side a thread-carrying tension-producing spring, and the tension-screw D, substantially as and for the purposes set forth.

2. In a cylinder-shuttle for sewing-machines, the combination, substantially as set forth, of the following elements: a hollow open-ended body, A, with opening *a* along its top; a piv-

oted swinging cover, B, having an end part, B', for covering said slot *a* and the open end of the cylinder; a tension-producing and thread-carrying spring, C, attached to the under side of said cover, and having its loose end seated on a face, *a*², at the end of said slot *a*; and, finally, a screw for pressing the spring C toward the cover B.

3. In a cylinder-shuttle, the combination, with the spring C and slotted thread-guides *c* *c'*, of the guard *b*, arranged with relation thereto substantially as and for the purposes mentioned.

In testimony that we claim the foregoing we have hereunto set our hands this 24th day of February, 1882.

GOODRICH A. MAYO.
VIRGINIUS J. MAYO.

Witnesses:

JNO. K. HALLOCK,
GEO. H. NOBLE.