

(No Model.)

G. A. BRADY.
SEWING MACHINE SHUTTLE.

No. 277,873.

Patented May 22, 1883.

Fig. 1.

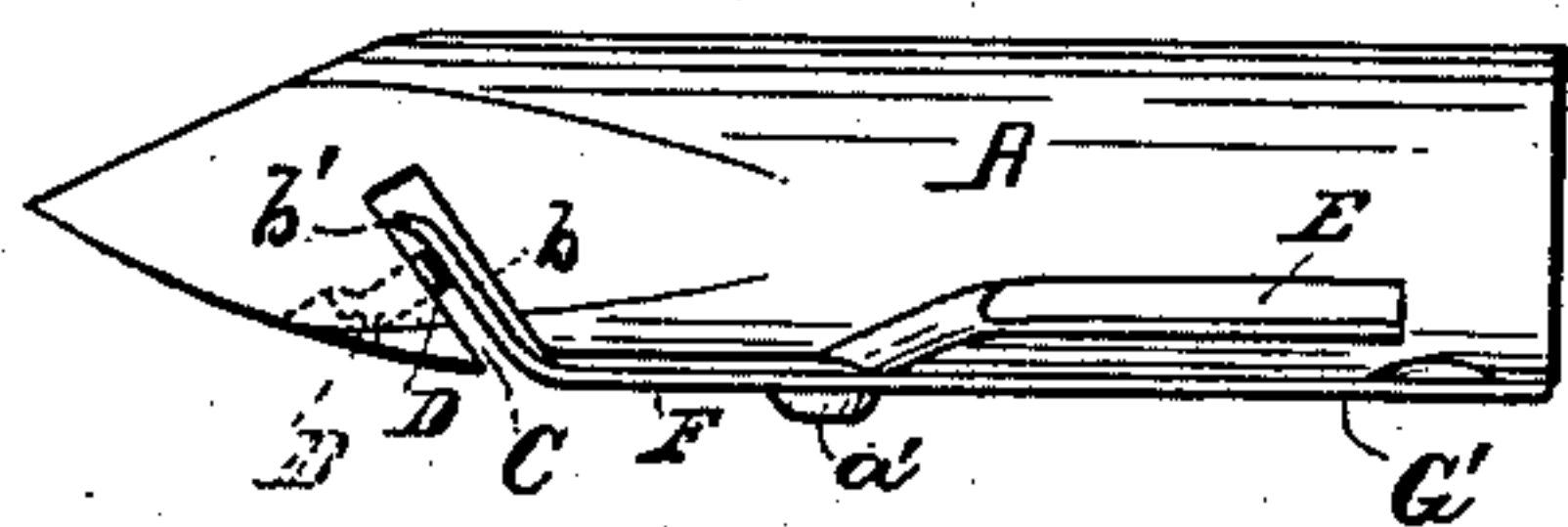


Fig. 2.

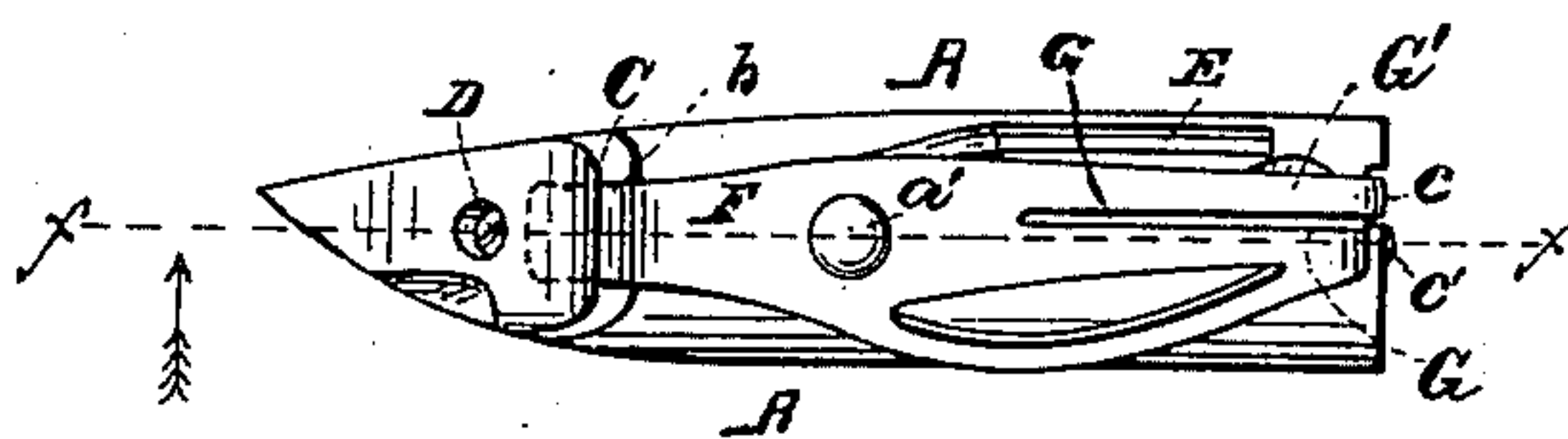


Fig. 3.

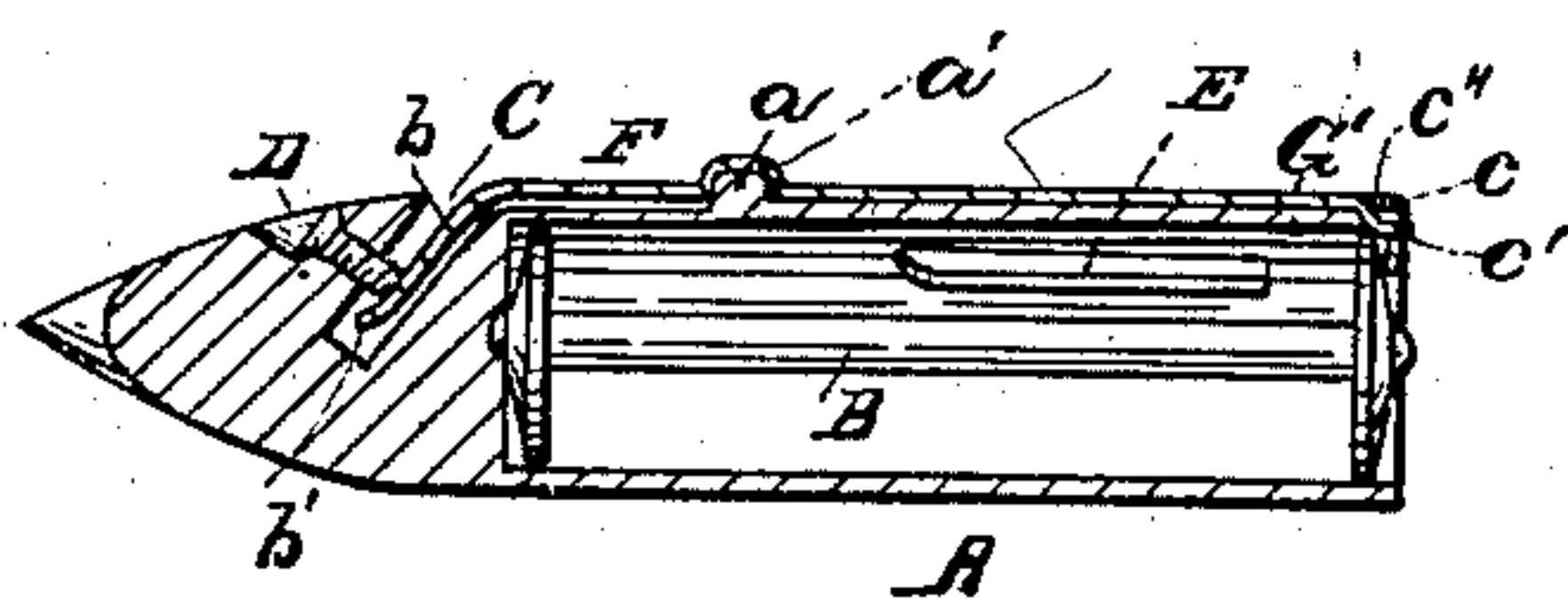


Fig. 4.

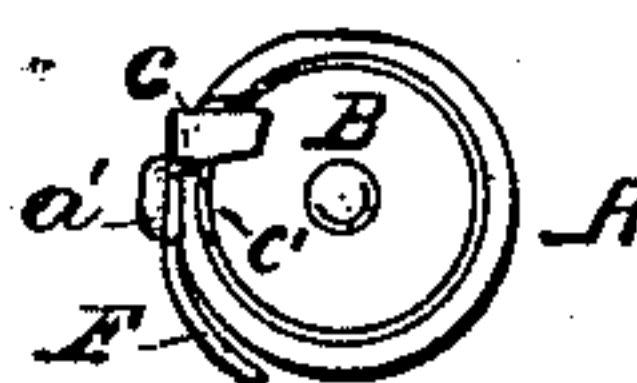
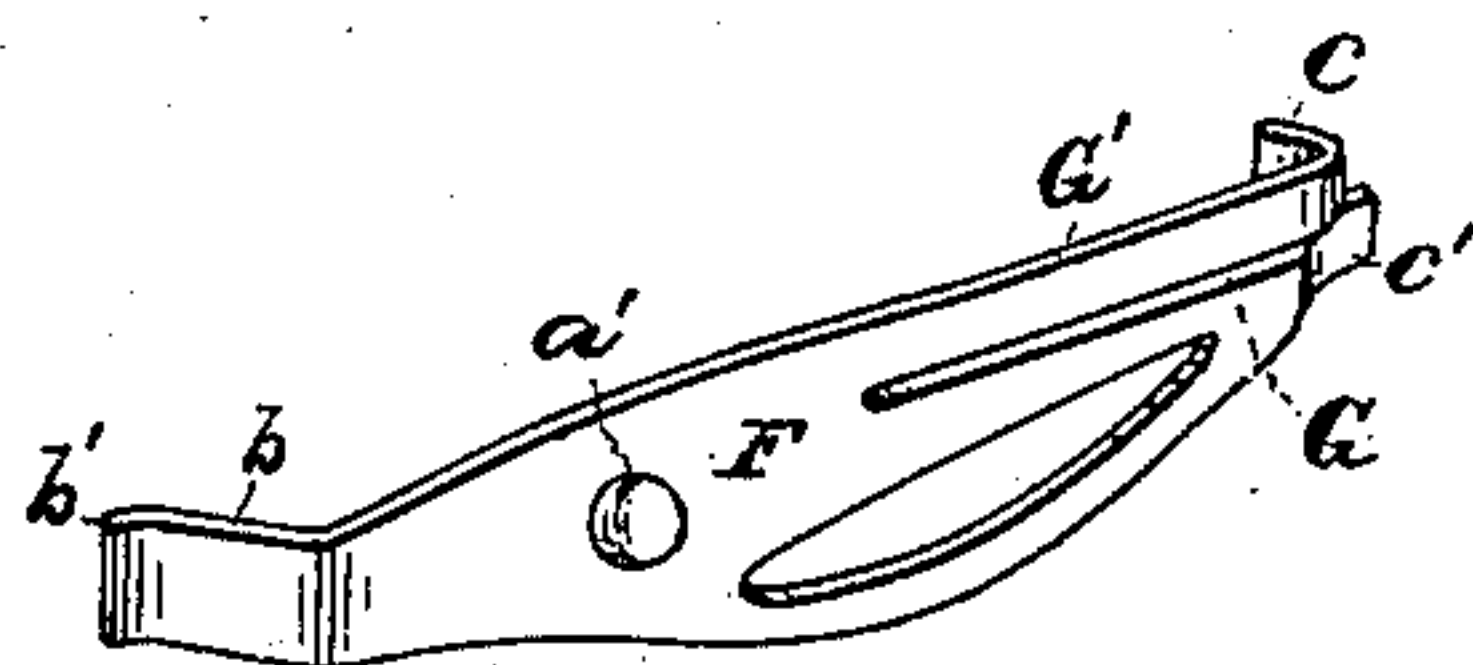


Fig. 5.



Witnesses,
Henry Frankfurter,
W. B. Halpinny

Inventor,
Gilbert A. Brady-
per. F. F. Warner
his Attorney.

UNITED STATES PATENT OFFICE.

GILBERT A. BRADY, OF CHICAGO, ILLINOIS.

SEWING-MACHINE SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 277,873, dated May 22, 1883.

Application filed May 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, GILBERT A. BRADY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sewing-Machine Shuttles, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a side view of a sewing-machine shuttle embodying my improvements. Fig. 2 is a top view of the same. Fig. 3 is a section in the plane of the line $x x$ of Fig. 2, viewed in the direction indicated by the arrow there shown. Fig. 4 is an end view of the rear end of the shuttle, and Fig. 5 is a detail in perspective of the tension-spring.

Like letters of reference indicate like parts.

In the example shown I have illustrated my improvements in connection with a cylinder-shuttle; but they may also be applied to use in connection with shuttles belonging to a different class.

A is the shell or body of the shuttle, and B is the bobbin.

C is a deep inclined notch or recess in the point or forward part of the shuttle, and D is a tension-screw passing through the shell or body and entering the notch or recess C. A short pin or stud, a , projects a short way from that side of the shell in which the recess C is made.

E is the slot or opening through which the thread passes in being unwound from the bobbin.

F is the tension-spring. This spring may be made or stamped from flexible sheet metal, and need consist of only one piece. The form of this spring is clearly indicated in Fig. 5, but may be more particularly described as having an inclined or inbent tongue, b , on its forward end, the extreme end of which is bent slightly outward, as shown at b' . This tongue is adapted to enter the notch or recess C, and the point of the screw D rests against it. The notch or recess C is also of such size as to allow the tongue b to be movable therein, within a certain range, when acted upon by the screw D.

a' is a shallow depression on the inner face of the spring F, and is entered by the pin or stud a . The spring F also has in it a deep longitudinal cut, G, extending from its rear end forward, thus forming a flexible or yield-

ing tongue, G', the rear end of which is bent inward, as shown at c , to slightly lap the rear end of the bobbin, and thereby retain the latter in the shuttle during use, but permitting the bobbin to be arranged in the shuttle and removed with facility by simply raising the tongue G' sufficiently for that purpose. The rear end of the spring F is bent inward, and then extends rearwardly, as shown at c' . This tongue c' passes through a slot, c'' , near the rear edge of the shuttle, which there overlaps the said tongue, and, in connection with the screw D, retains the spring in its proper place upon the shuttle.

To thread the shuttle I arrange the bobbin in it in the usual manner, and draw the thread out through the slot E and forward into the notch or recess C, and between the screw D and the spring F and underneath the tongue b . The shuttle will then be properly threaded for work, and when the thread is tightened it will be drawn back against the stud a , which limits its rearward movement.

To regulate the tension I move the screw D in or out, thus altering the pressure of the spring upon the thread, as may be best. In practice I have found that when the tension is regulated to exert the proper degree of pressure upon a thread of average size it will also produce the proper tension for threads which are either larger or smaller within quite a large range or variation of sizes. This tension, therefore, when once properly set, may be said to be practically automatic. The tongue G' may be moved in and out sufficiently to retain and release the bobbin without disturbing the position of the spring F. In other words, the tongue G' constitutes an independently-yielding bobbin-retainer, and the tension is in no way affected by the movement of the tongue G'.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A sewing-machine shuttle having in it a notch or recess, C, and an open rear end, in combination with a tension-spring entering the said notch, and having thereon an independently-yielding tongue, G', inbent at its rear end, and a tension-regulating screw, also entering the notch or recess C, and having its point resting on that part of the spring in said

notch, the bent end of the tension-spring and the said screw being adapted and arranged in relation to each other to facilitate threading the shuttle, substantially as and for the purposes specified.

2. The combination of the shell A, having in its front end the deep inclined notch or recess C and in its rear end the slot c'' , and having thereon the stud a , the tension-spring F, having an inbent inclined tongue, b , on its forward end, entering the recess C, and having on its rear end the tongue c' , entering the slot c'' , the said spring being also adapted to receive the outer end of the stud a , and the tension-regulating screw D, having its point resting on the tongue b , substantially as and for the purposes specified.

3. The combination, in a sewing-machine shuttle, of the stud a , projecting from the shell of the shuttle, the tension-spring F, having an inclined or inbent tongue, b , at its forward end, entering an inclined notch in the forward end of the shell, and also having therein a shallow depression, a' , to receive the stud a , and the rear end of the said spring having on it the inbent tongue c' , entering a slot in the rear end of the shuttle-shell, and a tension-regulating screw entering the said shell, and having its point resting on the tongue b , substantially as and for the purposes specified.

GILBERT A. BRADY.

Witnesses:

F. F. WARNER,
H. FRANKFURTER.