

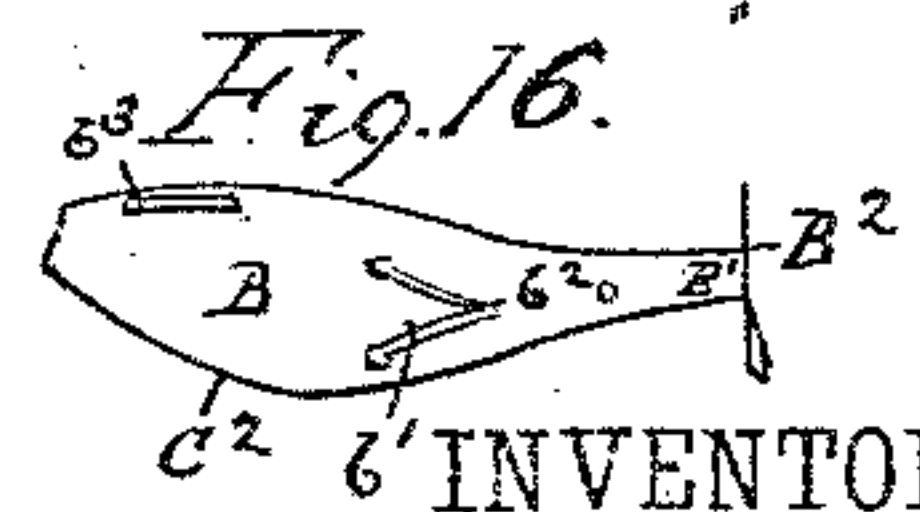
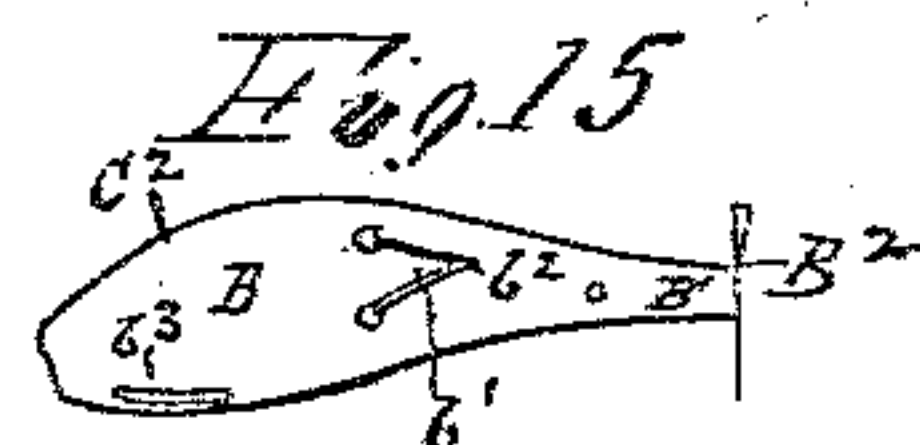
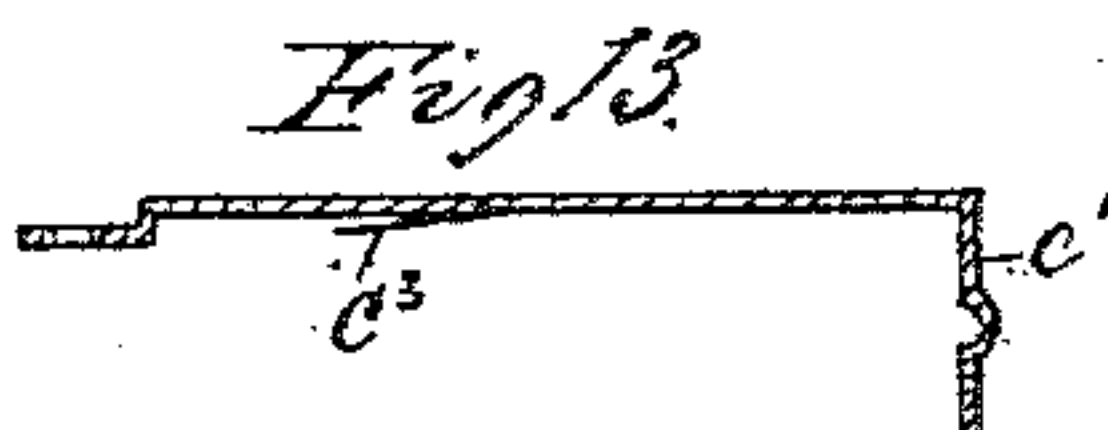
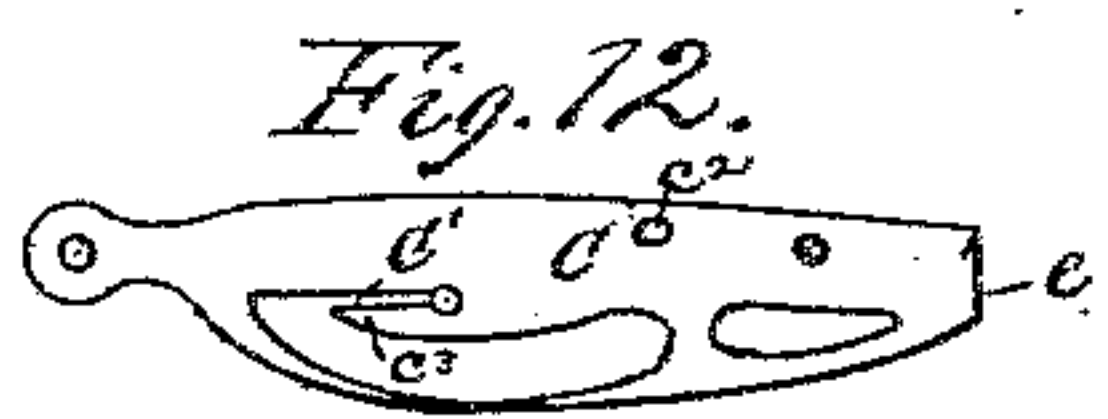
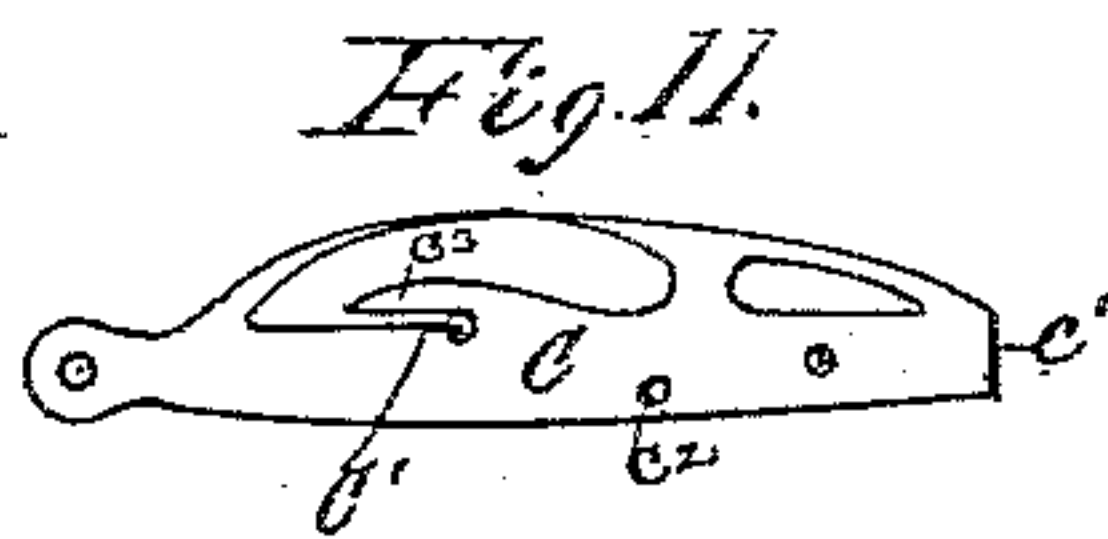
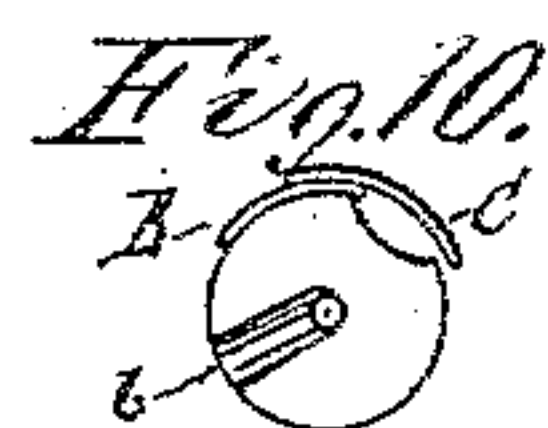
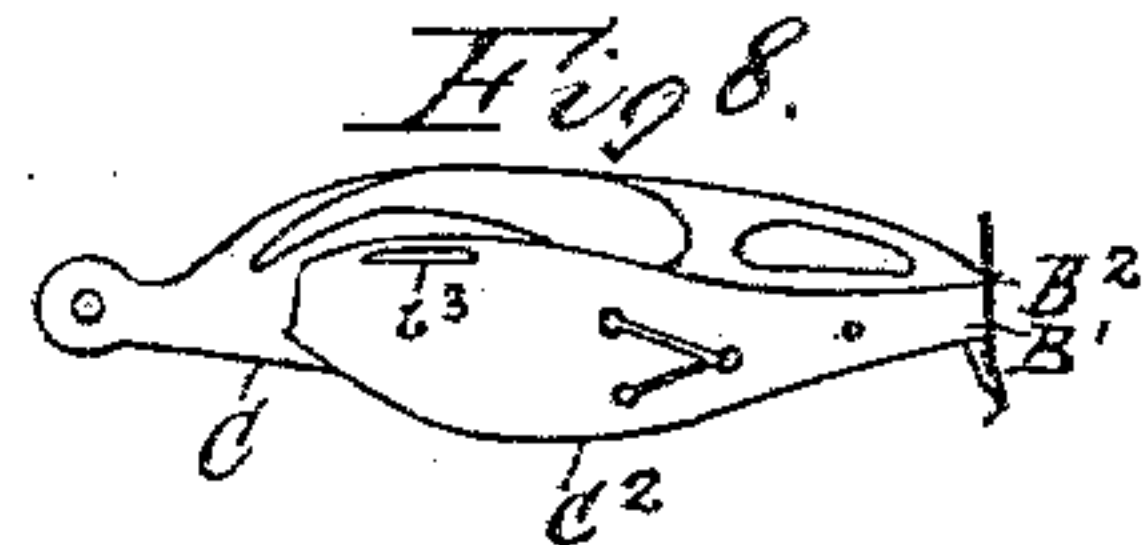
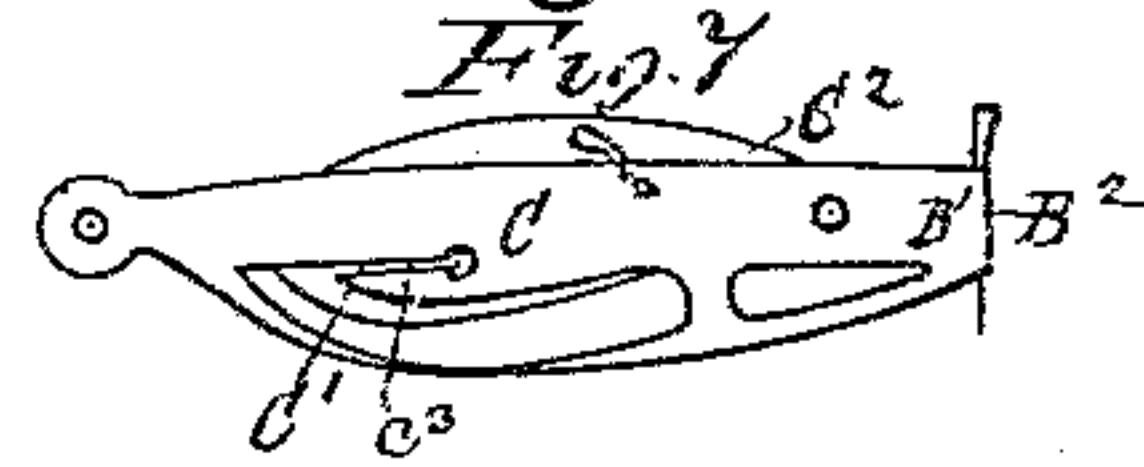
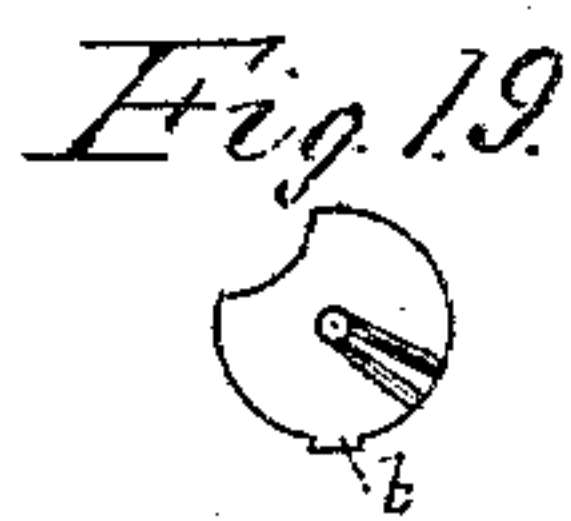
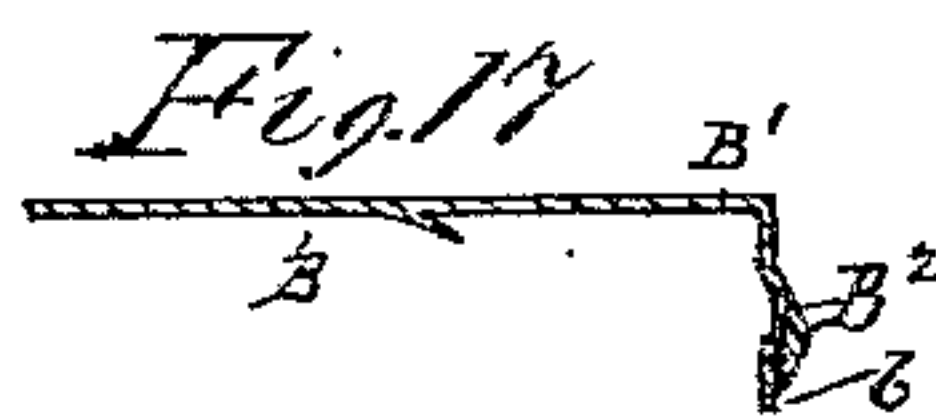
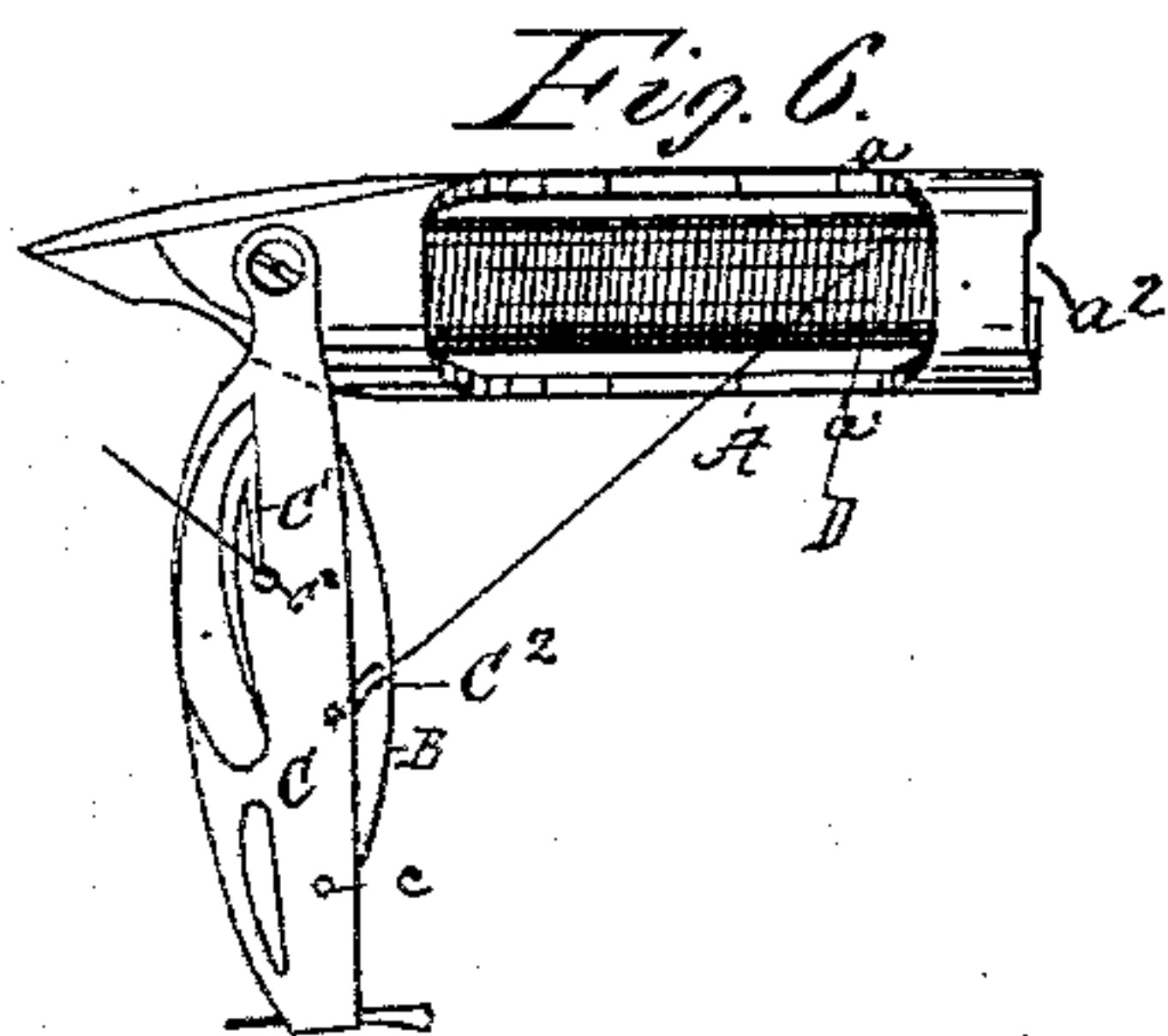
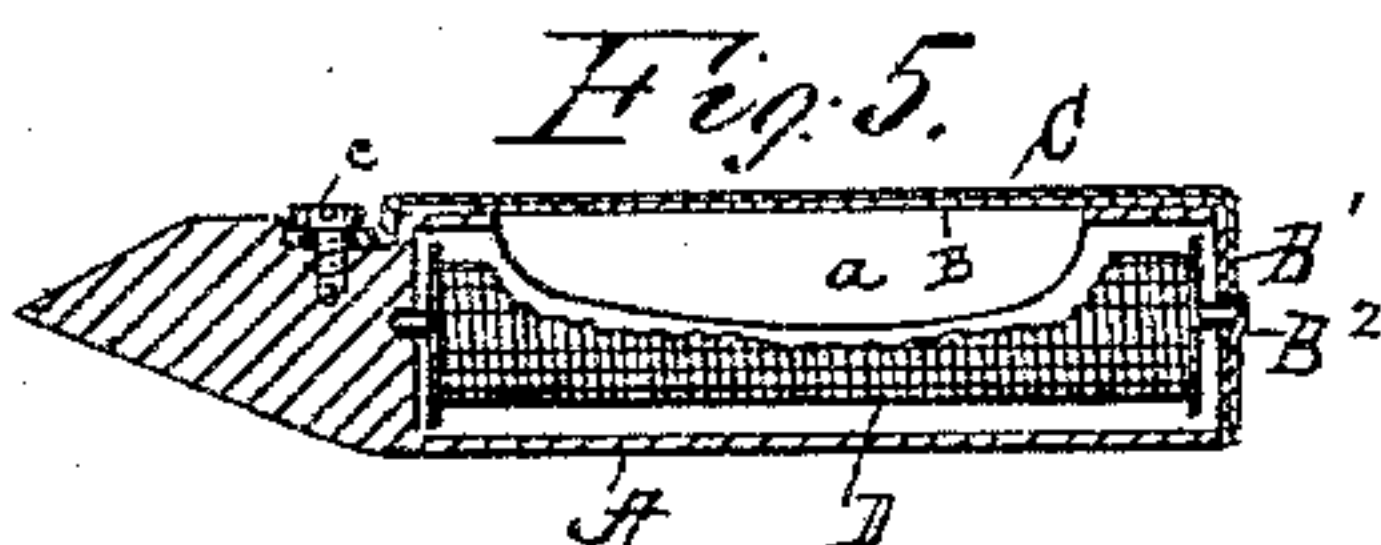
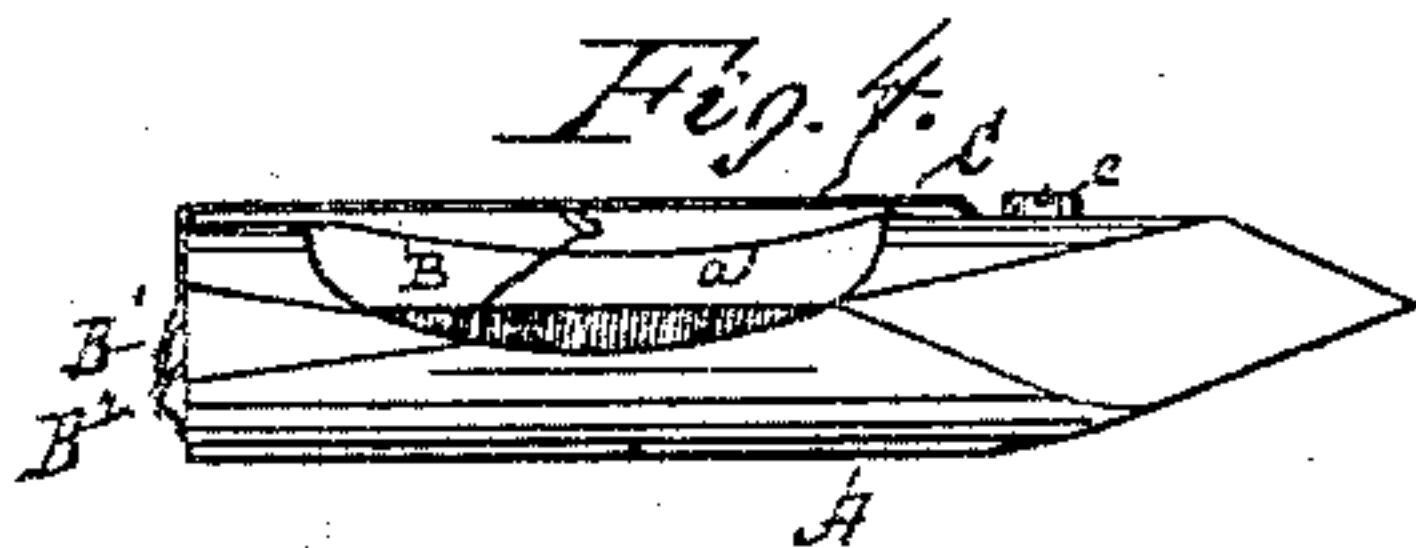
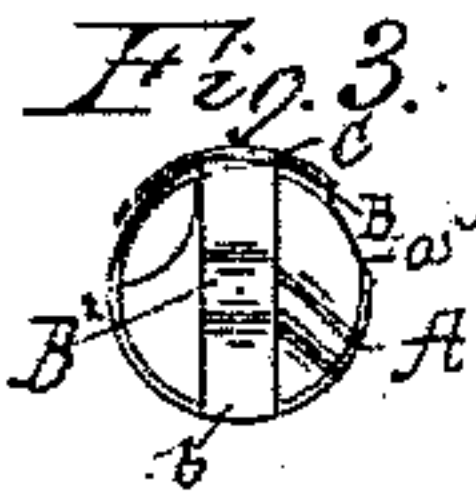
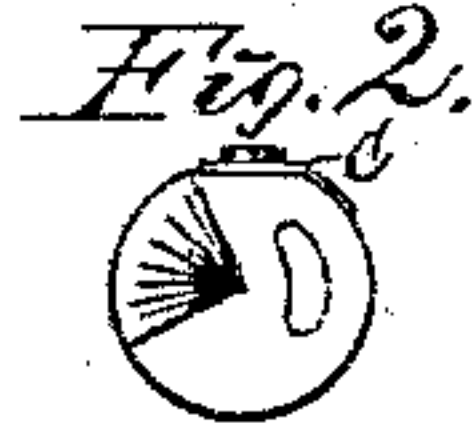
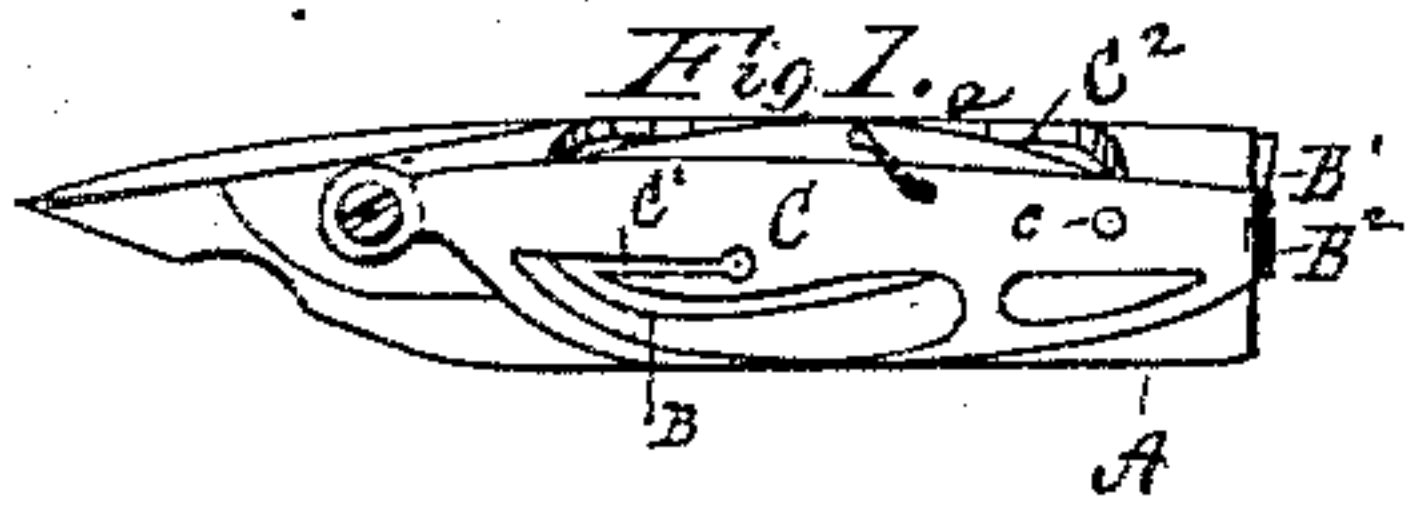
(Model.)

J. TRIPP.

SEWING MACHINE SHUTTLE.

No. 304,047.

Patented Aug. 26, 1884.



WITNESSES:

Charles Lang.  
H. Ch. Supple.

INVENTOR  
James Tripp  
BY *Richardson*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JAMES TRIPP, OF NEW YORK, N. Y.

## SEWING-MACHINE SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 304,047, dated August 26, 1884.

Application filed August 7, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, JAMES TRIPP, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Sewing-Machine Shuttles, of which the following is a specification.

My invention relates to improvements in the construction of the main body or shell of the shuttle, whereby the weight of the same is considerably lessened, while at the same time it is more evenly balanced in the carrier. My improved construction also greatly lessens the liability of the shuttle to roll in the carrier, thereby avoiding the rattle or noise frequently experienced with shuttles of the ordinary construction.

In carrying out my invention I cut away a greater portion of the upper part, and also a part of the side of the shuttle body or shell, by which means the upper part is rendered considerably lighter than the lower part, and as a consequence the shuttle is balanced, so as to lessen its tendency to roll in the shuttle-carrier.

My invention includes a spring bridge-piece adapted to span over the cut-away portion of the upper part of the shuttle. This spring bridge-piece is riveted or otherwise connected to a pivoted tension-spring, which is provided with a suitable threading-slot. The bridge-piece at its rear end is bent over and provided with an enlarged vertical extension, which forms the heel-plate, for the retention of the bobbin within the body or shell. The tension-spring is also extended and carried down over the exterior of the extension of the bridge-piece, and secured thereto by soldering, riveting, or other suitable means, thereby forming a bearing for the end of the axis of the bobbin, and at the same time giving greater rigidity and strength to the heel-piece. A projection is formed on the lower part of the heel-piece, which, when the bobbin is in place in the shell and the parts are in position to hold it there, rests in a correspondingly-formed notch in the end of the body or shell. The bridge-piece on the face side of the shuttle is curved, so as to facilitate the drawing off of the thread from the bobbin. The bridge-piece is also provided with a V-shaped threading-finger, the point or apex

of which is received within an indentation or hole formed in the tension-spring. The bridge-piece is also provided with an elongated slot adapted to allow of the free action of the threading-finger of the tension-spring, as hereinafter more fully explained.

The accompanying drawings form a part of this specification, and illustrate what I consider the best means of carrying out my invention.

Figure 1 is a plan. Fig. 2 is a front view, Fig. 3 a rear view, Fig. 4 a side view, and Fig. 5 a sectional view of Fig. 4, showing the parts of my improved shuttle in position for use. Fig. 6 is a plan view of my improved shuttle with the bobbin removed and the retaining parts in an open position. Fig. 7 is a plan view, Fig. 8 an under side view, and Figs. 9 and 10 internal and external end views, of the combined tension-spring and bridge-piece. Fig. 11 is a plan view, Fig. 12 an under side view, Fig. 13 a section, and Fig. 14 an end view, of the tension-spring separately. Fig. 15 is a plan view, Fig. 16 an under side view, Fig. 17 a section, and Figs. 18 and 19 internal and external views, of the bridge-piece detached from the tension-spring.

In each of the views similar letters of reference are employed to indicate like parts in all the figures.

A represents the main body or shell of the shuttle, in which the upper part, as shown by the drawings, is cut away from *a* to *a'*, and also on each side, by which means the upper part is greatly lightened and the tendency of the shuttle to roll in the carrier is obviated.

B represents a spring bridge-piece adapted to span over the cut-away portion of the body or shell A. The spring bridge-piece B in the drawings, is shown riveted to the tension-spring C at *c*. It may be, however, otherwise suitably connected.

C is a threading-slot formed in the tension-spring C. The bridge-piece B, at its rear end B', is bent over and provided with an enlarged vertical extension, B<sup>2</sup>, which forms the heel-plate for the retention of the bobbin D within the body or shell A. The tension-spring C is also extended and carried down over the exterior of the extension of the bridge-piece B, and secured thereto by soldering, riveting, or other suitable means, thereby forming a bear-



ing,  $c'$ , for the end of the axis of the bobbin D, and at the same time giving greater rigidity and strength to the heel-piece B<sup>2</sup>. A projection,  $b$ , is formed on the lower part of the heel-piece B<sup>2</sup>, which, when the bobbin D is in place in the shell A and the parts are in position to hold it there, as shown by Figs. 1 to 5, inclusive, rests in a correspondingly-formed notch,  $a^2$ , in the end of the body or shell A. The bridge-piece B, on the face side of the shuttle, is curved, as shown at C<sup>2</sup>, so as to facilitate the drawing off of the thread from the bobbin D. The bridge-piece B is also formed with a V-shaped threading point or finger,  $b'$ , the point or apex  $b^2$  of which is received within an indentation or hole,  $c^2$ , formed in the tension-spring C. The bridge-piece B is also provided with an elongated slot,  $b^3$ , adapted to allow of the free action of the threading-finger  $c^3$  and of its passage beneath the surface of the bridge-piece, so as to insure the free passage of the thread. By making the bridge-piece extending over the cut-away portion of the shuttle-shell of thin spring metal it will be of sufficient lightness so that it will not compensate for the weight of the heavy metal cut away from the shuttle shell or body, while it will be sufficiently strong and rigid to withstand damage from ordinary usage and to retain its operative position. Thus the recess caused by cutting away the upper portion of the shuttle-shell will be properly spanned, so that the shuttle may readily pass through the thread loops when in operation, while the weight of the upper portion of the shuttle will still be considerably less than that of its lower portion. As the bridge-piece is preferably provided with a delicate spring threading-finger, adapting it to a "self-threading" shuttle, the light spring metal of which said bridge-piece is formed will admit of the formation of such a finger by simply slotting the bridge-

piece, without the necessity of reducing the metal by grinding or milling.

I claim as my invention—

1. The combination, with a cylindrical sewing-machine shuttle-shell having its upper portion and the upper parts of its sides cut away, as described, of a tension-spring and an attached spring bridge-piece, the latter having its ends resting against the shuttle-shell adjacent to the cut-away portion thereof, whereby the upper part of the shuttle will be lightened relative to the lower part, and the recess will be properly spanned to enable the loops of the needle-thread to pass over the same, substantially as set forth.

2. The combination, with a cylindrical sewing-machine shuttle-shell having its upper portion and the upper parts of its sides cut away, as described, of a tension-spring and an attached spring bridge-piece, the latter having its ends resting against the shuttle-shell adjacent to the cut-away portion thereof, and being provided with an extension or heel-piece for retaining the bobbin in the shuttle-shell, substantially as set forth.

3. The combination, with a cylindrical sewing-machine shuttle-shell having its upper portion and the upper parts of its sides cut away, as described, of a tension-spring and an attached spring bridge-piece, the latter having its ends resting against the shuttle-shell adjacent to the cut-away portion thereof, and the said tension-spring and bridge-piece being both provided with threading points or fingers, substantially as set forth.

In witness whereof I have hereunto set my hand this 12th day of July, 1883.

JAMES TRIPP.

Witnesses:

W. COLBORNE BROOKES,  
GABRIEL J. W. GALSTER.