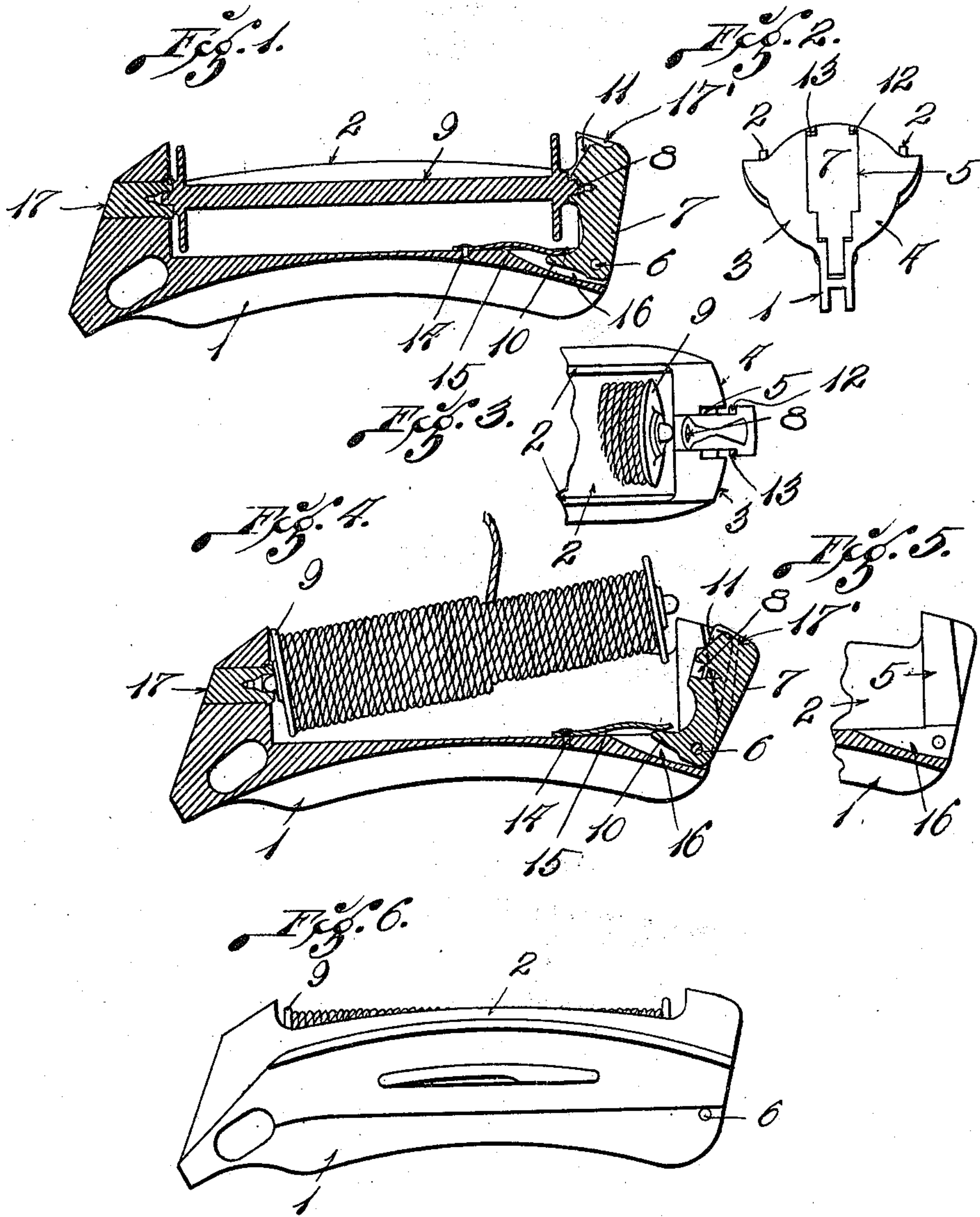


W. R. BLAIR.  
SHUTTLE FOR SEWING MACHINES.  
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Patented Feb. 14, 1911.

983,869.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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SHUTTLE FOR SEWING-MACHINES.

983,869.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed June 24, 1910. Serial No. 568,729.

*To all whom it may concern:*

Be it known that I, WILLIAM R. BLAIR, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Shuttles for Sewing-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of my improved shuttle. Fig. 2 is an end view thereof. Fig. 3 is a partial plan view. Fig. 4 is a longitudinal sectional view of the shuttle similar to Fig. 1, and showing the bobbin about to be removed therefrom. Fig. 5 is a partial view of the end of the shuttle with the pivotal member removed. Fig. 6 is a general outside view of my improved shuttle.

This invention relates to a new and improved form of shuttle for wax thread sewing machines of the well known type, the general form of which is illustrated in the patent to Campbell, No. 374,937, dated December 20, 1887.

The object of my present invention is to improve the means for and facilitate the removal of the bobbin from the shuttle.

In the old form of shuttle the bobbin runs in and is retained in position by two journals, one of which is screwed into each end of the shuttle. The bobbin is removed by unscrewing or backing out of one of the journals enough to allow the bobbin to be removed.

My present improvement has for its object a construction making it unnecessary to unscrew or back out the journal and providing a simpler device whereby the bobbin can be placed in position in and removed from the shuttle.

With these objects in view my invention consists in the construction, arrangement and combination of the various parts of my device as are to be herein described, and thereafter pointed out in the claims.

In the drawings, 1 indicates the shuttle body which is of the general form, old in the art, and illustrated in the patent of Campbell already referred to. In my new construction, however, the top of the shuttle

body has been cut away, and forms side flanges 2, shown more particularly in Figs. 1, 4 and 6.

The end of the shuttle is divided into two parts 3 and 4, forming an opening 5 therebetween. In this opening 5 is mounted on a pivot pin 6 the bobbin end bearing member 7. The member 7 has an opening 8 to form a bearing in the end for the bobbin 9, and the flange 10 projecting from the lower end thereof. On top of the member 7 is a recess 17 adapted for insertion of thumb nail in order to tilt the member. Above the opening 8 is a beveled surface 11, the object of which will be hereinafter referred to. The member 7 is shaped as shown in Figs. 2 and 3 to form shoulders 12 and 13 on either side thereof, which bear against corresponding grooves in the opening 5 when the member 7 is in normal position.

Riveted to the inside of the shuttle body at 14 is a flat spring 15 which bears against the flange 10 of the member 7. As shown in Fig. 1 the shuttle body is cut away at 16 in order that the pivot 6 of the bearing member 7 may be low enough in the shuttle that the spring 15, which exerts its pressure on the flange 10 to hold the member 7 in normal position, will not interfere with the bobbin 9 in its rotation.

The operation of my improvement is as follows: In placing a new bobbin in the shuttle one end of the bobbin is inserted in the bearing 17 of the shuttle body, and the other end is pressed down the inclined surface 11 of the end piece 7, which tilts and forces back this member about the pivot 6 in opposition to the action of the spring 15 until the end of the bobbin finally drops into the opening 8, and spring 15 restores bearing piece 7 to normal position. The spring 15 bears down against the flange 10, and moves the end piece 7 until the shoulders 12 and 13 engage with the notches of the parts 3 and 4. The end piece 7 is thereby always seated in the same position relative to the other end of the shuttle body, and allows the bobbin 9 to rotate easily therein.

It will be readily seen that a bobbin may be placed in position in the shuttle described without removing the same from the machine, by applying the necessary pressure on end piece 7, thereby tilting this member



to position shown in Fig. 4, and bobbin may be removed through the open top of the shuttle.

I am aware that minor changes in the construction, arrangement and combination of the various parts of my improved device can be made and substituted for those herein shown and described, without departing from the nature and spirit of my invention, the scope of which is indicated by the appended claims.

I claim:

1. In combination, a substantially cylindrical shuttle with an open end, a spring actuated bearing member pivoted thereto in the open end, and having shoulders adapted to closely engage the open end.

2. In combination, a substantially cylindrical shuttle having open top and end, a member pivoted in the open end having a lower lateral projection, and a spring attached to the shuttle body and engaging the projection.

3. In combination, a substantially cylindrical shuttle having an open end, a bobbin bearing member pivoted in the open end, and constructed to form shoulders abutting against the opening in the end when in normal position, and a spring attached to the shuttle body, and engaging the bearing member.

4. In combination, with a shuttle having an open end, a member pivoted in said end, having an opening to form a bearing for the bobbin, and a beveled surface above the opening adapted to be engaged by the finger of the operator.

5. In combination, a shuttle having an open end, a spring actuated member pivoted

in said end, having an opening to form a bearing for the bobbin, and a beveled surface above the opening adapted to be engaged by the finger of the operator.

6. In combination with a shuttle having an open top and end, of a member pivoted in said end having an opening to form a bearing for the bobbin, and a beveled surface above the opening adapted to be engaged by the finger of the operator.

7. In combination, a shuttle having an open top and end, a member pivoted in the open end having an opening forming a bearing for a bobbin and a lateral projection, and a spring attached to the shuttle body and engaging said projection.

8. In combination a shuttle having an open top and an end piece formed of two parts integral with the sides, and a third or bobbin supporting part pivoted between the first two parts at their lower ends, and means engaging said third part to normally maintain it in alinement with the other two end parts.

9. In combination a shuttle having an open top and sides with integral end portions having a pivoted bobbin bearing member intermediate the end portions, said member having lateral shoulders cooperating with corresponding grooves in the end portions.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 21st day of June, 1910.

WILLIAM R. BLAIR.

Witnesses:

M. P. SMITH,  
J. W. CLIFT.