

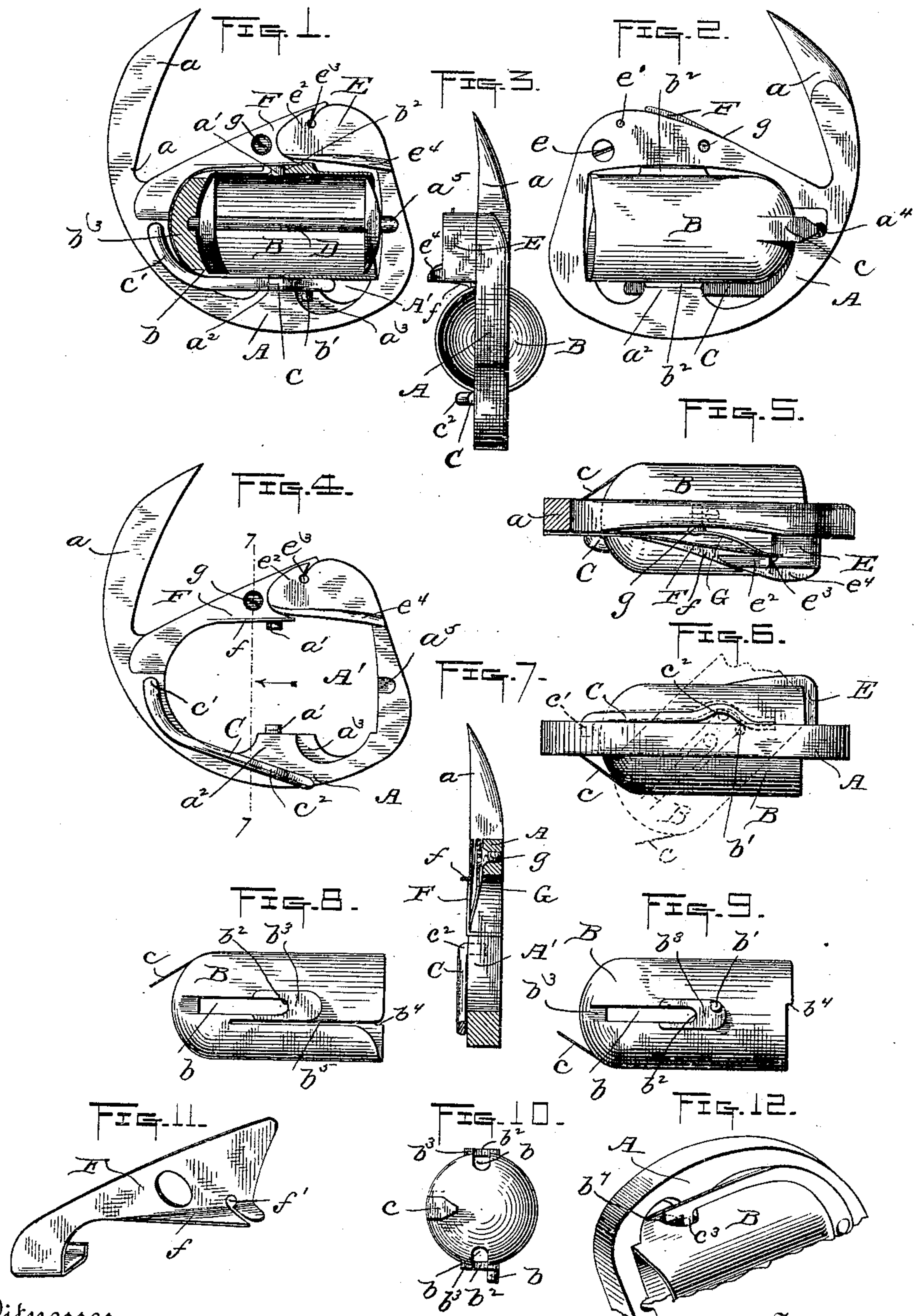
(No Model.)

D. SNITJER & M. KUEHN.

SEWING MACHINE SHUTTLE.

No. 377,052.

Patented Jan. 31, 1888.



Witnesses

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TO THE SINGER MANUFACTURING COMPANY OF NEW JERSEY.

SEWING-MACHINE SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 377,052, dated January 31, 1888.

Application filed February 9, 1887. Serial No. 227,022. (No model.)

To all whom it may concern:

Be it known that we, DRIKUS SNITJER and MICHAEL KUEHN, citizens of the United States, residing at St. Louis, in the State of Missouri, have 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.

Our invention relates to that class of sewing-machine shuttles adapted, when in operation, to be oscillated in a circular race.

In the drawings, Figure 1 is a side view, with the bobbin-case and bobbin in section, of our improved shuttle. Fig. 2 is a view of the same from the side opposite to that seen in Fig. 1. Fig. 3 is a rear end view; Fig. 4, a side view similar to Fig. 1, with the bobbin-case removed. Fig. 5 is a top view of Fig. 1, with the beak in section; and Fig. 6 is a bottom view of the same. Fig. 7 is a sectional view on line 7 7, Fig. 4, looking in the direction of the arrow adjacent to said line. Figs. 8, 9, and 10 are detail views of the bobbin-case. Fig. 11 is an enlarged detail view of the tension-spring, and Fig. 12 a perspective view of a portion of a modified form of our shuttle.

A denotes the body or shell of the shuttle, and a the point or beak thereof. The said shell A is provided with pivot-studs a' , which engage in oppositely-arranged slots b in the elongated cylindrical bobbin-case B, the projection a^2 , on which one of the said studs is located, being recessed to form a shoulder, a^3 , which affords a stop for the abutment of a pin, b' , on the said bobbin-case. The bobbin-case is placed in an elongated central opening, A' , in the shuttle-shell A, and is provided at its forward end with a lip or projection, c , the point of which extends into a recess or pocket, a^4 , formed in the said shuttle-shell, the said point being held in said recess and the said bobbin-case being secured in the said shell by a spring-latch, C, pivotally attached by its bent end c' to the shuttle-shell and bearing at its free end against the pin b' .

To insert the bobbin-case in the shuttle-shell, the oppositely-arranged guiding-slots b in the former are caused to register with the studs a' on the latter, and the said case is then pushed forward until the rear walls, b^2 , of the said slots

strike the said studs, when the said case may be turned on the latter as pivots until the notch or shoulder b^4 at the rear end of said case strikes against the heel of the shuttle-shell. The spring-latch C is then adjusted from the position shown in Fig. 4 to the position shown in Fig. 1, so as to engage the pin b' to retain the bobbin-case in the shuttle-shell with the point of the projection c in the recess or pocket a^4 .

The bobbin-case is preferably provided with thickened parts b^3 adjacent to the inner ends of the slots b , to prevent undue enlargement of the inner parts of said slots by wear on the studs a' .

The forward journal of the bobbin D extends into a recess at the forward end of the bobbin-case and the rear journal thereof into a notch, a^5 , in the heel of the shuttle-shell.

To insert the bobbin in the bobbin case or to remove it therefrom without taking the case out of the shuttle-shell, the said case may be turned on the pivot-studs a' to the position indicated by dotted lines in Fig. 6. The open rear end of the bobbin-case will then be clear of the heel of the shuttle. When the bobbin-case is thus swung around, the pin b' will be received in a recess formed by a bend, c^2 , in the spring-latch C, and thus the said latch will hold the said case in the outwardly-turned position until the case is swung back far enough to partly remove the said pin from the said recess, when the case will spring back to its normal position under the action of the said spring-latch.

The cylindrical or elongated bobbin-case is open at its rear end, and is formed somewhat tapering or rounded at its forward end for the easy passage of the loops of needle-thread, the passage of the said loops over the said case being somewhat facilitated by the inclined lip or projection c on the said case and the tension-block E and the tension-spring F on the side of the shuttle shell A, opposite to the said lip or projection.

The tension-block E may be formed integral with the shuttle-shell A, if desired, but is shown in the present instance as being secured thereto by a screw, e , and a small dowel-pin at e' . The said block has a lip, e^2 , provided with a slotted or open thread-eye, e^3 , and a

small inclined flange, e^4 . The tension-spring F is secured in the shuttle-shell at its forward end, and the rear end thereof presses against the inner face of the lip e^2 on the tension-block E, the thread to be acted on being drawn between the contiguous faces of the said spring and lip. The tension-spring is provided with an open or slotted thread-eye, f' , near its rear end, and on the inner edge of the said spring, also near said rear end, is a small inclined flange or guard, f , to prevent the needle-thread from catching on the lip e^2 of the tension-block, the flange e^4 on said block serving also to assist in the free passage of the needle-thread over the said block and the bobbin-case.

A supplemental tension-spring, G, is secured beneath the spring F, the free end of the former pressing against the free end of the latter, and the pressure of the spring G against the main tension spring F is adjusted by a regulating-screw, g , the head of which impinges against the under side of the spring G. Both of the said springs are provided with holes registering with each other, through which a small screw-driver may be introduced to turn the screw g ; but the hole in the spring G is smaller in diameter than the head of the said screw, so that the said head may have a proper bearing against the under or inner side of the spring G, as above stated.

The bobbin-case B is provided with an open-ended threading-slot, b^5 , and to thread the shuttle the bobbin-thread, running outward through said slot, is simply drawn into the thread-eye f' in the tension-spring F, and then around the point of the lip e^2 and into the thread-eye e^3 .

It is obvious that the details of our invention may be varied somewhat without departing from the essential features thereof. For example, the spring-latch C, instead of acting on the bobbin-case through the pin b' , might have a direct engagement with said case, as repre-

sented in Fig. 12, which shows the said latch as being provided with a small prong, c^3 , entering a slot or recess, b^7 , in the bobbin-case.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. The combination, with the shuttle-shell A, having the pivot-studs a' , of the bobbin-case B, having oppositely-placed slots for the reception of said studs, and a spring-latch for retaining the said bobbin-case in the said shell.

2. The combination, with the shuttle-shell A, having the pivot-studs a' and the projection a^2 , recessed to form a shoulder, a^3 , of the bobbin-case B, having slots on its opposite sides, and also provided with the pin b' and the shoulder b^4 , and the spring-latch C, arranged to engage the said pin.

3. The combination, with the shuttle-shell provided with the tension-block E, having the lip e^2 , of the main tension-spring bearing against the inner face of the said lip, the regulating tension-spring, and the adjusting-screw impinging against the latter.

4. The combination, with the shuttle-shell and the tension-block E, secured thereto and having the lip e^2 , provided with the open thread-eye e^3 , of the tension-spring F, bearing against the inner face of the said lip and provided with the inclined flange or guard f and the open thread-eye f' .

5. The combination, with the shuttle shell provided with the tension-block E, having the flange e^4 , of the tension-spring provided with the inclined flange or guard f , and the bobbin-case having the inclined lip or projection c .

In testimony whereof we affix our signatures in presence of two witnesses.

DRIKUS SNITJER.
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Witnesses:

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