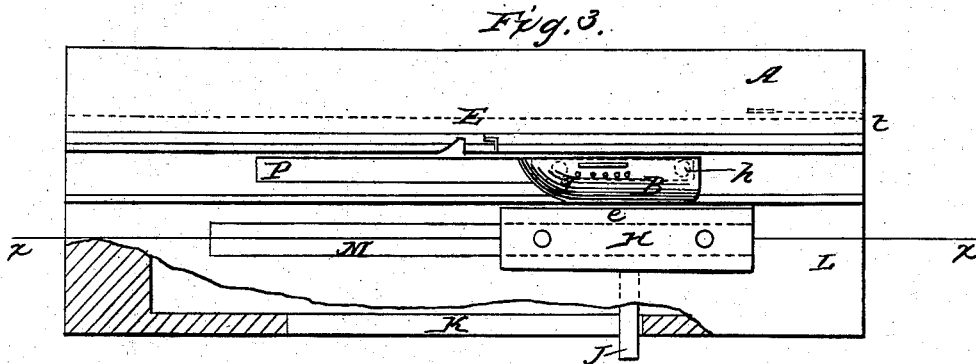
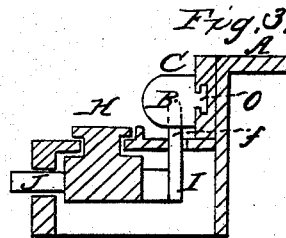
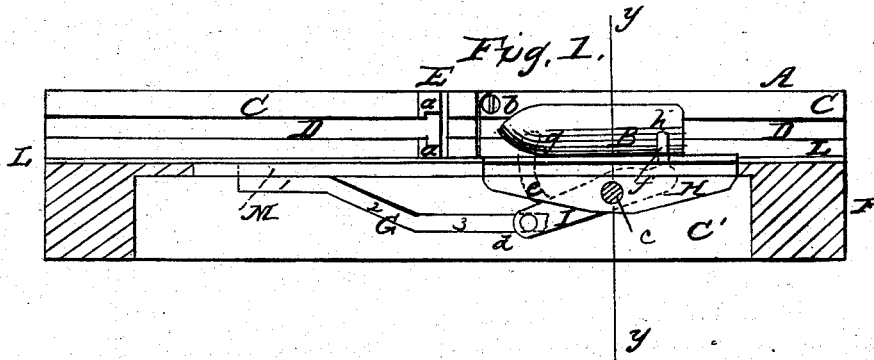


J. WENSLEY.

Means of Carrying and Operating the Shuttle in Sewing Machines.

No. 47,673.

Patented May 9, 1865.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES WENSLEY, OF NEW BRUNSWICK, NEW JERSEY.

IMPROVEMENT IN MEANS FOR CARRYING AND OPERATING THE SHUTTLE IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 47,673, dated May 9, 1865.

To all whom it may concern:

Be it known that I, JAMES WENSLEY, of New Brunswick, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a representation in elevation of a portion of a sewing-machine partly in section on the line *x* of Fig. 2, showing the position of the shuttle according to my invention. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a cross-section on the line *y* of Fig. 1.

Similar letters of reference indicate like parts.

This invention consists in certain improvements in the manner of carrying as well as in the mode of operating the shuttle in sewing-machines, the usual race being dispensed with, and the shuttle being driven to and fro by means of a rocking traveler having arms or pins which are made to enter in and withdraw from the shuttle during each time it traverses the machine.

B is the shuttle, shown in each of the figures in its proper position in the machine. A tongue, O, is formed on its flat face, and said tongue extends to and terminates with the nose of the shuttle. That side of the shuttle which is lowest has two holes, *h* *g*, near its heel and its point, respectively, by means of which a reciprocating motion is given to the shuttle, as hereinafter explained.

In the part of a sewing-machine here represented A shows the level of the table, and L shows the sunken part thereof, and in which the shuttle-actuating devices rest.

C designates a vertical face, forming one side of this sunken part, along which the shuttle makes its reciprocations. The sunken part L is placed low enough to receive the shuttle beneath the level of the table A, which is to be extended over it to conceal and protect it in the same way that the race is protected in ordinary shuttle-machines.

A groove, D, is made along the vertical face C to receive the tongue O of the shuttle, and said groove is intersected at about the middle

of its length by the extension of the needle-groove E, thus dividing the groove D into two distinct parts. The angle of intersection is left a right angle on the right-hand side, V; but on the left-hand side it is beveled, as seen at *a*, inclining away from the needle-groove in the direction of the forward movement of the shuttle. The vertical face C is continued below the level of the sunken table L, as shown at C', and the part C' has an irregular groove, G, consisting of two horizontal grooves, 1 and 3, united by an inclined groove, 2. The horizontal groove 1 is higher than the groove 3, and both are parallel with the groove D above, and the end of the groove 3, where it is joined by the inclined groove 2, is vertically beneath the beveled face *a* of the left-hand division of the groove D.

I is a traveler, from whose left-hand end a pin, *d*, projects into the groove G. The traveler is held up to the vertical face C' by means of a slide, H, to which it is pivoted at *c*. Arms *e* and *f* project upward from the upper side of the traveler I at such points as to engage with the holes *g* and *h*, respectively, the table L being cut away to form a slot, P, in which the pins *e* and *f* move back and forth.

The slide H has a reciprocating movement upon the sunken table L, being held in and at the same time guided by a longitudinal slot, M, cut therein, and being driven to and fro the distance required for the movement of the shuttle by means of the arm J in any proper manner by a connecting-rod or otherwise.

The right-hand division of the face C, which contains the groove D, is made capable of being turned upward on a pivot, *b*, for the purpose of enabling one to remove the shuttle from the machine, which is effected by lifting the hinged portion of the face, and thus relieving the shuttle of the pin *f*, when it can be slid out of the open end of the groove D. When the hinged part of the face is down in place it is locked by means of a spring, *t*.

The operation of the apparatus is as follows: When the slide H is in the position shown in Fig. 1 the traveler I is thrown into the position there shown, with its pin *f* projected into the hole *h* of the shuttle, because the pivot *c*, which connects the traveler and slide, is higher than the division 3 of the groove G, in which the pin *d* on the front of the traveler is then placed. The pin *e* is then clear of the shuttle.

Motion being now given to the slide toward the left, the traveler is carried with it, and its pin *f* impels the shuttle until the nose of the shuttle has passed the groove *E*, in which the needle is then supposed to be, with the loop of its thread extending across the path of the nose of the shuttle, which then enters the loop. When the pin *d* begins to ascend the inclined division 2 of the groove *G* the point of the traveler *I* begins to rise, and by the time the shuttle has passed far enough through the needle-thread loop to bring it behind the line of the hole *g*, the pin *e* will have begun to enter the said hole, and the pin *f* will have begun to leave the hole *h*. When the pin *d* reaches the division 1 of the groove *G* the pin *f* will have been wholly withdrawn from the hole *h*, thereby allowing the heel of the shuttle to pass through said loop, because the division 1 is above the plane of the pivot *c*, whereby the heel of the traveler is made to descend below the plane of said pivot *c*. The completion of these movements may be hastened by increas-

ing the grade of the inclined division 2 of the groove *G*, thus bringing the horizontal divisions nearer together. The return of the slide will restore the traveler and its pins to their former position, ready for another stitch.

It will be seen that my improvement enables me to dispense with a race, and so keep the thread clean. It also causes the shuttle to reciprocate without the noise which attends other shuttle sewing-machines.

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

The combination of the slide *H*, pivoted traveler *I*, pins *d e f*, slot *M*, horizontal grooves 1 and 3, and inclined groove 2, employed in connection with the shuttle *B*, supported and guided by the tongue *O*, all the said parts being constructed and arranged to operate as herein specified.

JAMES WENSLEY.

Witnesses:

JOHN BOUNDEY,
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