

J. TRIPP.
Sewing-Machine.

No. 217,912.

Patented July 29, 1879.

Fig. 1.

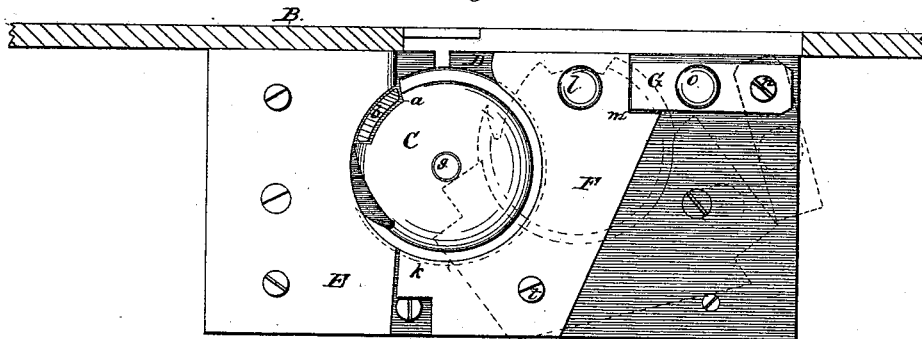


Fig. 2.

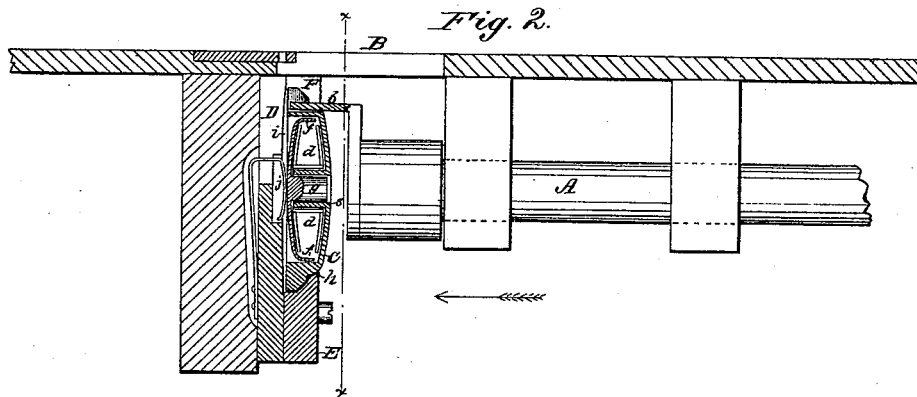
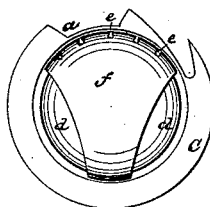


Fig. 3.



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JAMES TRIPP, OF COLDWATER, MICHIGAN.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **217,912**, dated July 29, 1879; application filed October 23, 1878.

To all whom it may concern:

Be it known that I, JAMES TRIPP, of Coldwater, in the county of Branch and State of Michigan, have invented certain new Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section through the line *xx* of Fig. 2, looking in the direction of the arrow. Fig. 2 is a section in a plane at right angles to Fig. 1, showing the relation of the shuttle, bobbin, and tension. Fig. 3 is an inside face view of the shuttle.

My invention relates to certain improvements in that class of sewing-machines in which a revolving shuttle takes the upper thread from the needle and loops it around the lower thread, which is carried by a bobbin contained within said revolving shuttle.

The invention consists in the peculiar arrangement of the revolving shuttle with respect to its driving mechanism, its holding-plates, and other co-operating parts, and in the means for facilitating the removal of the shuttle and its bobbin, as hereinafter more fully described.

In the drawings, A represents the shuttle-driving shaft; B, the work-plate, and C the revolving shuttle, arranged with its open side adjacent to the vertical plate D, formed with a notch, *a*, upon its periphery, near its heel, in which rests the toe of the crank *b*, which latter is attached to the end of the shaft A, and by which the shuttle is driven in coincident axial line with said shaft. This shuttle is formed with a hollow post, *s*, upon which the bobbin *d* revolves, and to the outer side of the bobbin is applied a tension-plate, *f*, having one end wider than the other, and provided at its wider end with numerous holes, *e*, slotted to the edge of the plate, through one or more of which holes the thread from the bobbin is passed. This plate I form with a solid post, *g*, in the center, which passes through the bobbin and entirely through the tubular post of the shuttle.

In securing and arranging the shuttle, so as to facilitate the passage of the loop around the same, I construct said shuttle with a beveled

edge at *h*; and instead of relying on an abutment from the shaft A for holding it against the plate, two holding-plates, E F, are provided, the plate E being fixedly attached to plate D, while plate F is pivoted to the same at *t*, at a point to one side of a vertical line from the center of the shuttle. These holding-plates together form a circular opening having undercut edges, so that the outer edges lap over the shuttle and retain it. Now, as the flat face of the shuttle is against the plate D, in order to leave room for the thread, I recess the said plate D at *i*, and in the center of said recess I locate a round-faced abutment, *j*, which is made spring-seated, and serves to hold the bobbin and tension-plate against rattling. As the loop passes around the shuttle the recess *i* gives free space for its passage, and it meets with little or no obstruction until it reaches the toe of the crank resting on the peripheral notch of the shuttle, which it passes without difficulty.

To facilitate the removal of the shuttle I pivot the segmental holding-plate F at *t*, and extend it, at *k*, beyond its pivot, whereby the joint which it makes with the stationary plate E is located upon the other side of the vertical central line of the shuttle, so that as the plate F is thrown back by knob *l* the shuttle seats itself in the part *k* of the plate, and is lifted by the deflection of said plate into position for convenient removal. With respect to this feature I am aware that similar undercut segmental plates have been heretofore employed, in which one of said plates was pivoted so as to be deflected for the removal of the shuttle; but in such case the joint between the movable and stationary part was in vertical central line with the shuttle, and when the plate was deflected the shuttle was not lifted, but simply dropped out. I therefore lay claim only to the particular arrangement of parts whereby the shuttle is made to seat itself in the movable part and be lifted into convenient position.

To provide for the wear of the circular edge of the plates E F, the said plates may be attached by a slotted connection to plate D, and adjusted as the wear may require.

For locking the movable part F upon the shuttle, a notch, *m*, is formed in its upper cor-

ner, and a movable abutment, G, is pivoted at *n* and provided with a knob, *o*, so that its outer or free end may rest in the notch of plate F, to hold the shuttle in, or be thrown back to permit the removal of the same.

In relation to the subject-matter of the first claim hereto appended, I would state that the construction and arrangement of the elements therein mentioned not only permit the free passage of the loop around the shuttle, and obviate the looseness of the tension-plate, but they allow the needle to descend upon the outside of the shuttle, so that the shuttle is between the vertical line of the needle and the shuttle-driving devices.

This combination of devices is in contradistinction to the arrangement of the shuttle upon the opposite side of the needle from the shuttle-driving devices, which latter arrangement I hereby disclaim. With the needle passing down between the shuttle and shuttle-driving devices, as in the case disclaimed, it will be perceived that if said needle be not properly set or timed, it is certain to be struck by the devices which operate the shuttle and broken thereby, while with my arrangement it escapes this risk by its location outside of the shuttle, which arrangement at the same time permits the shuttle to be permanently kept in gear with its driving device at one point for all parts of its revolution.

Having thus described my invention, what I claim as new is—

1. The combination, with the shuttle-driving shaft having crank-arm *b*, the holding-plates E F, and the recessed plate D, of the shuttle C, located between its driving devices and the vertical line of the needle, with its chamber adjacent to the plate D, together with the bobbin, tension-plate, and spring-abutment, arranged substantially as described.

2. The combination, with the revolving shuttle, of the segmental plates E F, the plate F being pivoted, and having its circumferential edge extended, at *k*, beyond a vertical line from the center of the shuttle to form a seat for lifting the shuttle when it is to be removed, substantially as described.

3. The combination, with the pivoted plate F, having a notch, *m*, of the locking-abutment G, pivoted to move in the same plane with said plate, and arranged to rest in said notch of the plate and arrest the backward movement of the same by an endwise abutment, substantially as described.

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Witnesses:

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