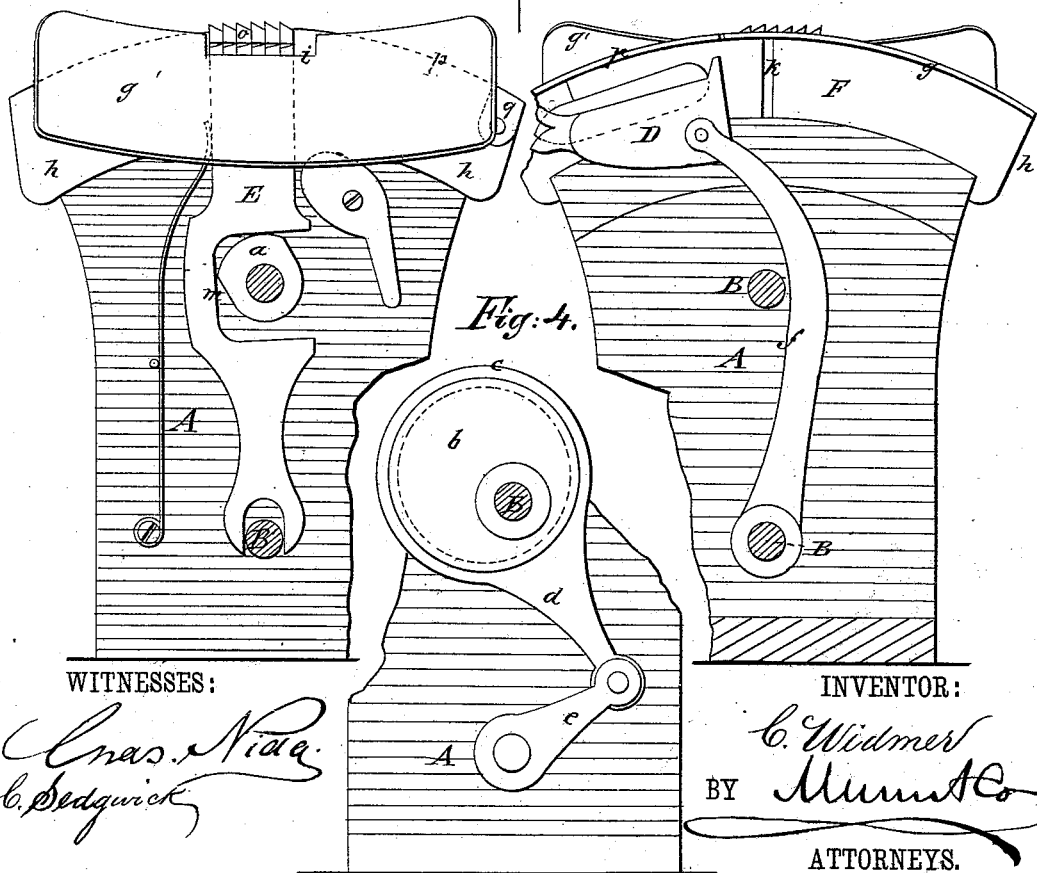
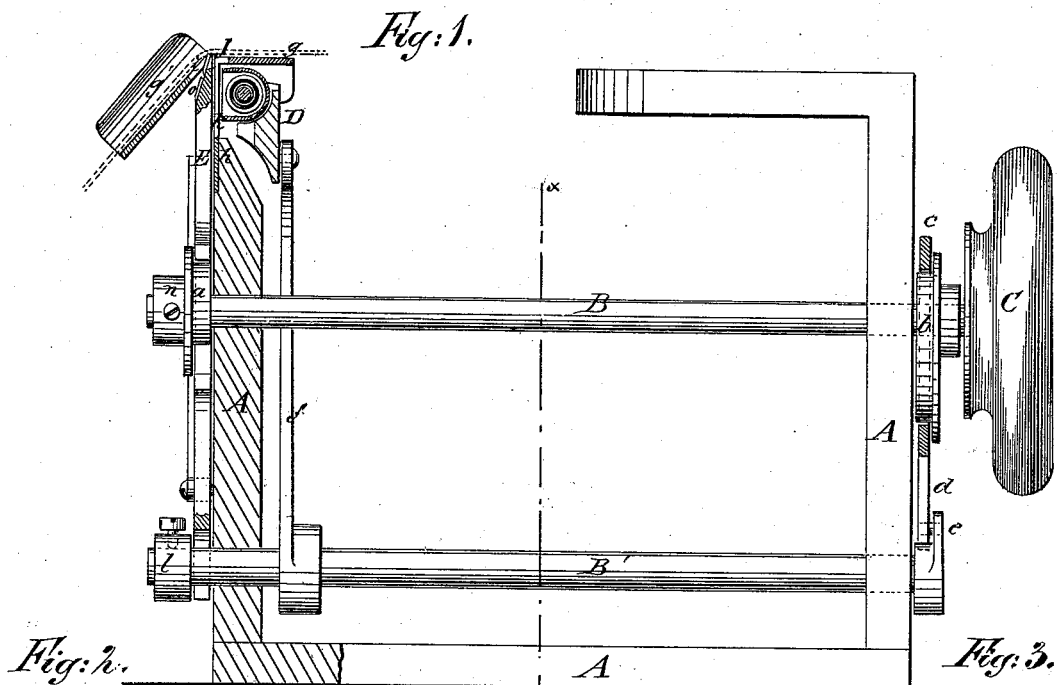


C. WIDMER.
Sewing-Machine for Sewing Sweat-Linings into Hats.
No. 221,134. Patented Oct. 28, 1879.



UNITED STATES PATENT OFFICE.

CHARLES WIDMER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SEWING-MACHINES FOR SEWING SWEAT-LININGS INTO HATS.

Specification forming part of Letters Patent No. **221,134**, dated October 28, 1879; application filed February 17, 1879.

To all whom it may concern:

Be it known that I, CHARLES WIDMER, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Sewing-Machines for Sewing Sweat-Linings into Hats, of which the following is a specification.

This invention relates to the construction and arrangement of the work-plate, the shuttle-race, and the movement of the feeder and shuttle, whereby the machine is adapted to sewing sweat-linings in stiff and curved brimmed hats; and the object thereof is to enable the crown and brim to be held firmly between the presser-foot and the serrated feeder, so that the curvature of the crown and brim can be followed and the needle allowed to sew the lining to the hat at the angle of the crown and brim.

This invention consists in a novel construction of the work-plate, feed-bar, and intermediate connecting and operating devices, all of which will be fully hereinafter described in detail, and pointed out in the claims.

In the accompanying drawings, Fig. 1 is a side elevation of a sewing-machine, partly in section, to show the improvements in the work-plate and other parts related to it. Fig. 2 is a front-end view of the same. Fig. 3 is a vertical cross-section on line *x x*, looking toward the front end of the machine, and showing the shuttle and accompanying parts; and Fig. 4 is an elevation, showing the eccentric, its yoke or ring with arm, and the crank.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the frame of the machine, in which are journaled the horizontal shafts B B', the former carrying at one end a cam, *a*, for operating the feeding mechanism, and at the other end an eccentric, *b*, and outside of this a balance-wheel and pulley, C. The ring *c*, around the eccentric, has an arm, *d*, which is pivoted to the crank *e*, fixed to shaft B', whereby, when the shaft B is rotated, the eccentric rocks shaft B', and this, in turn, rocks the curved arm *f* keyed to it, and fixed at its upper end to the shuttle-carrier D. The work-plate is composed of the convex plate *g* and the concave plate *g'*, the edges

whereof are joined together at an acute angle over the edge of a plate, *h*, (to which plate *g* is joined at right angles,) fixed to the front end of the frame A, as clearly shown in Fig. 1.

Through the concave plate, at its junction with the convex plate, is made a mortise, *i*, for the feeder E, and through the convex plate is made the needle-opening *j*, over vertical groove *k* in plate *h*, on the side adjacent to the shuttle-race.

The lower end of the feeder E is forked and rests on the projecting end of shaft B', where it is secured by a collar, *l*. Just above this is a rectangular recess, *m*, in which the cam *a* works to give three motions to the feeder. A flanged washer, *n*, fixed to the end of the shaft, bears against the feeder and retains it in place. The serrated operative face *o* of the feeder is chamfered off so as to approximate to the angle of the concave plate to adapt it to the position of the crown.

F represents the shuttle-race under the convex work-plate. It is the segment of a circle concentric to that of the convex plate, whereby the shuttle travels in the arc of a circle, and thus approaches to the requisite nearness to the eye of the needle to make the loop when sewing.

The operation of the device is as follows: The hat to be operated upon is placed upon the machine with the crown in the concave plate, and the curved brim on the convex plate, and in position for the serrated face of the feeder to act against the adjacent part of the crown, while the angle falls right under the presser-foot, so that the needle will sew just in line with the angle, as shown by the dotted lines in Fig. 1. Now, as the sewing proceeds, the concave plate furnishes a support and bearing for the crown, while the convexity of plate *g* gives space at each end, under the brim, to accommodate the turns in the brim caused by its curvature; but at the same time the part that is being sewed, viz., that part at the highest point of the convex plate—is supported firmly, so that the sewing is conducted without trouble.

A segment, *p*, of plate *g* is unconnected with plate *h*, except at the outer end, where it is provided with an ear, *q*, through which it is

pivoted to plate *h*. This is for the purpose of opening the work-plate, so as to get at the shuttle.

The spring *F*, attached to the front of frame *A* at one end, and bearing against the edge of feeder *E*, controls its movements and keeps it firmly in contact with the cam *a*, so that it will respond promptly to the action of said cam without loss of motion.

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

1. In a sewing-machine, the combination of the convex plate *g* and vertical plate *h*, connected at right angles, the two forming a segmental shuttle-race, *F*, with the concave plate *g'*, united in an inclined position to the longitudinal edge of the convex plate, and provided with a slot, *i*, the vertical feed-bar, having its serrated operating end beveled off to

correspond to the inclined face of the concave work-plate, and means for operating the feed-bar, all substantially as shown and described.

2. The combination, substantially as described, of the rotating shaft *B*, rocking shaft *B'*, connecting mechanism between said shafts for operating the same, vertical curved arm *f*, shuttle-carrier *D*, and segmental shuttle-race formed by the convex plate *g* and vertical plate *h*, with the vertical feed-bar *E*, having a rectangular slot, *m*, and lower slotted end setting over the shaft *B'*, a cam, *a*, on the projecting end of the rotating shaft, arranged within the said rectangular recess, and a spring for acting on the feed-bar, all substantially as herein shown and described.

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Witnesses:

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