S. H. HALL.

Sewing-Machines.

No. 152,798. Patented July 7, 1874.

Fig. 1.

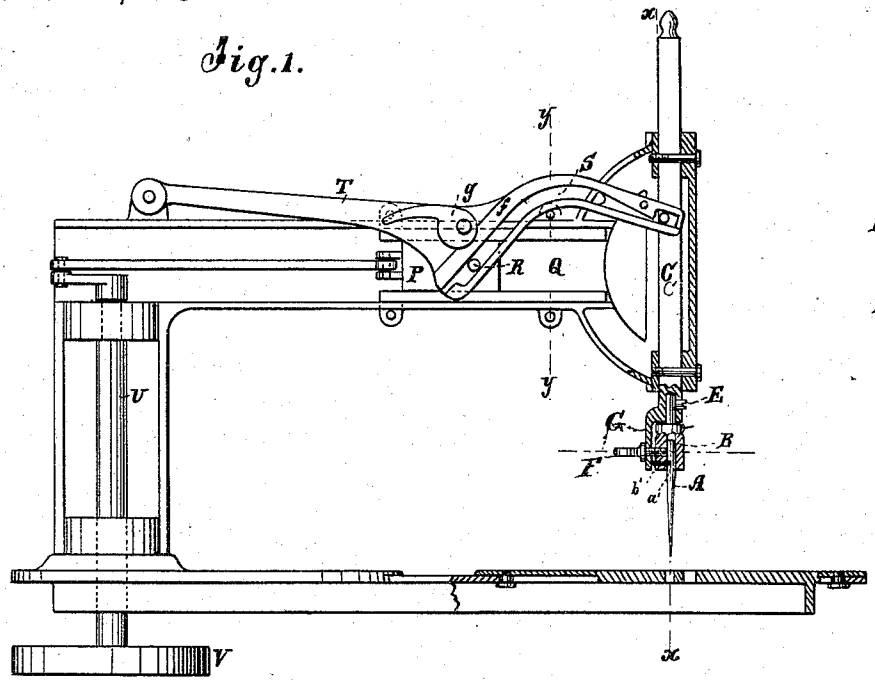


Fig. 4.

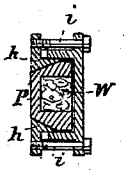


Fig. 2.

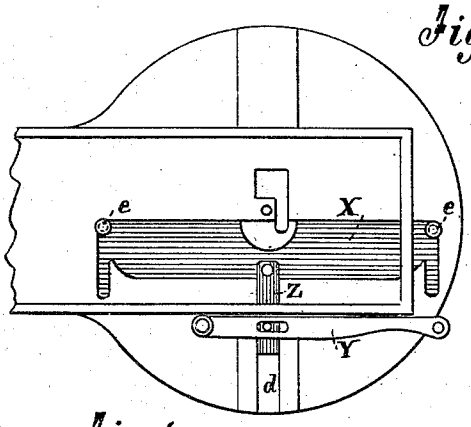


Fig. 3.

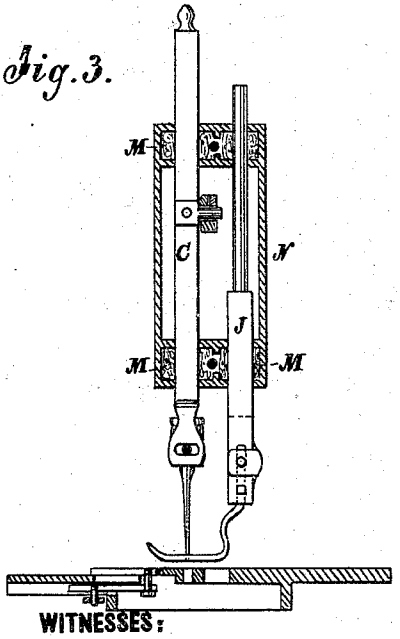


Fig. 6

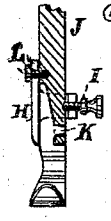


Fig. 5.

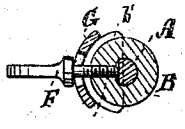
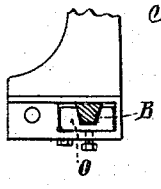


Fig. 7.



WITNESSES:

A Bennemendorf.

Geo. Geiger

INVENTOR:

S. H. Hall

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

SILAS H. HALL, OF OTTAWA, KANSAS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **152,798**, dated July 7, 1874; application filed April 18, 1874.

To all whom it may concern:

Be it known that I, SILAS H. HALL, of Ottawa, in the county of Franklin and State of Kansas, have invented a new and Improved Sewing-Machine, of which the following is a specification:

The several features of invention will first be fully described, and then pointed out in the claims.

Figure 1 is partly a side elevation and partly a sectional elevation of my improved machine. Fig. 2 is a plan of a portion of the machine inverted. Fig. 3 is a sectional elevation of the head, on the line *x x* of Fig. 1. Fig. 4 is a cross-section on line *y y*. Fig. 5 is a horizontal section on line *z z*. Fig. 7 is a detail, showing the bearings of the needle-bar and method of adjusting them. Fig. 6 is a sectional elevation of the presser-bar.

Similar letters of reference indicate corresponding parts.

A represents the needle, having its shank flattened on one side, as shown at *b*, Fig. 5, to insure the putting of it in the socket right, the socket being of corresponding form. The needle also has a notch, *a'*, in the side, which receives a little slide, *b'*, in the head, to hold it from dropping out when the set-screw is loosened. B is the detachable head, for holding the needle so as to oscillate it a little, to adjust and line the eye properly, for which the head is connected to the bar C by a stem in a round socket, which is fastened by a set-screw, E. F is a set-screw, for fastening the needle in the head B. It passes through a slot in a spring, G, hanging down from the needle-bar, and prevents the head from turning too far. The spring also presses the slide *b'* into the notch in the needle. H is a clamp, and I a thumb-screw, for fastening the presser to the presser-bar J by securing the stud K on the presser in the eye of the bar, so that the presser may be changed without the use of a screw-driver. The clamp is pivoted to the presser-bar at L, so that when the thumb-screw is loosened it swings back to allow the presser to be applied and removed. M represents the oil-boxes in the head N of the machine, for containing sponge, wicking, and the like, to retain the oil and prevent waste and injury to the work. To take up the wear of the needle-bar, it is made with beveled sides, and a block, O, is fitted in the head at each end, and provided with an adjusting-screw, by which it is set up from time to time to take up any lost motion that may accrue by wear. P is the horizontal slide in a groove or way, Q, in the side of the stationary arm, with a stud-pin, R, which enters the curved cam-slot S, and operating the needle-arm T. The slide is worked by a crank on the top of the vertical shaft U, which is to be turned by the disk V running against the driving-wheel, to be turned by friction. The slide P has a chamber, W, in the back of it, containing sponge, or other like substance, for retaining oil. The cam-slot is tightened up, to take up the wear of the stud-pin, by an adjustable bar, *f*, and a cam, *g*. The slide is tightened by the adjustable wedges *h* in the way Q and the screws *i*.

To open the sewing-machine plate, so as to remove the shuttle from either side of the needle, a portion of the plate extending each way a suitable distance in the line of the shuttle-race is made to slide to and from the edge of the stationary part, and connected with a shifting-lever, Y, to work it, the lever being on the under side of the plate, and jointed to a bar, Z, of the movable part. This bar is arranged in guides *d*, and the plate X is provided with a headed stud-pin, *e*, at each end, for guiding it in sliding forward and backward, and preventing it from rising up from its position.

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

1. The described combination of notched needle A, head B, pivoted adjustable stud F, slotted spring G, and slide *b'*, for the purpose specified.

2. The described combination of presser-foot, having stud K, with presser-bar and clamp, for the purpose set forth.

3. The described combination, with slide P, having pin R, of a needle-arm, T, having a slot curved to give a dip to the needle.

4. The described combination of needle-arm T and its pivoted bar *f* with the cam *g*, to compensate for wear of arm.

SILAS H. HALL.

Witnesses:
B. KELLY,
C. C. MECHEM.