

J. H. APPLGATE.
Sewing-Machines.

No. 146,502.

Patented Jan. 20, 1874.

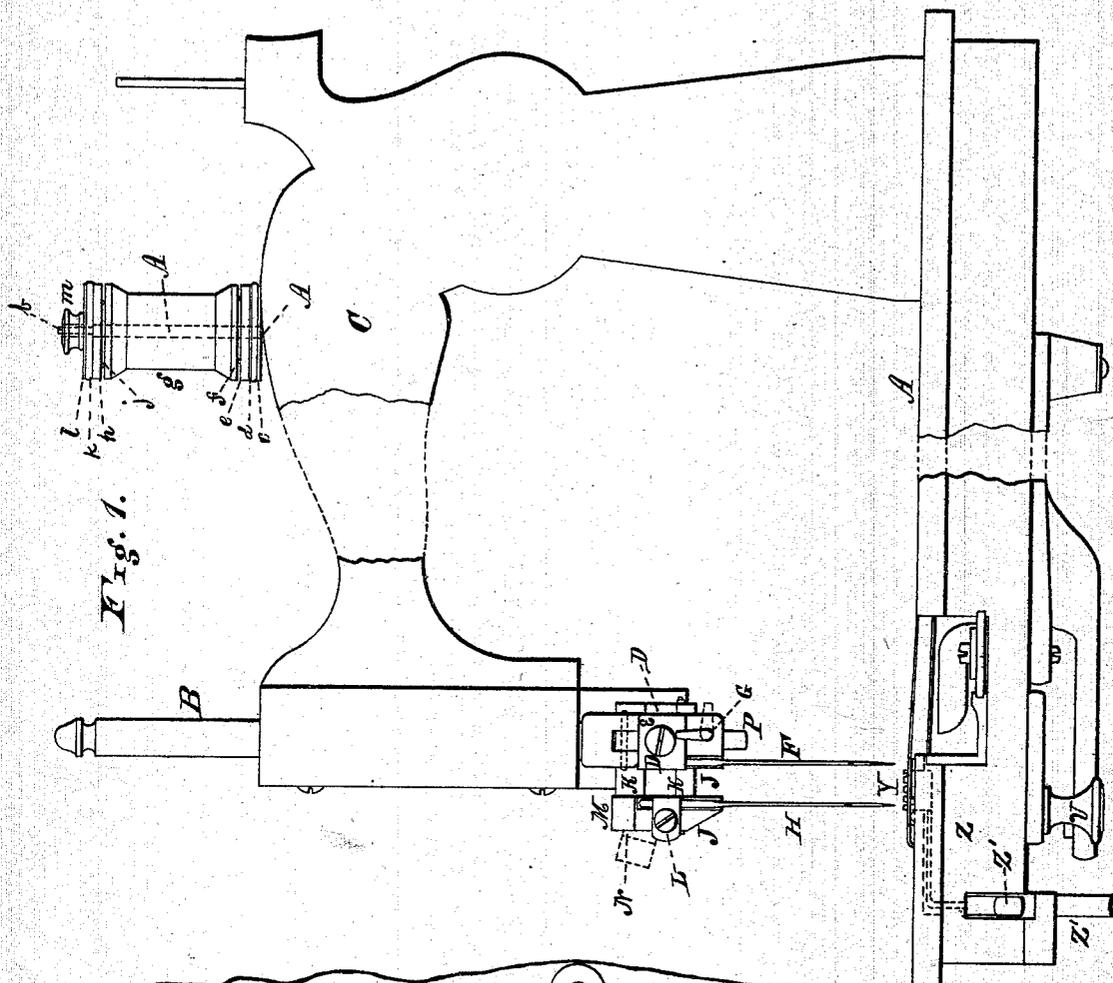


Fig. 1.

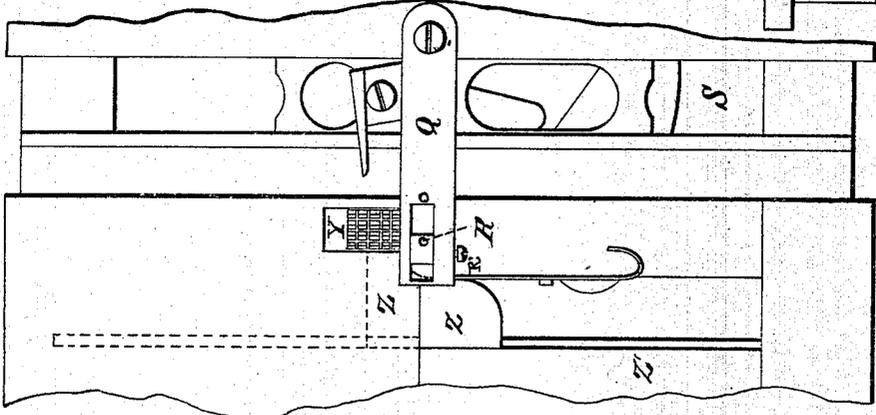


Fig. 2.

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Fig. 4.

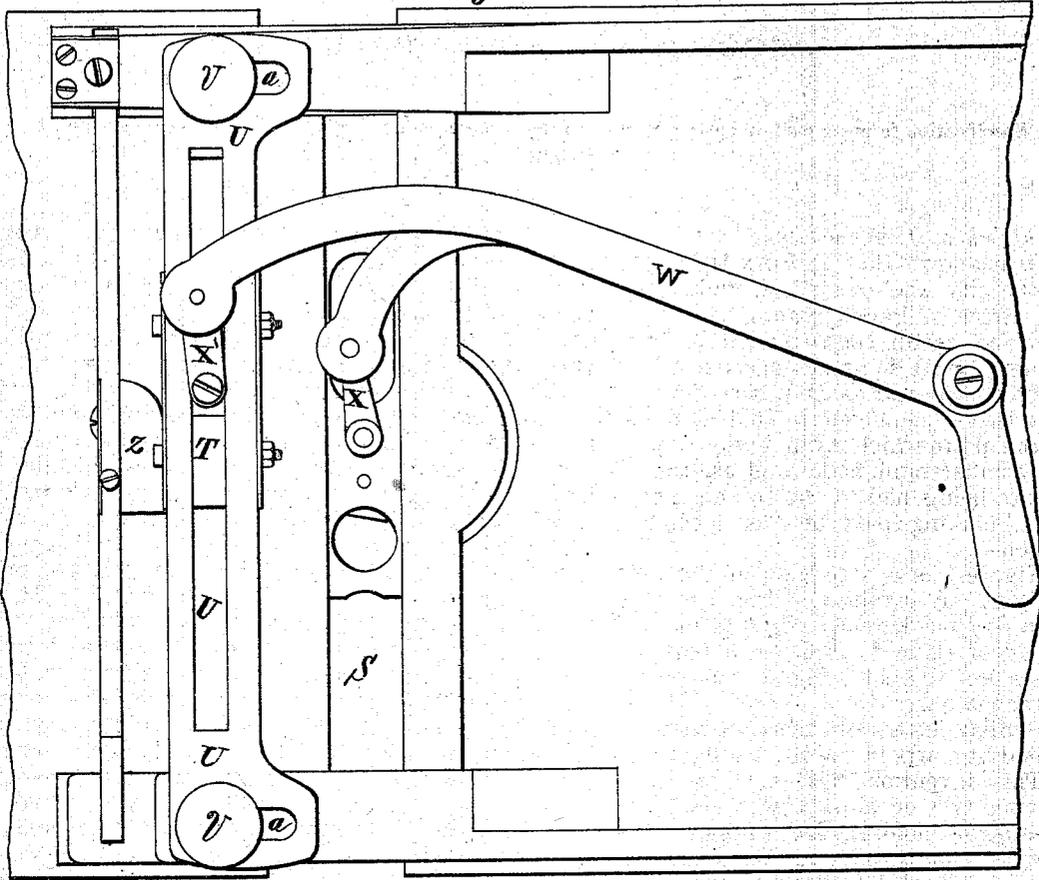


Fig. 3.

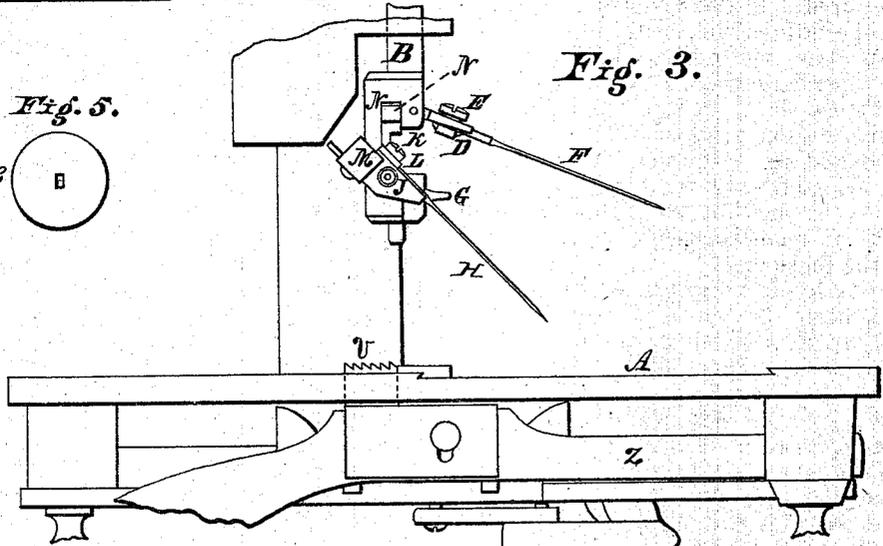
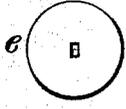


Fig. 5.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 146,502, dated January 20, 1874; application filed September 13, 1873.

To all whom it may concern:

Be it known that I, JOHN H. APPLGATE, of the city and county of Philadelphia, and the State of Pennsylvania, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of the device embodying my invention. Fig. 2 is a top view of a portion thereof. Fig. 3 is an end view of a portion thereof. Fig. 4 is a bottom view of a portion thereof. Fig. 5 is a top view of a detached part.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to mechanism for sewing two or more rows; and consists in means for holding the stationary needle to the bar and permitting the removal thereof when required. It also consists in means for holding the adjustable needle to the slide on the needle-bar and permitting the removal thereof when required. It also consists in a sliding throat-plate, which is fitted in an opening in the stationary throat-plate, and a set-screw for holding the former. It also consists in the construction of the feed to permit the adjustment of the shuttles without disturbing the feed. It finally consists in the construction of the tension.

Referring to the drawings, A represents the table; B, the needle-bar, and C the arm supporting said bar, all of which may be of well-known form and construction. To the lower end of the needle-bar C is hinged a clamp, D, to which is secured, by a set-screw or other fastening, E, a needle, F, which clamp is held in position on the needle-bar by a button, G, swiveled to the needle-bar below the clamp, and adapted to be moved off and on the clamp when the needle is to be rendered inoperative or required for use. H represents another needle, which is arranged vertically, parallel with the needle F, and is secured to a clamp or head, J, hinged to a sliding bar, K, which is fitted

to the lower portion of the needle-bar. A set-screw or other fastening, L, secures the needle to the clamp J, and a stirrup, M, is hinged to the clamp, and adapted to engage with a projection, N, on the slide K. This stirrup has a lateral motion, and by moving it in the direction shown by the dotted lines, Fig. 1, the clamp J is released, and the needle H may then be swung transversely, so as to be rendered inoperative. By properly rotating the button G, the clamp D of the needle F may be released, and said needle moved transversely, so as not to descend and form a stitch—or, in other words, to be rendered inoperative similarly to the needle H. (See Fig. 3.) These movements will be found useful wherein, after sewing two rows of stitches, it may be desired to form a single row, and the position of such row will determine which needle can be employed most advantageously. When two rows are to be stitched, the two needles are secured in position by the button and stirrup, respectively. When it is desired to sew two rows, the distance between them may be increased or diminished by moving the slide K, so as to bring the needle H nearer to or farther from the needle F, and when thus properly adjusted, the slide may be held in place by a set-screw, P, which passes through the needle-bar and bears against the slide. Q represents the stationary throat-plate for the needle F, and R a throat-plate which slides longitudinally on the plate Q, so that said plate R may be moved nearer to and farther from the throat of the plate Q, and thus adjust the distances between the throats relatively to the adjustment of the two needles F H. The plate R will be held in position by a set-screw, R', properly applied. The feed-plate Y and horizontal portion of the overhanging plate Z will be of thickness less than the thickness of the cloth-plate or throat-plate, and the cam which operates the bar Z' will be so gaged or adjusted that the plate Y and horizontal portion of the plate Z will never descend lower than the under face of the cloth or throat plate, whereby the adjustable shuttle cannot strike the plate Y, or adjacent portions of the plate Z. The shuttle for the needle F will be arranged and operate as usually, the race being shown at S. The shuttle for the needle H has its carrier T

mounted on a longitudinally-adjustable race, U, and is attached to the under side of the table A by screws V, which pass through slots *a* in the race, and permit the longitudinal adjustment thereof, whereby the shuttles may be adjusted relatively to the distances between the needles F H. Motion is imparted to both shuttles by means of a forked lever, W, whose forked ends are jointed to arms X X', which are, respectively, jointed to the shuttle-carriers. The shuttle-carriers are connected, by links or arms X X', with the forks of the lever W, and the position of the race U may be adjusted or changed, and the arm X will at all times impart proper movements to the carrier, whether the shuttles are adjusted for wide or narrow spaces between the stitches. Y represents the feed-plate, which is attached to a plate, Z, projecting laterally from the feed-bar Z', and overhanging the adjustable shuttle-race U, so that the movements of the latter may be made toward or from the stationary race S, without in any manner disturbing the feed plate and bar, or interfering therewith.

When the various adjustments are completed, the sewing may take place, the operation of which is similar to that practiced in single-needle machines. A plurality of stitches may be made by increasing the number of needles, throat-plates, shuttles, &c., and rendering them adjustable.

The tension device consists of a rod, A', whose upper end is threaded and flattened, as at *b*, and on the rod is placed a fixed disk, *e*, a washer composed of a piece of cloth, felt, or other fabric, *d*, a disk, *e*, with spurs *f*, and the spool *g*, into the lower side of which penetrates the spurs *f* of the disk *e*. Another disk, *h*, with spurs *j*, is then laid on the spool, and the spurs penetrate the upper side of the spool.

A felt or other washer, *k*, is placed on the disk *h*, and between it and disk *l*, which has an oblong slot corresponding to the flattened upper end of the rod A'. A nut, *m*, screws on the rod A against the disk *l*, and as the disks *l e* cannot rotate, and the washers *d k* may be compressed by the action of the nut *m*, and thus tightened against the spurred disks *e h*, the friction between the fabric and adjacent disk may be nicely regulated, and the tension, consequently, adjusted.

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

1. The clamp D, holding one needle and hinged to the needle-bar, in combination with the button G, substantially as and for the purpose set forth.

2. The clamp J, holding one needle and hinged to the slide K of the needle-bar, in combination with the stirrup M, substantially as and for the purpose set forth.

3. The stationary throat-plate Q, in combination with the throat-plate R, sliding in an opening in said plate Q, and the set-screw R', substantially as and for the purpose set forth.

4. The feed-plate Y, attached to a plate, Z, projecting laterally from the feed-bar Z', and overhanging the race of the adjustable shuttle, substantially as and for the purpose set forth.

5. The screw A', with flattened top *b*, the fixed disks *e l*, spurred disks *e h*, and washers *d k*, combined and operating substantially as and for the purpose set forth.

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