

GEORGE L. DULANEY.

Improvement in Sewing-Machines.

No. 114,424.

Patented May 2, 1871.

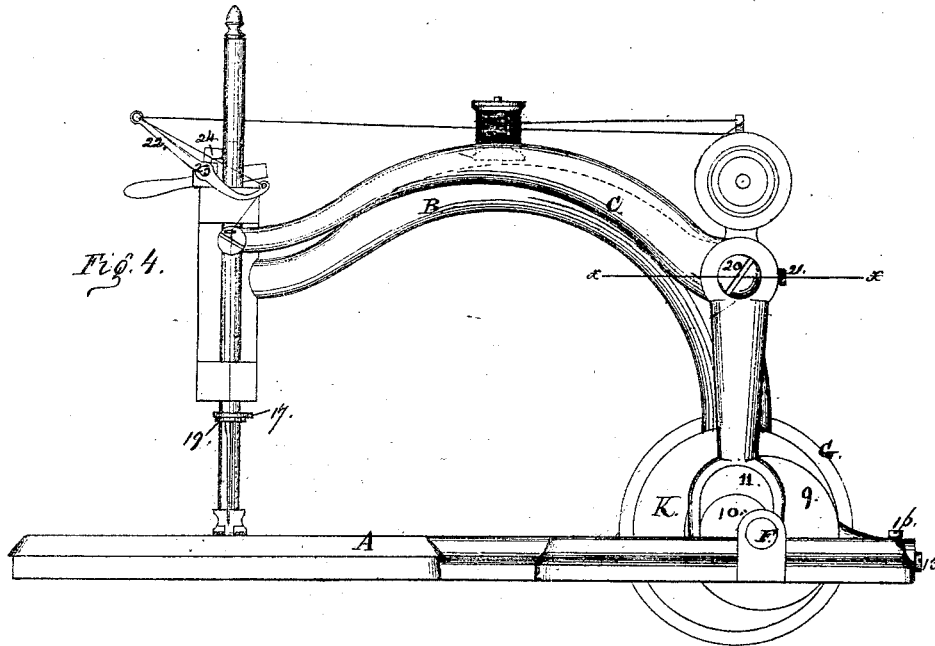


Fig. 4.

Fig. 5  $\kappa-\kappa$

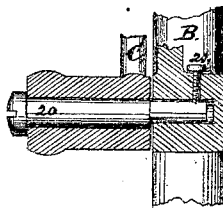


Fig. 7.



Fig. 6.

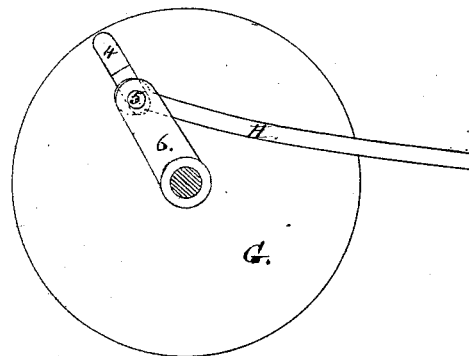
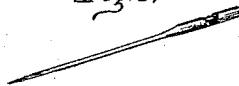


Fig. 8.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

GEORGE L. DULANEY, OF NEW YORK, N. Y.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **114,424**, dated May 2, 1871.

*To all whom it may concern:*

Be it known that I, GEORGE L. DULANEY, of the city, county, and State of New York, have invented certain Improvements in Sewing-Machines; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My improvements relate to the means for actuating the shuttle-driver and imparting to it a variable velocity; to the means for imparting a variable velocity to the movement of the needle and regulating the same; to a means for adapting the position of the needle to the path of the shuttle; to the means for securing the needle to its bar; to the means for regulating the limit of descent of the needle, and to the take-up for the needle-thread.

Figure 1 is a plan view with the cloth-plate removed, and the main arm and needle are broken away. Fig. 2 is a central vertical section. Fig. 3 is a horizontal section through the main shaft, and also through the two independent journals and their adjacent parts. Fig. 4 is an elevation of the machine. Figs. 5, 6, 7, and 8 are detail views.

A is the bed-plate or frame; B, the main arm; C, the needle-arm; D, the main shaft; E and F, two independent journals, whose axes are parallel with, but not in a line with, that of the main shaft.

The arm B is formed with a journal-bearing, 1, for the main shaft, which it supports, and it is secured firmly to the bed-plate by a bolt, 2, for a purpose and in a manner hereinafter stated.

G is a disk on one end of the main shaft, having a driving-pulley, 3, cast with it, and having a radial slot, 4, made therein. Into this slot enters a pin, 5, on an arm, 6, secured to the journal E, running in a bearing in the bed-plate, as seen.

H is a link or rod connecting the pin 5 with the shuttle-driver I, which runs on rods or ways *i*, as shown.

The journal E is placed out of line with, but parallel with, the axis of the main shaft, in order that the uniform velocity of the main shaft shall cause the pin 5 at the end of arm

6, as it revolves with the disk at each revolution, to approach and recede from the center of the disk, and thus impart to the rod H a rapid movement when the shuttle passes through the loop of needle-thread, its motions at other times being less rapid.

To the other end of the main shaft is secured another disk, K, having also a radial slot, 7, into which enters a pin, 8, on a disk, 9, upon which, at its outer side, is an eccentric, 10, the disk and eccentric being secured to the independent journal F, which runs in a bearing on the frame or bed-plate, the axis of this journal being also out of line but parallel with that of the main shaft.

The rear end of the needle-arm C is slotted in yoke form, as seen at 11, and spans the eccentric 10.

It will now be seen that the uniform revolution of the main shaft will, through the instrumentality of the slot and pin 8, impart a movement of variable velocity to the needle-arm, and consequently to the needle.

A set-screw, 12, permits an adjustment of the disk K to any desired position around the main shaft, and consequently the proper regulation or timing of the rapid or slow movements of the needle relatively to those of the shuttle.

It will be observed that in addition to the variableness of the needle's movement, due to the slot and pin, the movement of the eccentric in the yoke also contributes toward imparting a variable motion. When a needle of large size is substituted for a finer one, or vice versa, in all sewing-machines, the loop-taking implement, whether a shuttle or looper, is liable to fail in taking the loop of needle-thread, and the result is the missing of a stitch and imperfect work.

To correct this I provide for adjusting laterally the position of the needle relatively to the face of the race and the path of the shuttle by causing the main arm to be turned slightly upon its fulcrum bolt or screw 2.

The means I have devised for adjusting the position of the arm and of the needle and its bar are as follows: A bolt, 13, having a portion, 14, of the same made eccentric, passes through an opening, 15, in the rear of the bed-plate or frame, and the eccentric part enters

shaft and its disks G and K with the described means for imparting the proper variable movements both to the shuttle and needle.

4. The main arm secured to the bed-plate by means of a pivotal center, about which it may be adjusted and secured for the purpose of adapting the position of the needle to the path of the shuttle, substantially as described.

5. The combination, with the needle-bar and a notched needle, of the eccentric piece or lever 17, operating in the manner shown and described, to hold the needle to place in the bar.

6. The combination, with the needle-arm, of

an adjustable fulcrum-bolt having an eccentric thereon, and a set-screw for securing the bolt in the desired position and regulating the vertical adjustment of the needle, substantially as shown and described.

7. The take-up lever 22, its rock-shaft, and tooth or projection, combined with the shoulder and slot in the needle-bar, the bar operating to positively lock the lever in position and to release it, in the manner shown and described.

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Witnesses:

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SAMUEL EAST.

Improvement in Machines for Dressing Millstones.

No. 114,425.

Patented May 2, 1871.

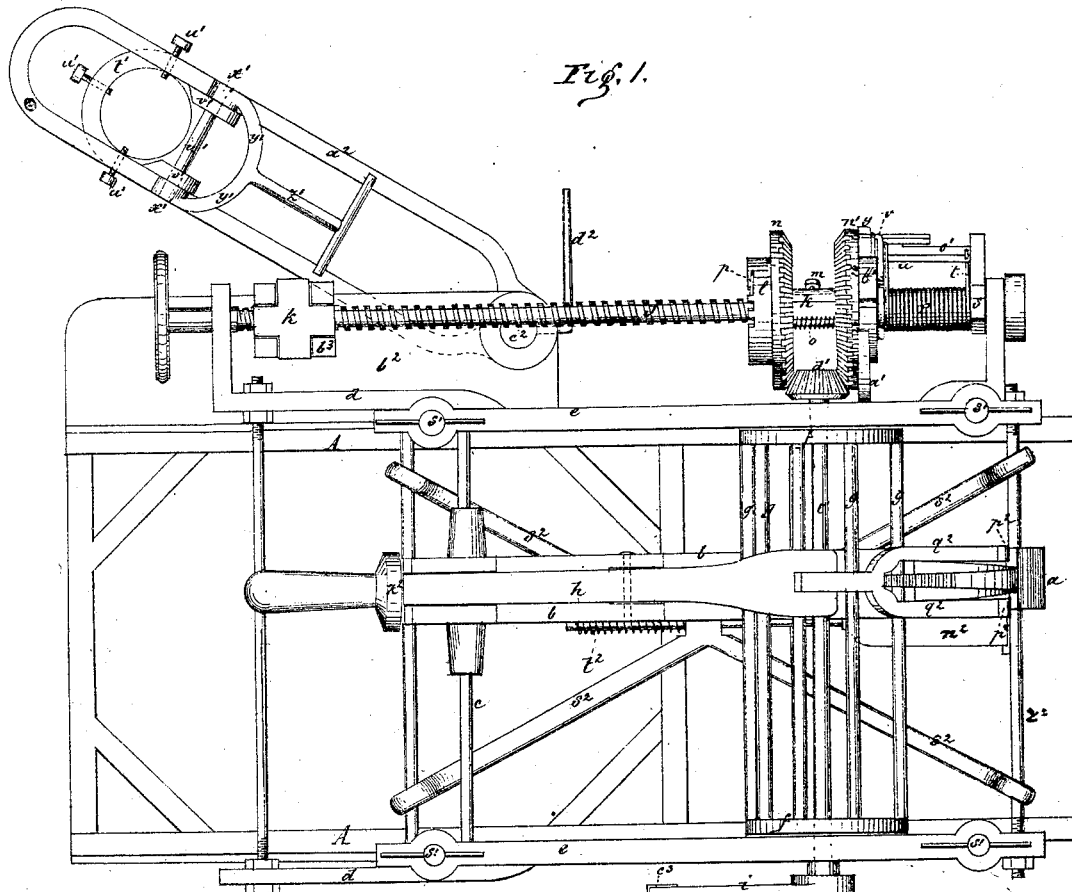


Fig. 1.

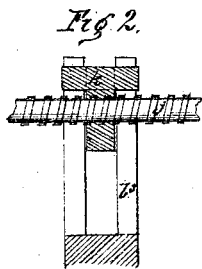


Fig. 2.

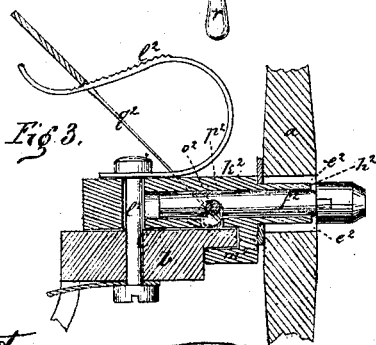


Fig. 3.

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