

Sheet I

John P. Sherwood

117002

Sewing-Machine.

PATENTED JUL 11 1871

Fig 1.

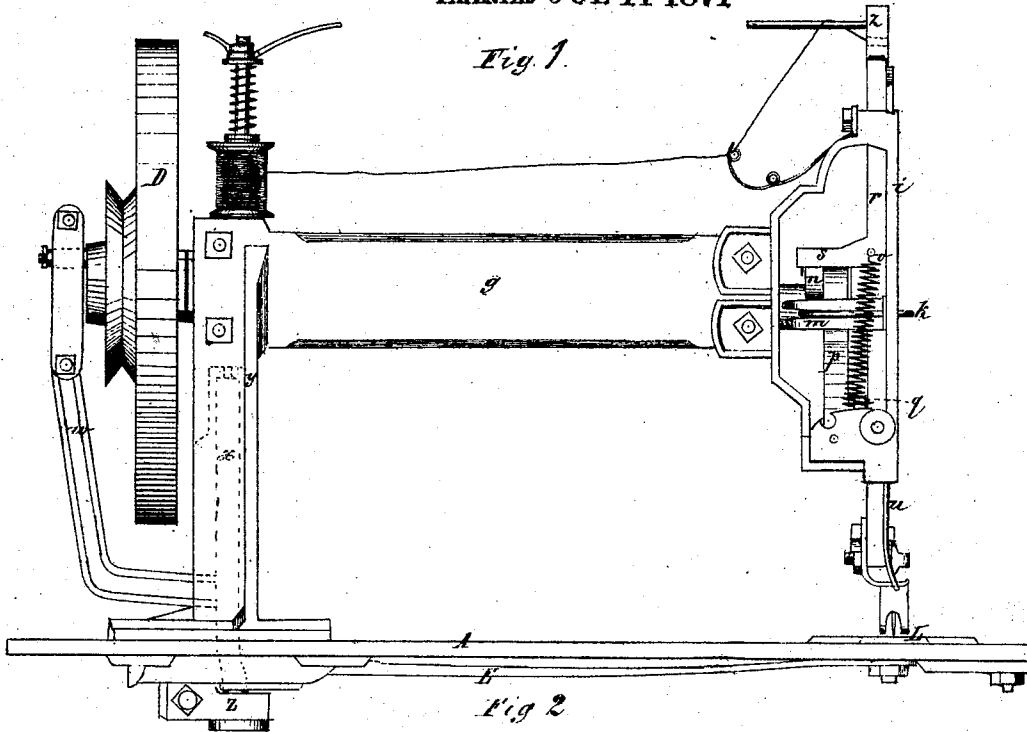
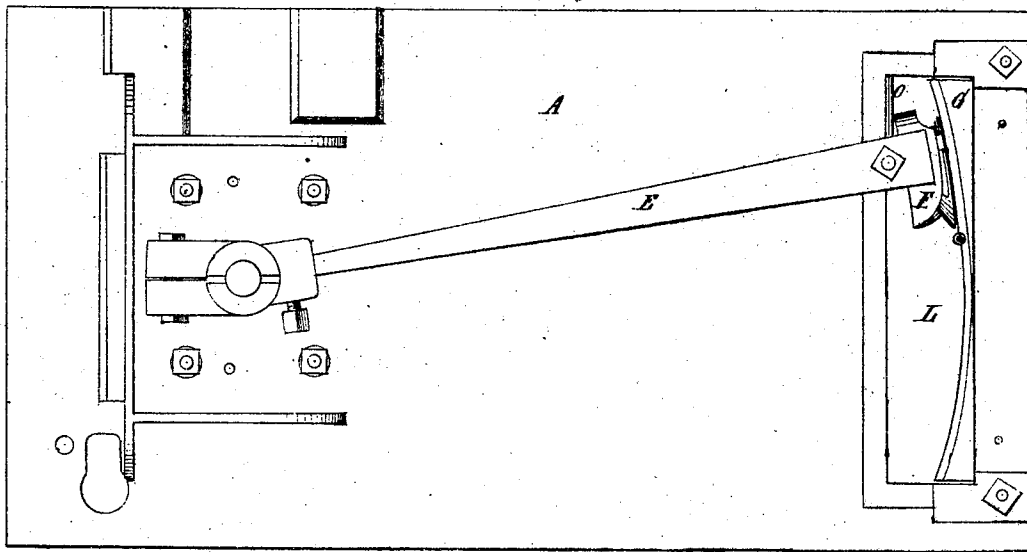


Fig 2



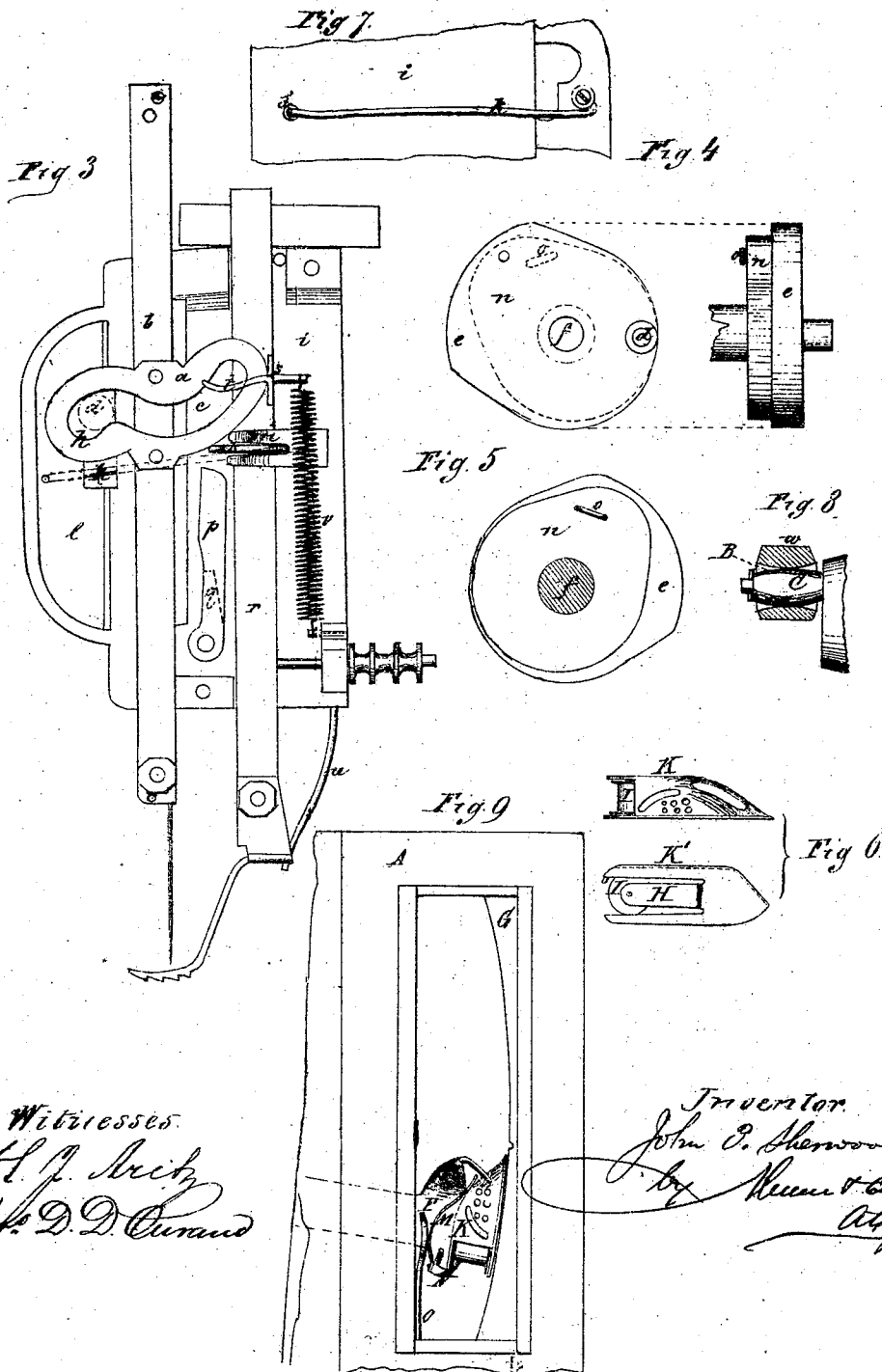
Witnesses.
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Inventor.
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Sheet II

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Sewing-Machine.



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UNITED STATES PATENT OFFICE.

JOHN P. SHERWOOD, OF FORT EDWARD, NEW YORK.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 117,002, dated July 11, 1871.

To all whom it may concern:

Be it known that I, JOHN P. SHERWOOD, of Fort Edward, in the county of Washington and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a plan view of the under side of the bed-plate, with the machinery in and below the same. Fig. 3 is an elevation of the back side of the vertical plate that is placed at the end of the horizontal arm which incloses the driving-shaft, with the machinery thereto attached. Fig. 4 is made up of two elevations, one of the side and the other of the rim of the eccentric that is fixed on the end of the driving-shaft. Fig. 5 is an elevation of the opposite side of the same eccentric from that shown in Fig. 4. Fig. 6 is made up of a plan view of the under side and a side elevation of the shuttle. Fig. 7 is a partial side elevation of the said vertical plate with the thread-holder. Fig. 8 is a transverse section of the oscillating arm with the double-beveled slot; and Fig. 9 is a plan view of the shuttle, shuttle-race, and spring M.

This invention consists in an oscillating vertical arm that gives motion, beneath the bed-plate, to the connecting-rod which operates the shuttle-carrier, such arm being provided with a slot, each of whose sides is double beveled from a vertical central line outward, in combination with a friction-roller on the wrist-pin that projects from the side of the balance-wheel and traverses such slot, the said roller also being double beveled from a central circumferential line toward each end for the purpose of reducing friction and giving room in which the wrist-pin may rise and fall in the slot as the arm oscillates; also, in the combination of the said oscillating arm passing vertically through the bed-plate with the said connecting-rod and shuttle-carrier; also, in a shuttle constructed with a spring-plate that forms part of one side, and is bent inward so as not to be flush with the outer surface of the side of the shuttle, and bears, for tension purposes, on the shuttle-spool.

In Figs. 1 and 8, *w* is a bent arm that projects outward and upward from a vertical shaft, *x*, that is inclosed within the hollow standard *y*, Fig. 1, and is stepped in the box *z*, which projects downward from the lower side of the bed-

plate A. In the upper part of the arm *w* is a slot, B, which a wrist-pin projecting from the hub of the balance-wheel D traverses. The sides of the slot B are each beveled outward from a vertical central line, as shown in Fig. 8, in order to give room for the wrist-pin to work in as the arm *w* oscillates under the action of the wrist-pin during the revolution of the balance-wheel. The friction-roller C that incloses the wrist-pin likewise tapers toward each end from a central circumferential cylindrical surface. The effect of this construction is that the only points of contact between the sides of the slot and the surface of the friction-roller lie in the cylindrical central part of the latter and the central ridges of the former, and friction is thereby reduced to its minimum. Instead of the tapering roller a ball may be used on the wrist-pin and the latter be elongated so as to permit the ball to travel in a circular pathway in the slot; or, if the ball be used, the sides of the slot may be made plane or convex. To the vertical shaft *x*, below the bed-plate A, is attached, by casting with it or otherwise, the sway-bar E, Fig. 2, that vibrates as the shaft *x* oscillates on its vertical axis. To the outer extremity of the sway-bar E the shuttle-carrier F is secured. The shuttle-carrier slides on a curved race-face, G. The lower sketch in Fig. 6 shows the side of the shuttle that slides next the race-face. This slide is made up in part of a spring-tongue, H, disconnected from the shuttle at all points except at one end. The outer side of the spring-tongue is not flush with the outer surface of the shuttle side, but is within the plane of said surface, forming, as it were, the bottom of a groove let into the shuttle side.

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

1. The bent arm *w*, provided with the double-beveled slot B, in combination with the double-tapered friction-roller C, or its equivalent, as explained.

2. The combination of the bent arm *w*, vertical shaft *x*, sway-bar E, and shuttle-carrier F, all constructed as described.

3. The shuttle K, provided with the spring-tongue H, when the same supports one end of the spool I and is sunk within the plane of the outer surface of the shuttle side, as set forth.

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Witnesses:

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