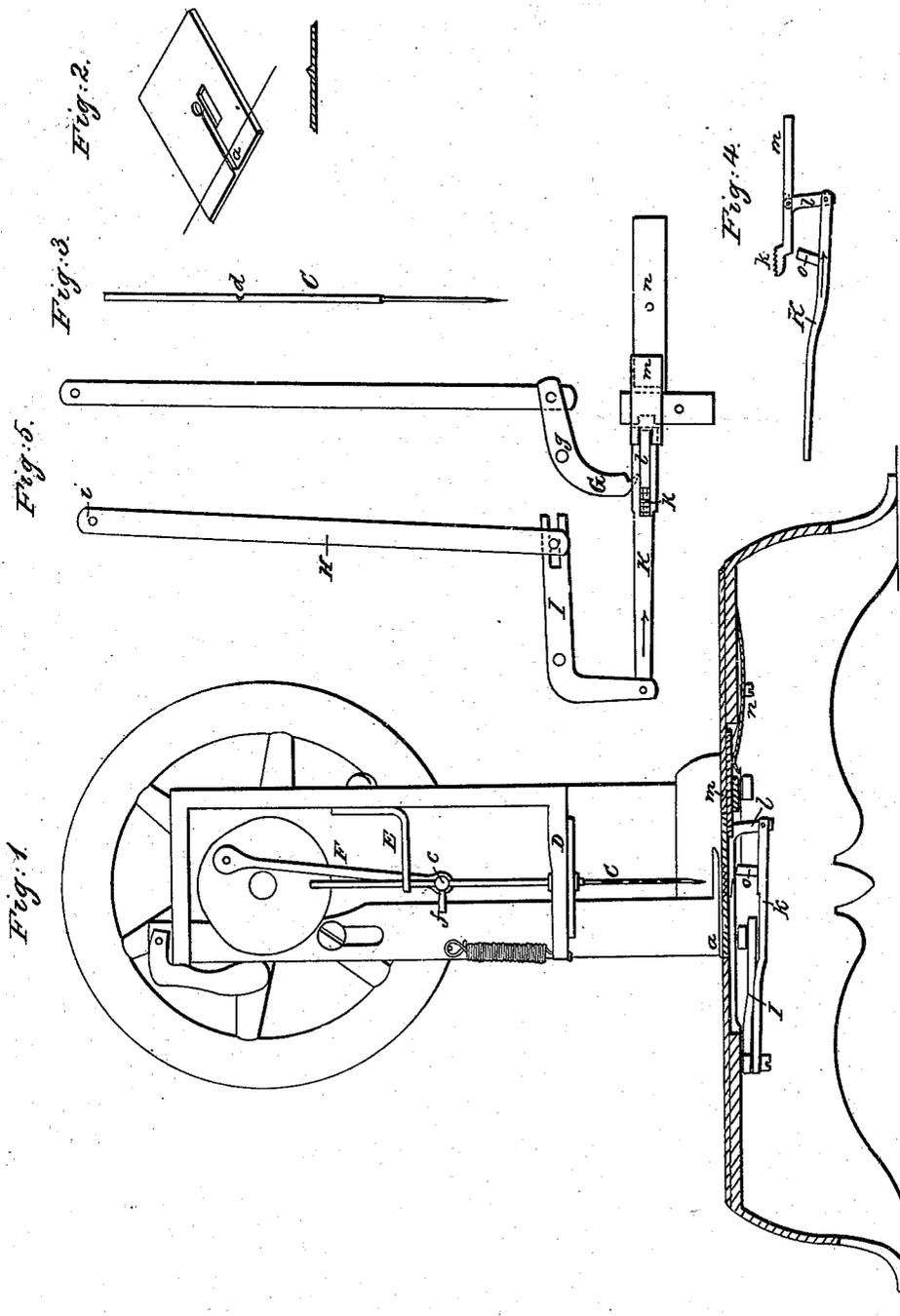


FITTS & WHIPPLE.
Sewing Machine.

No. 21,250.

Patented Aug. 24, 1858.



UNITED STATES PATENT OFFICE.

R. B. FITTS AND MILTON D. WHIPPLE, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 21,250, dated August 24, 1853.

To all whom it may concern:

Be it known that we, R. B. FITTS and MILTON D. WHIPPLE, both of Charlestown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical section and elevation; Figs. 2, 3, 4, and 5, details to be referred to hereinafter.

The first part of our invention has for its object more perfectly to steady and guide the cloth in its passage through the machine, and to prevent it from moving frivolously as the sewing proceeds; and it consists in the use of an angular guide upon the table immediately beneath the pressure-foot, which lies in the direction in which the cloth is fed, and causes it to advance in a straight line except when it is guided or turned by the hand of the operator. This guide, which we have called a "keel-guide," from the nature of its operation, is seen at *a*, Fig. 1, and also in Fig. 2.

The needle which we employ, in lieu of being confined, as usual, in a vibrating needle-bar, is secured directly to the pitman which actuates it, and runs in guides upon the frame, whereby this portion of the mechanism is much simplified, and the needle may instantly be adjusted not only with its eye at the proper distance from the table, but also in the required plane with respect to the hook.

C, Figs. 1 and 3, is the needle, which is provided with a cylindrical shank that slides freely in the guides D E. The pitman F carries a wrist, *c*, at its lower extremity, which is perforated with two holes—one to receive the needle, and the other at right angles thereto to receive a pin, *f*, which holds the needle in place. That the needle may always be at the proper distance from the table, with its eye in the required plane with respect to the hook, a notch, *d*, is filed in the shank of the needle, into which enters the pin *f*, and thus without the care and attention heretofore required for the purpose the needle may be instantly adjusted in position, even by an inexperienced hand. To avoid the possibility of error upon this point, the hole for the reception of the pin *f* is so arranged that it will not receive this pin when the notch in the needle is not in position to receive it.

G is the hook, which vibrates round a pivot, *g*, and is actuated by suitable connections with the main driving-cam, which need not be further explained, as they form no part of our present invention. From the same cam (not seen upon the drawings) motion is communicated to the feed, which operates as follows: A vertical rod actuated by the cam is connected at its lower extremity to the horizontal rod H at *i*, the other end of the latter rod being jointed to the bent lever I, Fig. 4, which in turn gives motion to a bar, K. The feeding-finger *h* is attached to and makes part of a bent lever, *l*, which is pivoted to a sliding bar, *m*, the spring *n* serving to keep this bar pressed up against the under side of the table, by which means this bar is held steadily and prevented from vibrating. One end of the lever K is pivoted to the lever *l*, and from the former rises a post, *o*, directly beneath the feeding-finger.

The operation of the parts is as follows: As the bar K is moved in the direction of its arrow, Figs. 4 and 5, the feeding-finger is first drawn down (by the pivoting of the lever *l*) until it strikes against the post *o*. As the bar K continues in the same direction, the plate *m* slides back, and when the bar K moves in the opposite direction it first raises the feeding-finger into contact with the cloth, and then moves it a sufficient distance to give the feed.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The keel-guide *a* beneath the pressure-foot, operating as set forth, for the purpose specified.
2. Causing the shank of the needle to play vertically in guides and connecting the pitman directly thereto, as described.
3. Securing the needle in place by means of the pin *f* when its shank is provided with a notch to insure its proper position with respect to the hook and the table, as set forth.
4. The peculiar arrangement of the bar K and its post *o* with the bent lever *l*, and sliding plate *m*, and spring *n*, operating as and for the purposes herein set forth.

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MILTON D. WHIPPLE.

Witnesses:

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