J. A. TRUE.

Thread-Controlling Device for Sewing-Machines.

No. 221,481. Patented Nov. 11, 1879.

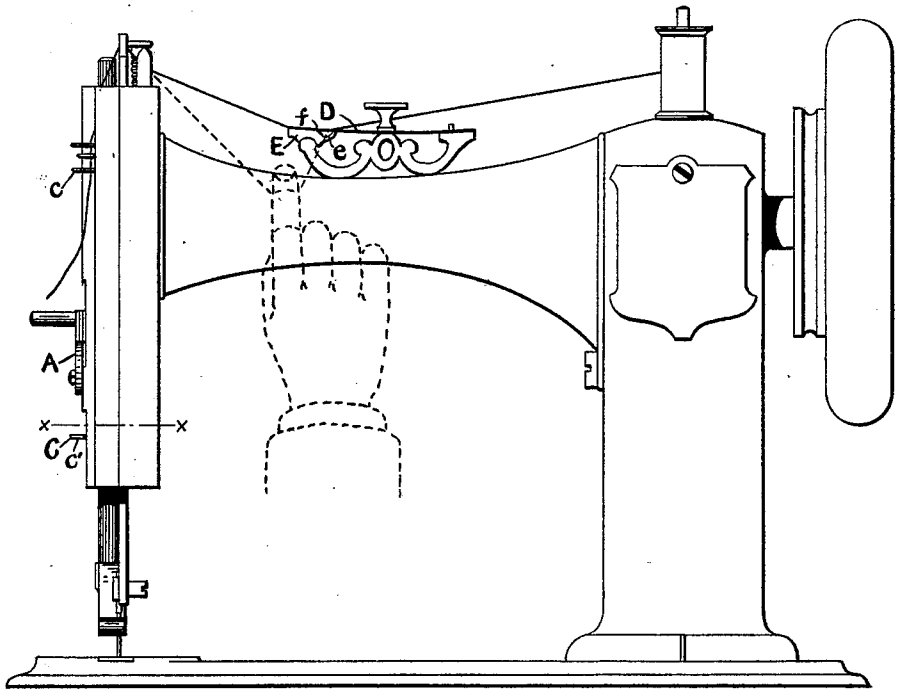

FIG. 1.

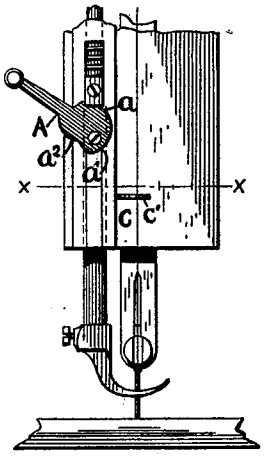

FIG. 2.

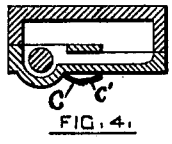

FIG. 4.

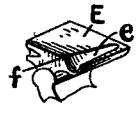

FIG. 5.

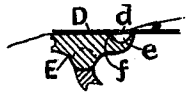

FIG. 6.

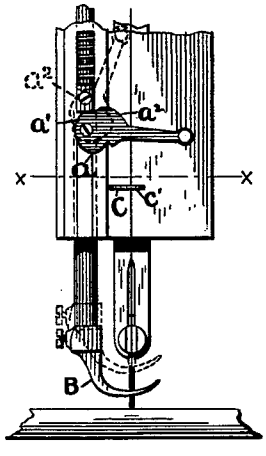

FIG. 3.

ATTEST.

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IMPROVEMENT IN THREAD-CONTROLLING DEVICES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **221,481**, dated November 11, 1879; application filed October 2, 1879.

To all whom it may concern:

Be it known that I, JAMES A. TRUE, of the city and county of Providence, and State of Rhode Island, have invented certain new and useful Improvements in Thread-Controlling Devices for Sewing-Machines, which improvements are fully described in the following specification, and illustrated in the accompanying drawings, making a part of the same.

Referring to the drawings, Figure 1 represents, in side elevation, a sewing-machine having my improvements. Figs. 2 and 3 are front views of the same. Fig. 4 shows arrangement of self-threading guide-eye section, being taken on line *x x*. Fig. 5 represents, in perspective, improved swiveled seat of tension device; and Fig. 6 shows, in vertical section, said swiveled seat and tension-plate with thread between.

For raising the presser-foot to various desirable positions I use, as heretofore, a cam-lever, A, provided with three cam-faces, *a*, *a'*, and a^2, the same being clearly shown in the drawings in two positions, and still another position of the presser-foot B is indicated by dotted lines in Fig. 3.

One portion of my improvement consists in the use and construction of a self-threading guide-eye, C, placed upon the face-plate of the head of the machine, as shown in Figs. 1, 3, and 4.

Heretofore trouble has sometimes been experienced from the entanglement, with the presser-foot lever, of that portion of the thread between the upper and usual guide-eye, *c*, Fig. 1, and the eye of the needle when the said thread is slack. This difficulty I obviate by the use of the said guide-eye C, which, when the thread is once introduced into it, prevents any entanglement with adjacent parts of the machine. That the use of this eye may not cause loss of time to the operator in threading the machine it is made self-threading. This is accomplished by leaving its free end a slight distance away from the face-plate, by giving it an angular shape, as shown in Fig. 4, so that one side, *c'*, is inclined toward the face-plate, and by locating it on the face-plate in the path of the thread, but slightly out of line centrally with the thread between the upper eye and the needle when said thread is drawn taut, as shown in Figs. 2 and 4.

In threading the machine no attention is paid to the eye C, the thread not being passed through it at the expense of lost time.

The machine automatically performs the operation, for when a stitch has been taken, and the ascending thread is tightened by the take-up, it bears upon the inclined surface *c'* of the eye, and passes down said inclined surface around the end of the eye and into place, and this invariably occurs not later than the second or third stitch.

Another improvement to be considered relates to the tension device; and it consists in the construction of the swiveled tension-plate seat.

Much inconvenience and loss of time have heretofore been exper ieed in the use of the old tension device, where the thread passes through an orifice, *d*, in the spring-plate D, and then between said plate and a swiveled head, E, as shown in Fig. 6, for the reason that care had to be exercised in threading the tension device to pull the thread outward between the plate and seat, to insure tension on the thread, and prevent it from catching under the corner of the seat. Furthermore, when the operator desired, upon the completion of work, to draw thread from the spool, it had to be inconveniently obtained by pulling the thread forward from the tension device. To obviate these difficulties I provide the swiveled seat E with a rounded V-groove, *e*, as shown in Figs. 5 and 6, directly under the orifice *d* in the spring-plate D, which allows the thread to be readily passed through the orifice and out through the groove in threading, so that when the machine is started the thread passes between the plate and seat without mishap or detention, the corner *f* of the groove in the seat being rounded for the purpose. By this construction of the seat E thread can be more conveniently obtained from the spool by the operator, it being only necessary to pass the finger over the thread, as shown by dotted lines in Fig. 1, and pull the same outward, or outward and downward, the strain being quickly removed from the thread, and it being freely delivered from the groove.

Having described my improvement, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the reciprocating bar and its needle, of a thread-guide, *c*, which is located in the vertical path of the thread on its way to the needle, and is open at one side and inclined on its front surface toward the opening, substantially as described.

2. In a tension device for a sewing-machine, the combination, with a spring tension-plate, of a swiveled seat constructed with a transverse trumpet-shaped groove, for enabling the thread to be conveniently manipulated, substantially as described.

JAMES A. TRUE.

Witnesses:
J. C. B. WOODS,
THOMAS F. COSGROVE.