E. S. NORCOMBE.

SEWING-MACHINE NEEDLE-SETTERS AND THREADERS.

No. 178,662. Patented June 13, 1876.

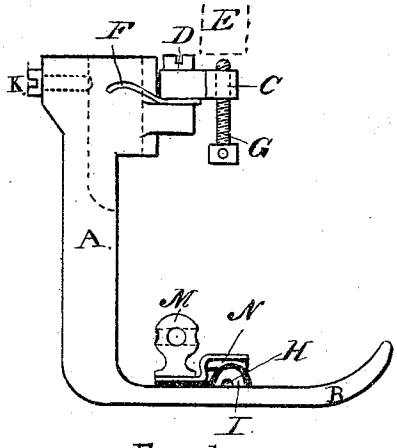

Fig. 1.

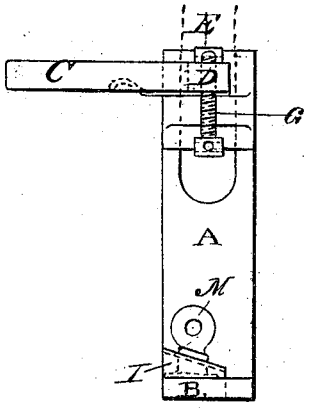

Fig. 3.

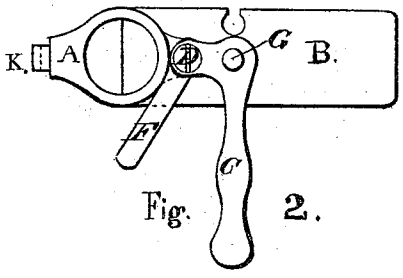

Fig. 2.

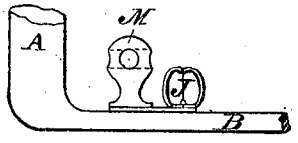

Fig. 5.

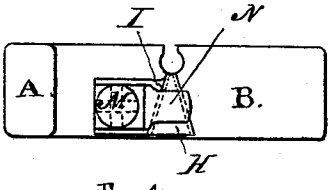

Fig. 4.

WITNESSES.

Wm. P. Thompson

Edward S. Colton

INVENTOR.

Edmund S. Norcombe

UNITED STATES PATENT OFFICE.

EDMUND S. NORCOMBE, OF LIVERPOOL, ENGLAND.

IMPROVEMENT IN SEWING-MACHINE-NEEDLE SETTERS AND THREADERS.

Specification forming part of Letters Patent No. **178,662**, dated June 13, 1876; application filed March 18, 1876.

To all whom it may concern:

Be it known that I, EDMUND SQUIRE NORCOMBE, of Liverpool, in the county of Lancaster, in the Kingdom of England, have invented a Needle Threading and Setting Attachment for Sewing-Machines, of which the following is a specification:

The object of my invention is an apparatus, forming part and parcel of a sewing-machine, to enable the operator to set the needle and to thread it with little trouble. It is best described by the aid of the accompanying drawings, in which—

Figure 1 is a side view of the apparatus as made to be attached to the sewing-machine. Fig. 2 is a plan; Fig. 3, front view; Fig. 4, Fig. 4, section showing presser-foot; Fig. 5, extra cone used for very fine needles.

In these, A is the shank, and B the presser-foot, as in ordinary sewing-machines. C is a horizontal stop, pivoted on axis D, and capable of swinging round under the needle-bar or lever E, or of swinging clear thereof, and being kept clear by the spring F. G is a screw for regulating the exact height useful in some machines, such as the Singer, but generally dispensed with. H, a conical hollow, formed either of spring-steel entirely, as in the fine-needle attachment J, or of a steel-spring, I, and the presser-foot B. This conical hollow points directly to the exact point where the needle-eye would come in an accurately-set needle when the needle-bar is stopped by the stop C. K is a screw for screwing the apparatus tight to the shank of the sewing-machine.

The mode of action in setting a needle is as follows: The needle is slid up into the needle bar or lever, which is then lowered until stopped by the stop C, and a fine needle run through the cone H is made to pierce the eye of the sewing-machine needle. To thread the needle, bring out the stop C, let the needle-bar rest thereon, and poke the thread through the cone or semi-cone H, when it must enter the eye exactly opposite. Taking hold of the threaded end, slide the other between the spring I (which gives with the pressure) and the presser-foot B. To prevent the spring giving too much with an accidental heavy strain, I place over it a stout projecting bar, N, both the cone-spring and projecting bar being fastened down by the screw M, and I make the hole in the cone-spring considerably larger than the diameter of the screw, for both lateral and transverse adjustment. For convenience' sake I usually give this screw a round head pierced at right angles, or at angles of sixty degrees, with podger-holes, so that it can be turned round by an ordinary needle. The fine-needle attachment, composed entirely of steel, is split entirely across the cone of the top, and nearly so at the bottom. The cone consequently opens and allows the thread to escape with a very slight upward pressure. Of course, innumerable shapes might be shown for the cone and the mode of forming it, also for stop H, but they all must follow the same general law.

I claim—

1. The combination of the swinging stop C, secured to the presser-foot bar or other stationary part of the machine, with the needle-bar E, substantially as described, whereby said stop serves to hold the needle-bar at the proper height for setting the needle, as set forth.

2. The combination of the swinging stop C, set-screw G, needle-bar E, and presser-foot bar A, substantially as described.

3. In combination with the presser-foot of a sewing-machine, a needle-threading cone secured to said foot, substantially as described.

4. In combination with the spring-cone I, the additional spring or clamp N, secured upon the presser-foot B by a screw, M, substantially as and for the purpose set forth.

EDMUND SQUIRE NORCOMBE.

Witnesses:

WM. P. THOMPSON,

EDWARD G. COLTON.