E. SAUTER.

Device for Turning Machine-Needle Blanks.

No. 160,238. Patented Feb. 23, 1875.

fig 1

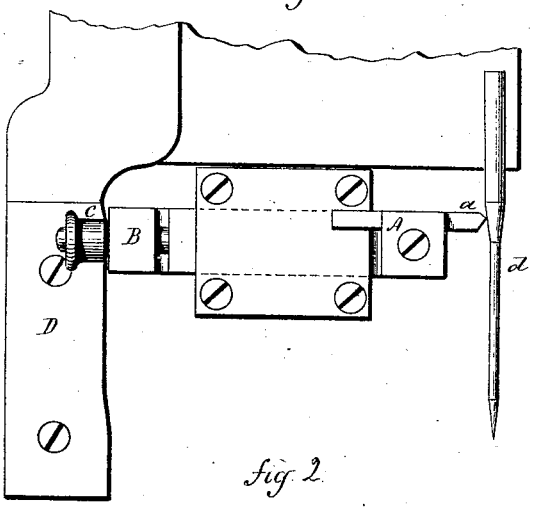


fig 2

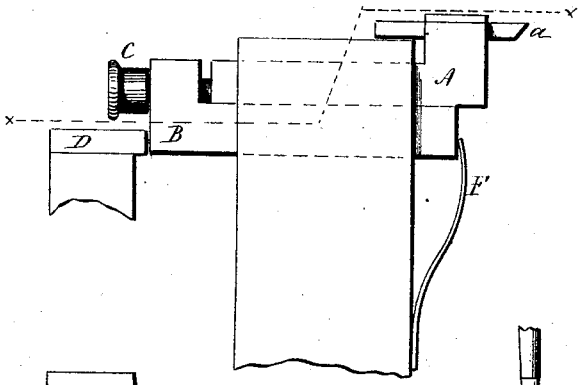
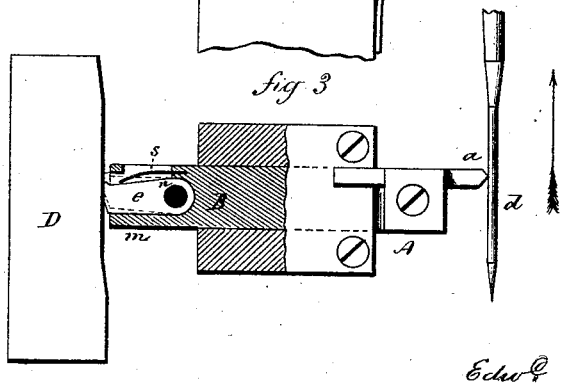


fig 3



Witnesses.
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UNITED STATES PATENT OFFICE.

EDWARD SAUTER, OF BIRMINGHAM, CONNECTICUT.

IMPROVEMENT IN DEVICES FOR TURNING MACHINE-NEEDLE BLANKS.

Specification forming part of Letters Patent No. **160,238**, dated February 23, 1875; application filed December 26, 1874.

To all whom it may concern:

Be it known that I, EDWARD SAUTER, of Birmingham, in the county of New Haven and State of Connecticut, have invented a new Improvement in Machine for Turning-Needles; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, plan or top view; Fig. 2, side view; Fig. 3, sectional plan view.

This invention relates to an improvement in the device for guiding the tool in machines for turning needles, designed more especially for the manufacture of sewing-machine needles.

In the machines for turning needles, as usually constructed, the cutter is guided along the blank by a fixed former, and, after making the cut, returns along the same former; hence the cutter drags on the needle, and leaves a mark, defacing the needle.

The object of this invention is to allow the tool to fall back from the needle after it has performed its work, and, returning to the place of beginning, be automatically reset for turning another needle.

The invention consists in a jointed foot arranged on the tool stock or holder, (which foot rides upon the former to hold the tool up to its work as it is moved along to make its cut, but on the return of the tool the said foot turns to allow the tool-holder to fall back,) combined with springs to make the action of the foot automatic.

A is the tool holder, carrying the tool *a*, set upon the stock B, and made adjustable by a screw-nut, C, in the usual manner. D is the former, lying in rear of the stock B, parallel to the needle *d* being turned, and so that as the tool-stock is moved along the tool will be forced out and in according to the irregularities of the former, these irregularities corresponding to the shape of the needle from shank to point; hence the needle will be brought to the required shape by the cutter thus guided.

So far this is substantially the usual construction. After the cutter has done its work upon the needle, it returns to the place of beginning before the wrought needle is removed; hence it will necessarily drag back along the surface of the needle, leaving a mark thereon, which must, by subsequent operation, be removed. To avoid this difficulty I hang a foot, *e*, in the tool stock or holder upon a pivot, *n*, which rides against the former D, as seen in Fig. 3, and as the tool is moved in the direction denoted by the arrow the foot takes a bearing in the tool-stock against one side, *m*, and forms the working point against the former, to guide the tool; but on the return of the tool-stock the friction between the foot and former will turn the foot to one side, as denoted in broken lines, Fig. 3, bringing the heel of the foot in contact with the former. The heel is cut back or shortened, so that the foot in turning upon the heel allows the cutter-stock to be forced back by the spring F, or other device for that purpose. This takes the tool away from the needle during its return; but as soon as it again starts for its cut upon another needle, the foot will turn back against its bearing *m*, and force the tool up to its work. To insure the return of the foot against its bearing *m*, a spring, *s*, is introduced to force it back; but this spring must not be so strong as to prevent the foot being turned to its heel by the friction between the foot and former.

By this improvement the tool will automatically draw back and reset for each cut.

In machines where a cutter-stock is not used, but the tool-holder allowed to run directly against the former, the foot will be applied directly to the holder; therefore, in using the expression "tool-holder," I wish to be understood as meaning that part of the machine through which the tool is guided by the former.

I claim—

In a machine for turning needles, the combination of the former D, the tool-holder, and the foot *e*, having its heel cut back, as described, hung therein with the springs S and F, substantially as and for the purpose specified.

EDWARD SAUTER.

Witnesses:

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A. LEININGER.