

E. S. NORCOMBE.

SEWING-MACHINE NEEDLE-SETTERS AND THREADERS.

No. 178,661.

Patented June 13, 1876.

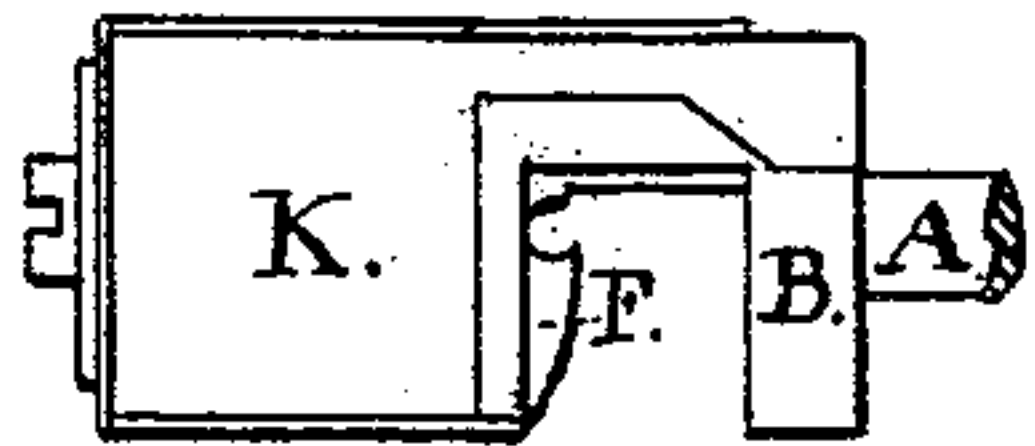


Fig. 6.

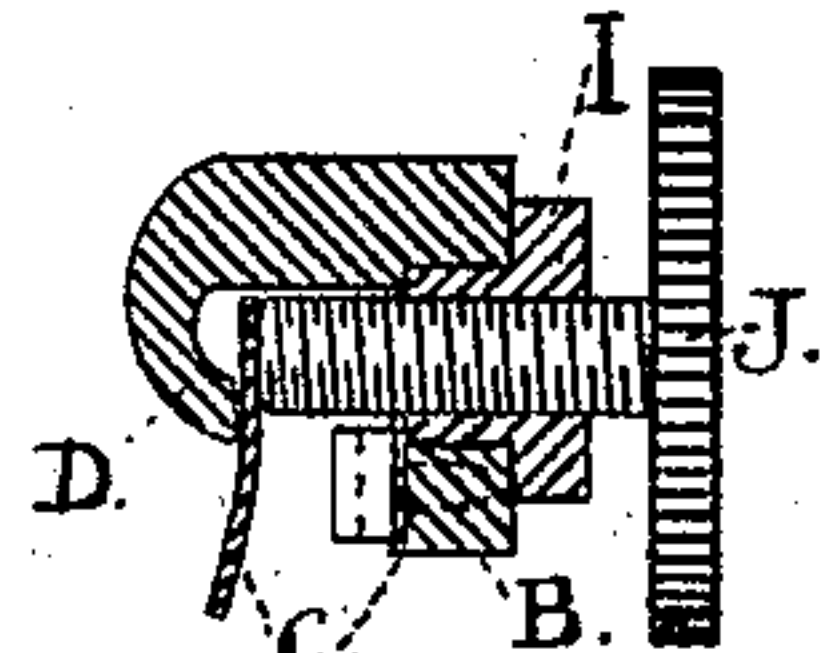


Fig. 5.

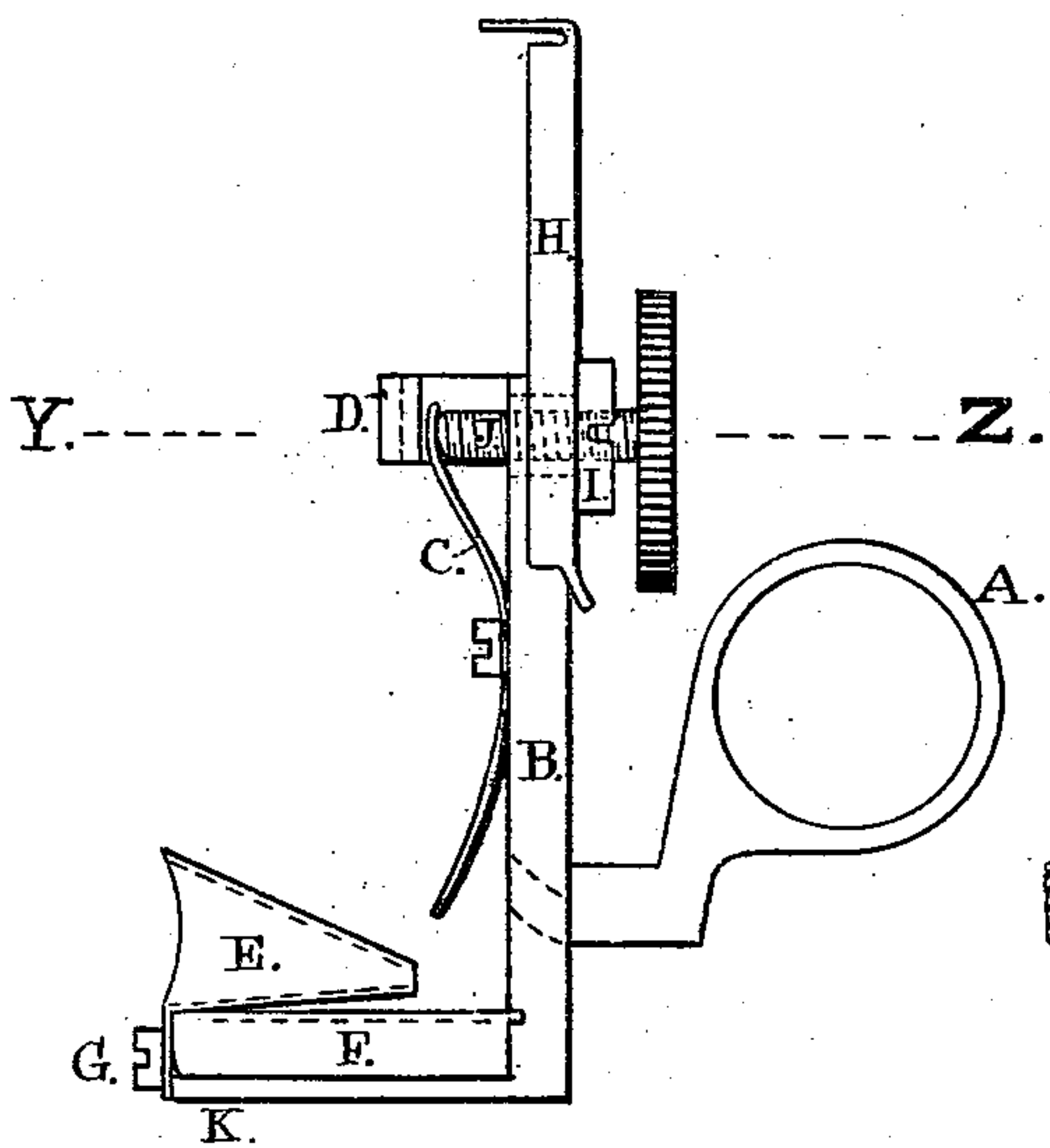


Fig. 1.

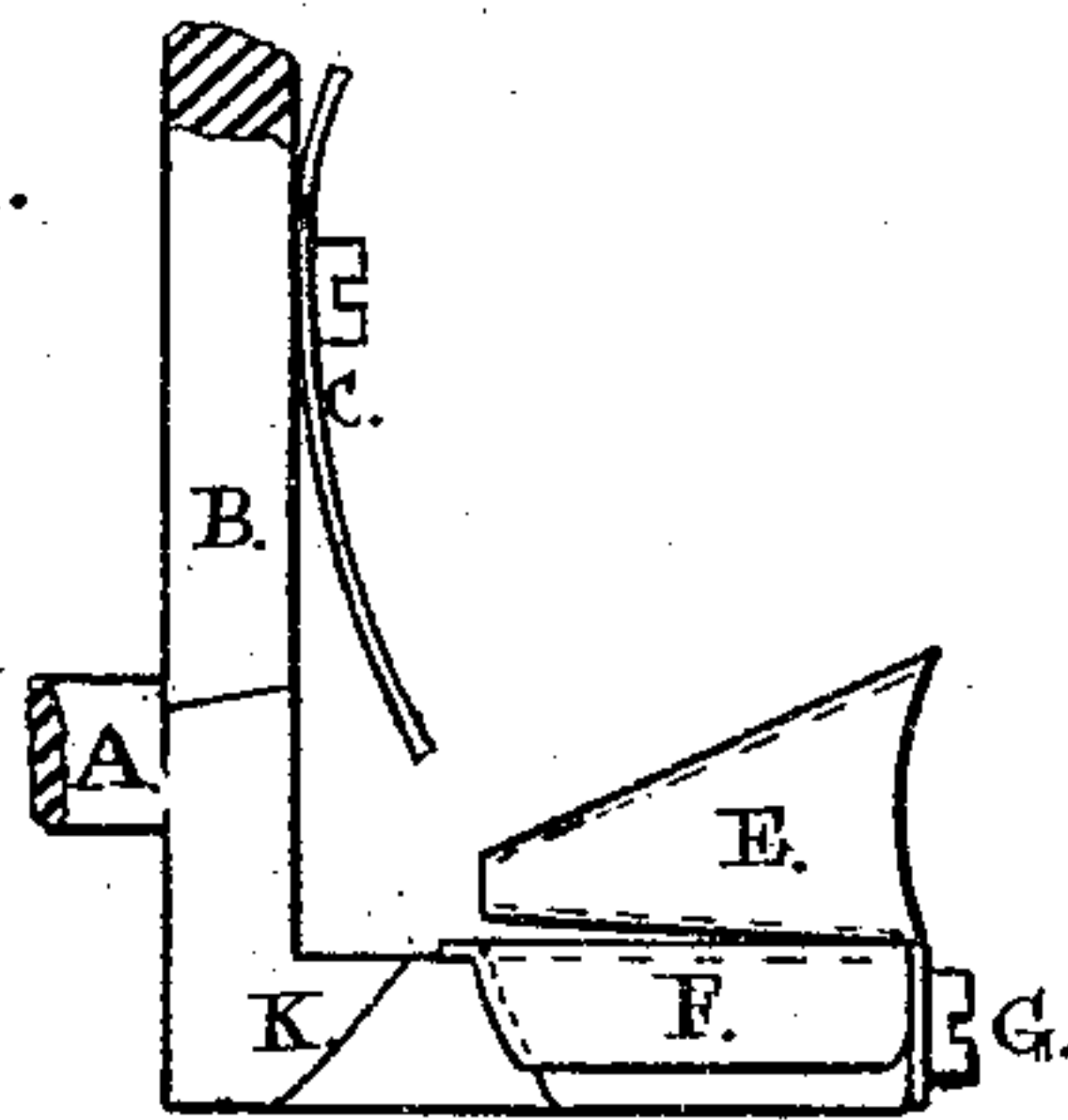


Fig. 4.

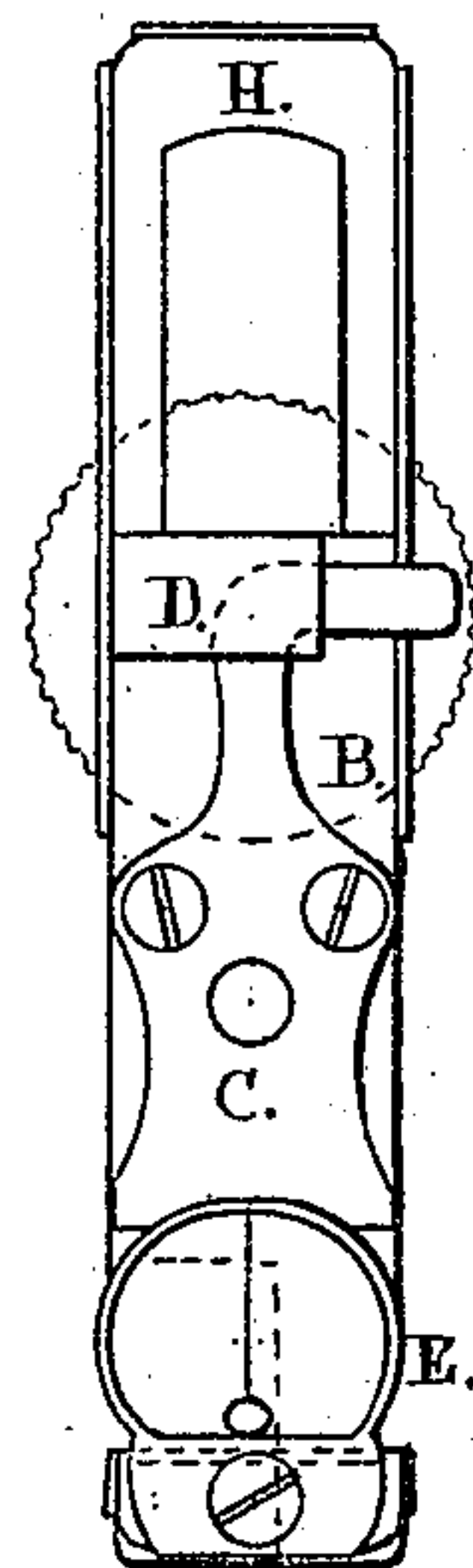


Fig. 3.

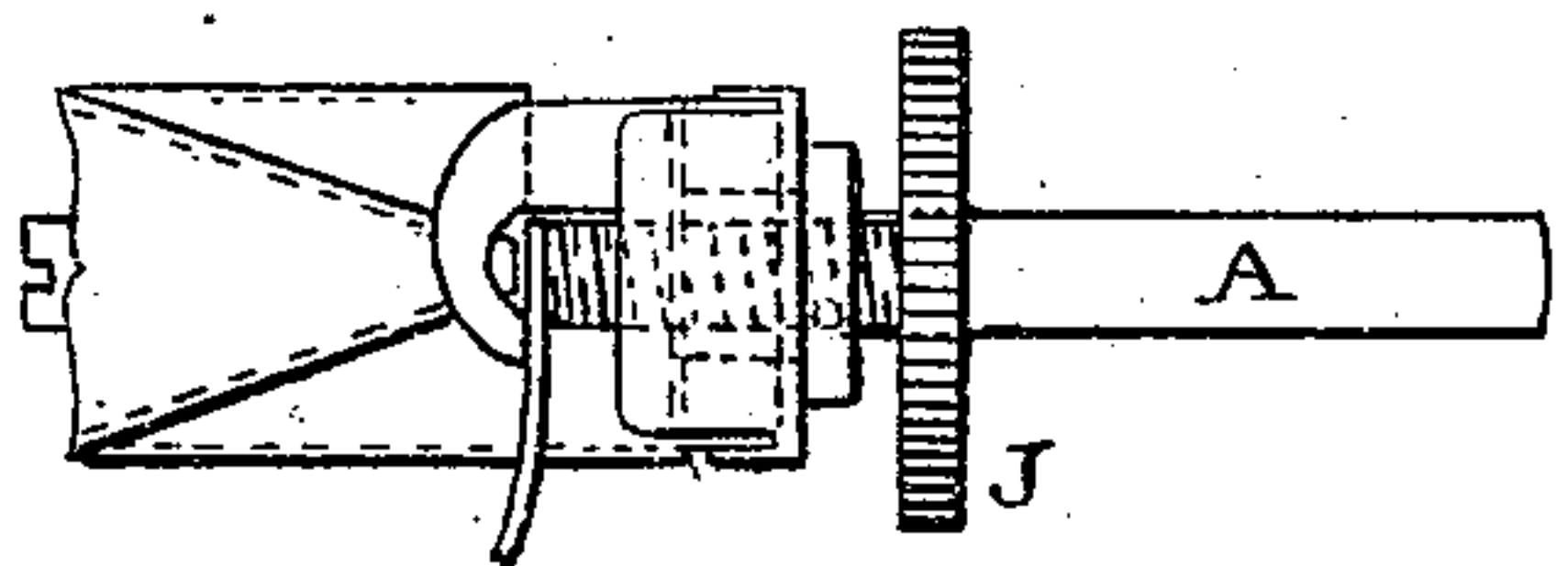


Fig. 2.



Fig. 7.

WITNESSES.

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EDMUND S. NORCOMBE, OF LIVERPOOL, ENGLAND.

IMPROVEMENT IN SEWING-MACHINE-NEEDLE SETTERS AND THREADERS.

Specification forming part of Letters Patent No. **178,661**, 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 an Improvement in Implements for Setting and Threading the Needles of Sewing-Machines, of which the following is a specification:

The object of this invention is to make a portable machine or implement that will enable the operator to easily set or adjust a needle in a sewing-machine with its eye exactly at any desired distance from the bottom of the needle bar or lever, and facing in the required direction, and also that will enable the worker to thread the needle with little trouble, even when unable to see the eye of the needle distinctly.

Figure 1 shows a side view of the instrument; Fig. 2, a plan; Fig. 3, a front view; Fig. 4, a side view of the lower part, showing the opposite side of the instrument to that shown in Fig. 1; Fig. 5, a section through Z Y in Fig. 1; Fig. 6, a view of the bottom turned upside down; Fig. 7, plan of a piece of sheet-steel when the whole is stamped out in one piece.

In these, A is the handle; B, bracket or frame; C, mainspring; D, hook on bracket, for retaining the needle when inserted between it and the lower hook F and the mainspring, hereinafter described; E, hollow cone of spring-steel, entirely divided by a slit at top, and entirely or partially so by a similar slit at bottom. This cone and the hook base-plate F could be stamped out of one piece of spring-steel, and then bent to suit. G is a screw for securing F. The hole in F is sometimes slotted horizontally, so as to admit of adjustment. H is a sliding piece called the "slider," stamped out of spring-steel or other stiff material attached to bracket by screw I, the use of which is to secure the slider after adjusting the same, but capable of being adjusted vertically to suit different sewing-machines. [Note: When the instrument is made specially for one particular machine this part is cast or made in one with the main bracket or frame.] J is a screw passing through screw I, and used to press the upper end of the mainspring C against the needle when required. F is the lower hook, forming the base-plate

that supports the cone E, and is usually made of spring-steel; D, as aforesaid, the upper hook, and between these and the mainspring the needle is held exactly opposite the cone E when the implement is used. K is the foot of the main frame, and is cut away beneath the hook F to accommodate curved needles as well as straight.

The manner of using the machine is as follows: The implement is now inclined and the foot placed against the needle, the needle being between the mainspring and the hook in the foot. The implement is then placed perpendicular, and the hook D is hooked on the needle from the opposite side of the needle. The implement is thus supported on the needle by the mainspring, the hook D, and the lower hook F. Now, slightly press up the slider H until stopped by the bottom of the needle bar or lever. Now, see that the eye of the needle is opposite the small end of the cone, so that a clear hole can be seen through, or a small needle passed through. If correct, carefully tighten the screw I, so as to firmly secure the slider H, which is now permanently adjusted for this particular machine, and need never be touched again, except to adapt the implement to other machines.

This operation being done, to set needles in future, the needle, whether curved or otherwise, is slid in between the mainspring and the hooks D and F until the eye is exactly opposite the cone E. This can be more readily seen at the back of the implement. The flat edge of the spring, pressing against the groove part at the back, compels the needle to take its proper position at right angles to the small end of the cone. The needle being in position, the screw J is screwed up tight, so as to firmly grasp it, and the needle-shank is pushed up into the needle bar or lever till the slider H, previously adjusted, comes against the needle-holder. Then, the handle being held so as to place the implement, and, consequently, the needle-eye, in the right position, the needle is screwed tight into the needle bar or lever by the usual set-screws, and it is accurately set.

To thread the needle, the apparatus is slid onto it, and elevated till the bracket H touches the bottom of the needle bar or lever, care be-

ing taken that the implement is pointing in the right direction. The thread is then passed through the cone, and is obliged to enter the eye, which is exactly behind the small end of the cone. The threaded end being held, a slight pull on the thread causes the latter to slip through the slit in the cone, the springy nature of the latter causing the slit to open with pressure, and close after the thread has passed.

I sometimes stamp the whole instrument out of a single piece of steel. The arrangement is shown in Fig. 7.

One advantage of my apparatus should specially be noticed. The spring, pressing against the flat or grooved side of the needle,

forces the needle to accurately face in a direction coincident with the vertical central plane of the implement, so there is no need of adjusting the needle in the implement, except as regards height.

I claim as my invention—

A needle setter and threader consisting of the frame B, provided with the flat spring C and set-screw J, and the foot-piece F, with the slotted spring-cone E, all constructed to operate substantially as described.

EDMUND SQUIRE NORCOMBE.

Witnesses:

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EDWARD G. COLTON.