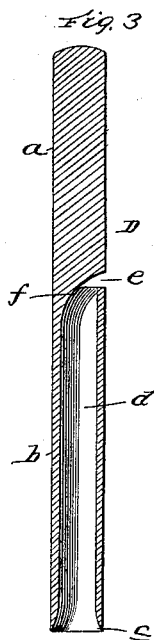
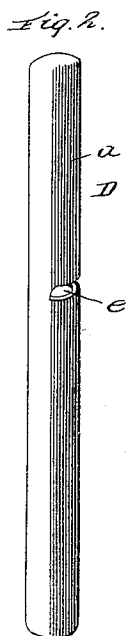
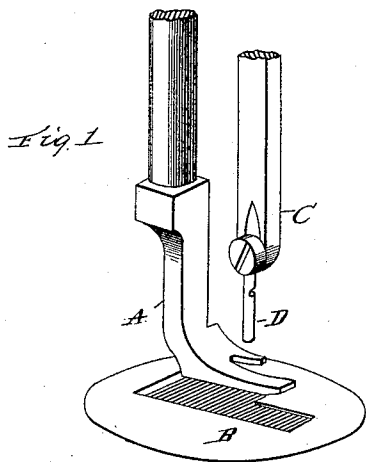


(No Model.)

M. R. THURSTON.
CYLINDRICAL SEWING MACHINE NEEDLE.

No. 480,150.

Patented Aug. 2, 1892.



Witnesses:

E. H. Raeder
H. F. Matthews

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UNITED STATES PATENT OFFICE.

MINNETTIE R. THURSTON, OF KALAMAZOO, MICHIGAN.

CYLINDRICAL SEWING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 480,150, dated August 2, 1892.

Application filed August 17, 1891. Serial No. 402,948. (No model.)

To all whom it may concern:

Be it known that I, MINNETTIE R. THURSTON, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Cylindrical Sewing-Machine Needles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in needles or devices to be used in connection with a sewing-machine for producing paper stencils or working designs, letters, characters, &c., in paper; and it is designed as an improvement upon such needles as shown and described in the patent of W. C. Utley, dated November 21, 1882, No. 267,730.

The object of my improvements is to provide a needle which will make a clean-cut hole or perforation in the paper operated upon, so as to remove the cut-out piece and not simply displace the material, the needle being so constructed that the piece removed will be forced up into the stem, which is very desirable in keeping clear the design to be worked upon, and after a sufficient amount of these cut pieces reach a point in the top of the stem they are discharged through a lateral opening.

A further object of the invention is to adapt the discharge end of the passage or channel in the needle to allow a free discharge of the cut or removed pieces of paper.

In producing designs on paper for school purposes and the like, it is essential that each perforation should be clean cut, so that when placed upon a backing of contrasting color the design may show its outline clearly without any broken lines, and when the designs are cut upon dark or other colored paper the perforations will display to a great advantage, if clean cut, by simply holding it to the light.

I am aware that it is not new to provide a punch with a hollow stem and a cross-opening at the top of the hollow portion to discharge the cut disks, such devices being principally used for cutting leather, and in operation receive a blow from a hammer on a

head provided for that purpose, so that it will be understood that my invention consists essentially in a needle having a solid shank, a hollow stem, terminating at one end in a cutting edge, and at its upper end provided with a lateral opening and beveled inner walls to facilitate the discharge of the cut or removed pieces.

In the accompanying drawings I have illustrated in Figure 1 a perspective view of a presser-foot, throat-plate, and needle-bar of a sewing-machine with my improved needle or cutter in position. Fig. 2 is a side view of the needle or cutter removed, and Fig. 3 is a central longitudinal sectional view.

Referring by letter to said drawings, A indicates a presser-foot, B a throat-plate, and C a needle-bar, all of which may be of any ordinary or approved construction, as they form no part of my invention, but are here shown for the purpose of illustrating the application and use of my improved needle.

D indicates my needle or cutter. This needle is formed from a single piece of steel or other suitable material having a solid shank *a* and a hollow stem *b*. This stem has its lower end terminating in a circular cutting-edge *c*, and the bore *d*, which should be truly planed, so as to offer no obstruction to the free passage of the removed pieces, extends about one-half of the length of the needle and opens into a notch formed at the base of the solid shank in the side of the needle. The upper terminal end of the bore is beveled, as shown at *f*, in the walls opposite the notch or opening *e*, so that the cut pieces as they rise will be forced out of said notch and the bore prevented from choking.

In operation the needle is secured to the needle-bar of the machine similar to an ordinary sewing-needle, and after the paper to be worked upon has been placed in position beneath the presser-foot the machine may be operated in the usual manner, the paper being moved by the operator, so that the needle will cut out very small circular pieces on the lines of the design or character to be produced.

Having described my invention, what I claim is—

As an improved article of manufacture, the

needle for producing paper stencils herein shown and described, consisting, essentially, of the bar of steel having the solid shank *a*, adapted to be secured to the needle-bar of a
5 sewing-machine, and the hollow stem *b*, terminating at its lower end in a circular cutting-edge *c* and having the lateral notch *e* at its upper end for the discharge of the cut pieces, and also having the wall formed as at

f to facilitate the discharge of said pieces, so substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MINNETTIE R. THURSTON.

Witnesses:

DUDLEY C. ROLLINS,
LOTTIE ROLLINS.