A. WEMPLE.

Needle-Guard for Sewing-Machines.

No. 220,779. Patented Oct. 21, 1879.

Fig. 1

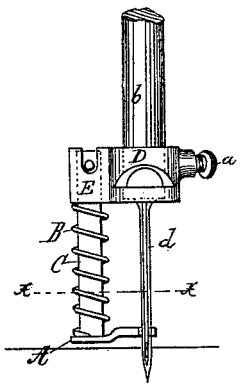



Fig. 2

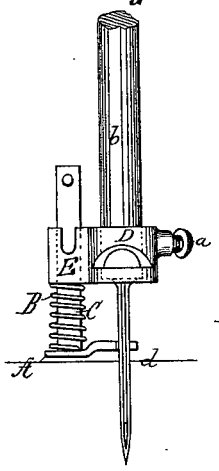
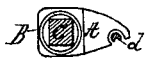



Fig. 3




Witnesses

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# UNITED STATES PATENT OFFICE.

ANDREW WEMPLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO ALBERT RANSOM AND CHARLES H. LOW, OF SAME PLACE.

## IMPROVEMENT IN NEEDLE-GUARDS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **220,779**, dated October 21, 1879; application filed July 18, 1878.

*To all whom it may concern:*

Be it known that I, ANDREW WEMPLE, of the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Needle-Guards for Sewing-Machines, of which the following is a full and complete specification, reference being had to the accompanying drawings.

My invention relates to an attachment for sewing-machines, and is designed to steady the needle in its descent through heavy fabrics or leather, by means of which said needle is prevented from being thrown out of its proper course, and thereby broken, by striking the needle plate or shuttle.

Figure 1 is an elevation, showing a portion of the needle-bar, the needle, and the needle-guard. Fig. 2 is a view of the same with their relative positions changed. Fig. 3 is a cross-section through the needle and adjacent parts on line *x x*, Fig. 1.

The needle-bar is represented by *b*. D is a collar placed on the lower end of the needle-bar, and secured thereto by means of a set-screw, *a*. To collar D, and as a part thereof, is formed a socket, E.

C is a bar held loosely in socket E, and is provided at its lower end with a foot, A. Foot A is provided with a notch or recess (shown in Fig. 3) that partially surrounds the needle for the purpose of bracing the latter. The length of bar C is such that the contact of foot A with the needle is just above the eye of said needle when the latter and the needle-bar are sufficiently elevated to admit of the greatest downward extension of said bar C, thus giving the greatest possible protection to the needle to prevent its swerving when entering the fabric, and at the same time not interfering with the operation of threading the needle.

In the downward stroke of the needle, foot A rests on the fabric, the socket E of collar D sliding down over the bar C. The upper end of bar C is provided with lugs or projections that strike the top of socket E, and thus limit the downward extension of said bar C when the needle-bar is raised, as shown in Fig. 1.

In a slow movement of the machine gravity is sufficient to give the downward extension to bar C; but in a rapid movement of the needle-bar the action of gravity is not sufficient, and therefore a spring, B, is introduced, whose action and construction are sufficiently indicated by the drawings.

The needle-guard is designed to be used in connection with a roller-presser, the foot A occupying a position on the opposite side of the needle from said roller-presser, so as not to interfere with the latter.

A flat presser-foot, as frequently made, occupying a position on one side of the needle, may also be used in connection with the needle-guard.

I am aware that a needle-guard consisting of a bar secured to the needle-bar and provided with suitable bearings for a movable and adjustable guard-rod surrounded by a spiral spring is not new, as such is shown in Patent No. 92,972, and I do not claim such, broadly, as my invention; but by my arrangement of the parts I form a small compact device or attachment which is fastened to the lower end of a needle-bar, thereby dispensing with all secondary fastenings and bar-guides, and reducing the weight of the guide-arm and spring, so that its action will be quicker and with less pressure or weight on the cloth, and produce a device which can be readily attached to or detached from any ordinary needle-bar.

Having thus fully described my said invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the slip-collar D, having projecting socket E, the bar C, spring B, and foot A, all constructed as described, and adapted for use on the needle-bar of a sewing-machine, substantially as and for the purposes herein set forth.

ANDREW WEMPLE.

Witnesses:

G. R. HOFFMAN,

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