

No. 860,213.

PATENTED JULY 16, 1907.

R. S. HILTMANN.
NEEDLE GUARD FOR SEWING MACHINES.
APPLICATION FILED JAN. 2, 1907.

Fig. 1.

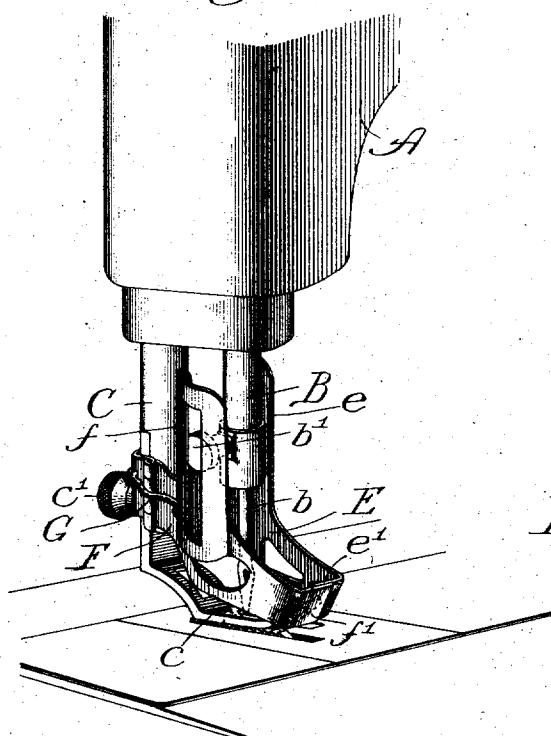


Fig. 2.

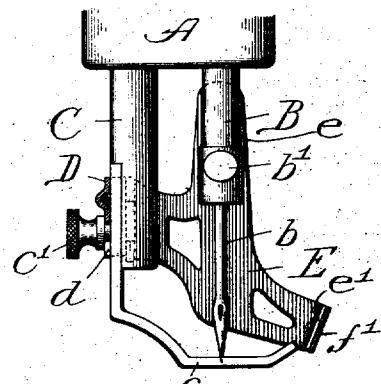


Fig. 3.

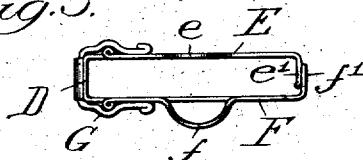


Fig. 4.

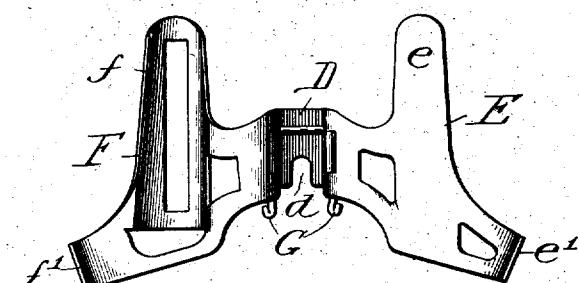


Fig. 5.

Witnesses:

Inventor:

Robert S. Hiltmann,
By Dyerforth, Dyerforth, Lee & Miles,
Attns.

UNITED STATES PATENT OFFICE.

ROBERT S. HILTMANN, OF CHICAGO, ILLINOIS.

NEEDLE-GUARD FOR SEWING-MACHINES.

No. 860,213.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed January 2, 1907. Serial No. 350,339.

To all whom it may concern:

Be it known that I, ROBERT S. HILTMANN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Needle-Guard for Sewing-Machines, of which the following is a specification.

My invention relates to certain new and useful improvements in needle guards for sewing machines, which is fully described and explained in the specifications and shown in the accompanying drawings, in which

Figure 1 is a perspective view of a portion of a sewing machine with my improved needle guard in place; Fig. 2 is a side elevation of the parts with a portion of the needle guard in place; Fig. 3 is a view of the needle guard alone, the needle guard being shown in its closed position; Fig. 4 is a similar view of the needle guard in its opened position; and Fig. 5 is a front elevation of the needle guard in its opened position, looking in the direction of the arrow, 5, in Fig. 4.

Referring to the drawings, A, is a portion of the frame of a sewing machine, from the lower end of which projects a vertically reciprocable needle bar, B, at the front, and a vertically reciprocable presser foot bar, C, at the rear. The needle bar, B, carries a needle, b, held in place by means of a set screw, b¹, and the presser foot bar, C, carries a presser foot, c, held in place by a set screw, c¹, said presser foot comprising a vertical portion connected to the presser foot bar, a horizontal portion lying beneath the needle bar and perforated for the passage of the needle, a diagonally disposed portion connecting said vertical and horizontal portions, and an upwardly-turned tip under which the cloth to be operated upon can pass. These parts are all of old and well known construction and their particular form and arrangement is capable of the greatest modification.

The parts as herein illustrated are substantially identical with corresponding parts of the Wheeler & 40 Wilson sewing machine now upon the market, and they are illustrated in this form because I happen to have applied my needle guard more particularly to this machine.

My improved needle guard consists of four portions connected together, a rear portion, D, adapted to be connected to the presser foot bar, two side portions, E and F on the right and left hand sides respectively, and suitably supported by said rear portion, D, and a locking device, G. The rear portion, D, which is of sheet metal, is provided with a notch, d, which can be slipped over the presser foot set screw, c¹, so that the structure can be held in place by loosening said set screw, placing the rear portion in the position shown in Fig. 2 of the drawings, and tightening up the set 55 screw.

The right hand side portion, E, is pivoted to the rear portion, D, and the same has an upwardly projecting integrally formed tongue, e, in position to lie adjacent to the reciprocable needle bar, B. The side portion has also a lip, e¹, turned at right angles to the plane of the side portion and adapted, when the side portion is swung forward, to lie in front of the forward point or tip of the presser foot, and when so positioned to slant diagonally forward and upward, as shown in Fig. 2, so as to direct the cloth to be operated upon into proper position, and not to interfere in any way with its passage beneath the presser foot.

The left hand side portion, F, is in general similar to the right hand portion, E, except that the upwardly projecting tongue, e, is omitted, and in its place an upwardly projecting, outwardly turned semi-cylindrical bead, f, is supplied. This bead is of such form and dimensions that when the left hand side portion, F, is swung up adjacent to the needle bar, as shown in Fig. 1, the needle set screw, b¹, will lie within the bead as illustrated. The left hand side portion, F, is provided, like the other side portion, E, with a lip, f¹, adapted to overlap the lip, e¹, as illustrated, so that the two lips together completely inclose the tip of the presser foot and the adjacent parts.

It will also be seen that the outlines of the two side portions are such that when the parts are in the position shown in Fig. 1, it will be practically impossible for the user of the sewing machine to get a finger into position to be injured by the needle.

The locking device, G, is made in the form of a U-shaped bail of wire, pivoted at its center to the rear portion, D, of the needle guard. When the parts are swung up to the position illustrated in Fig. 1, this locking device can be rotated upon its pivot and its arms 90 will swing down outside of the two side portions of the needle guard as shown in said figure, thereby locking them firmly in position, to form a complete inclosing structure for the moving parts of the machine. It will be seen that by this construction I secure a needle guard which makes the accidental injury of the user by the needle, a practical impossibility. Furthermore, the two side portions of the needle guard can be swung apart with the greatest ease, to permit the needle to be threaded or to permit one needle to be substituted for another, so that the practical operation of the machine is in no way interfered with.

When the needle guard is in its opened position, as shown in Fig. 4, the tips of the side portions project forward and necessarily present rather sharp points to 100 the cloth to be operated upon, so that when in this position the needle guard will very seriously interfere with the operation of the machine. This feature of operation practically forces the user of the machine, when the needle guard is in place, to keep the same in its 110

closed position at all times when the machine is in use, and I consider this feature of extreme importance.

It will be observed that the side portions of the device are provided with perforations of considerable size. The purpose of these perforations is to permit as much light as possible to be admitted to the interior of the guard, so that the operator can see the work which is being done as well as if the guard were not in position.

10. It will also be observed that I extend the side portions of the guard upward in the tongue, *e*, and the head, *f*, on the two sides of the moving needle bar. This construction is such that it is impossible for the user to get the fingers between the lower end of the 15 needle bar or the needle bar set screw, and the upper end of the guard, so as to be injured, as they can be in certain of the guards heretofore known.

I realize that considerable variation is possible in the details of the construction without departing from the 20 spirit of my invention; therefore I do not intend to limit myself to the specific form herein shown and described.

I regard as new and desire to secure by Letters Patent:—

25. 1. In a needle guard, portions which lie to the front of and to the sides of the needle, and portions which extend upwards along the line of the needle bar, above the set screw therein and lie outside the same.

2. In a needle guard, portions which lie to the front of and to the sides of the needle, and portions extending upwards at the sides of the needle bar and above the highest position of any shoulder or projection thereon, one of said portions being bent outwards to receive the set screw on said needle bar.

35. 3. In a needle guard, swinging portions which lie to the front of and to the sides of the needle, the portions which lie in front of the needle being adapted to engage the material when the portions are swung away from the needle, so as to check the progress of the material during the feeding 40 operation.

4. A needle guard having two swinging portions, which lie to the sides of the needle, said portions having extensions which lie in front of the needle when said portions are swung together, and which are adapted to engage the material to be operated upon when said portions are swung apart.

45. 5. In a needle guard, two portions which can be swung laterally toward the needle from opposite sides to prevent

access to the same, and which can be swung apart to expose the needle, said portions having vertical extensions adapted to lie on opposite sides of the needle bar and having at their free ends inturned lips adapted to overlap when said portions are swung toward the needle.

6. In a needle-guard, two portions which can be swung laterally toward the needle from opposite sides to prevent access to the same, and which can be swung apart to expose the needle, said portions having vertical extensions adapted to lie on opposite sides of the needle-bar and having at their free ends inturned lips adapted to overlap when said portions are swung toward the needle, and means for locking the portions in said position.

7. The combination with a plate adapted to be attached to a presser foot bar, of side portions carried thereby and adapted to lie at the two sides of the needle, and upward extensions lying along the needle bar, one of said extensions being outwardly curved to receive the needle set screw.

8. The combination with a plate adapted to be attached to a presser foot bar, of side portions pivoted to said plate and adapted to lie at the sides of the needle, and upward extensions carried by said side portions and adapted to lie along the needle bar.

9. The combination with a plate adapted to be attached to a presser foot bar, of side portions pivotally secured thereto and adapted to lie on the two sides of the needle, and upward extensions upon said side portions, lying along the needle bar, one of said extensions being outwardly curved to receive the needle set screw.

10. The combination with a plate adapted to be attached to a presser foot bar, of side portions adapted to lie at the two sides of the needle and pivotally supported by said plate, and lips upon said side portions adapted to lie in front of the needle and to extend upward to a point above which the needle ascends when side portions are swung together.

11. The combination with a plate adapted to be attached to a presser foot bar, of side portions pivoted thereto and adapted to lie at the two sides of the needle, and lips upon said side portions, lying in front of the needle, said lips slanting upward and forward to guide the material operated upon beneath the presser foot.

12. The combination with a plate adapted to be secured to a presser foot bar, of side portions pivotally secured to said plate and adapted to be swung together upon the two sides of the needle, and a U-shaped bail pivoted to said plate in position for its arms to be swung forward outside the side portions, locking them together.

ROBERT S. HILTMANN.

In presence of—

J. H. LANDES,
C. W. WASHBURN.

Correction in Letters Patent No. 860,213.

It is hereby certified that in Letters Patent No. 860,213, granted July 16, 1907, upon the application of Robert S. Hiltmann, of Chicago, Illinois, for an improvement in "Needle-Guards for Sewing-Machines," an error appears in the printed specification requiring correction, as follows: In line 78, page 1, the reference letter "l" should read "e"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 20th day of August, A. D., 1907.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.

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It will be observed that the side portions of the device are provided with perforations of considerable size. The purpose of these perforations is to permit as much light as possible to be admitted to the interior of the guard, so that the operator can see the work which is being done as well as if the guard were not in position.

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