J. WENSLEY.
Sewing-Machine.

No. 207,230. Patented Aug. 20, 1878.

Fig: 1

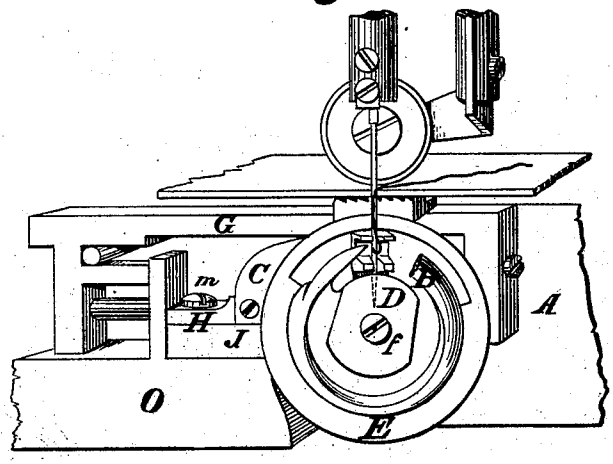

Fig: 2

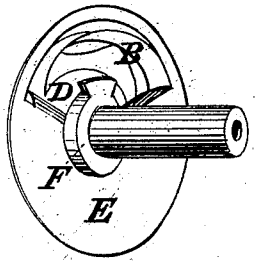

Fig 3

Fig: 4

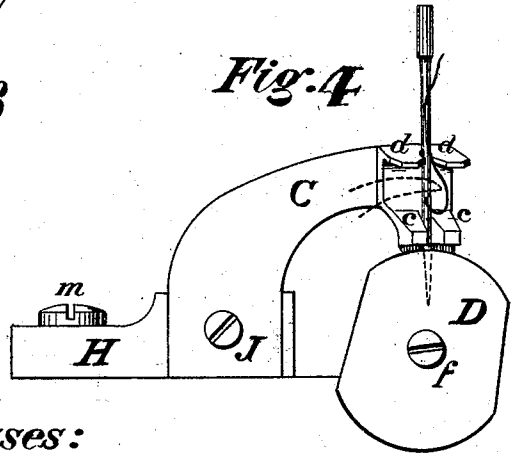

Fig: 5

Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES WENSLEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **207,230**, dated August 20, 1878; application filed September 19, 1877.

To all whom it may concern:

Be it known that I, JAMES WENSLEY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Sewing-Machines, especially those using the rotary hook, of which the following is a full and clear description, that will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The improvement consists, first, in a device for guiding and guarding the needle, and also assisting in the formation of the loop, thus doing away with the liability of the machine to break needles and miss stitches; second, in combining with the foregoing and the machine a needle-guide, to act in conjunction with the needle-guard and hook, for the purpose of preventing the needle from breaking by coming in contact with the point of said hook after its passage through the throat-plate.

Referring to the drawings, Figure 1 is an elevation or front view of the end of a Wheeler & Wilson No. 6 sewing-machine, showing the loop in position for the point of the hook to enter it, also showing the needle as protected by the guard and guide. Fig. 2 is a view of the back of the hook, showing the cam for moving the needle-guard, also showing a part of the needle-guide. Fig. 3 is a detached view of the cam for moving the needle-guard. Fig. 4 is an enlarged view of the needle guard and carrier and needle-guide, showing the needle and loop as protected. Fig. 5 is a top view of the needle-guard.

Beginning with Fig. 1, the general description of the improvement is as follows: A is the bed-plate, to which the operating parts are attached. B is a rotating hook. C is the needle-guard, provided with a groove for the needle, and lugs or projections on its face and on either side of said groove, both at top and bottom. Said lugs are beveled at such an angle as to insure the passage of the needle into said groove, thereby, together with the needle-guide, securely holding said needle, and preventing it from springing into the path of the hook. Said guard is attached to the carrier H by the screw J, and is moved toward the needle by the cam F, and held in such position by said cam while the hook is passing said needle and entering the loop. After the loop has been taken by the hook, the guard is moved back by the rotation of said hook to the rear of the same.

The carrier H, to which is firmly secured the guard, is pivoted to the bed of the machine at O by the screw *m*.

D is a needle-guide, attached to the hook by the screw *f*, which, by being rotated with said hook, comes into such a position relatively to the needle as to prevent said needle from coming in contact with said hook, thereby preventing it (the needle) from breaking. E is a flange or loop-protector, formed on the rotating hook or made separate, and attached thereto, and G is the feed mechanism.

The operation and use of the needle guard and guide just described are as follows: The needle having passed through the goods, and having reached a point just below the throat-plate, the guard commences to move forward toward the needle, and by the time the needle has reached its lowest point the guard has moved close up to the needle, into the position shown in the enlarged drawing, Fig. 4. At the same time, also, the needle-guide D has, by the motion of the hook, moved toward said needle, (also shown in Fig. 4,) thus together placing and keeping the needle in proper position for the entrance of the hook into the loop formed by said needle.

It is well known to operators that the needle in its passage through the goods glances in an oblique direction, thereby causing it to break; also, damaging the hook, and causing it (the hook) to miss the loop. My device remedies said defects, by always placing the needle in a vertical position, and holding it in such position that the hook in its rotation cannot strike the same. The guard also places and keeps the needle and loop in such position relatively to the hook that said hook, in its rotation, must enter the loop formed by said needle.

I do not confine myself to the details of construction and arrangement herein shown and described, as it is obvious that many variations may be made therefrom without departing from the principle of my invention.

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

1. The needle-guard C, carrier H, guide D, and cam F, all operating together, substantially as shown and described.

2. In combination with a rotary hook and an eye-pointed needle, a needle-guard, C, and mechanism, substantially as specified, for imparting to said needle-guard a reciprocating motion.

3. In combination with the rotary hook of a sewing-machine and an eye-pointed needle, a needle-guide and a needle-guard, with mechanism, substantially as described, for reciprocating said guard, whereby the needle is maintained in a vertical path after its passage through the throat-plate, to permit of the hook entering at all times the loop of the needle-thread without injuring the needle, substantially as described.

JAMES WENSLEY.

Witnesses:
ISAAC R. OAKFORD,
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