

UNITED STATES PATENT OFFICE.

CLARK MARSH, OF NEW MILFORD, CONNECTICUT.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **22,961**, dated February 15, 1889.

To all whom it may concern:

Be it known that I, CLARK MARSH, of New Milford, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of my invention. Fig. 2 is a vertical section of the same. Fig. 3 is an elevation at right angles to Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to that description of sewing-machine which forms the subject-matter of Letters Patent of A. B. Wilson, dated June 15, 1852, and to all machines in which a similar combination of a rotating hook for extending the loops of the needle-thread and a bobbin for carrying the locking-thread are employed.

It consists in a gage applied to or in combination with the slide-ring by which the bobbin is confined in proper relation to the rotating hook for the purpose of adjusting the said ring to permit exactly the required amount of play to the said bobbin between the face of the hook and the bobbin whatever may be the thickness of the bobbin, thereby obviating the difficulty which, owing to the difference in the thicknesses of bobbins, has heretofore been experienced in the adjustment of said ring in case of a bobbin being changed.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is part of the bed-plate of the machine.

B C is the slide-ring, constructed as in Wilson's machine, except that at the outer extremity of the slide B, which supports the ring C, it is furnished with a straight cylindrical stem, *a*. *b* is the screw, passing through the usual slot, *g*, in the slide B to secure it to the bed-plate.

D E is the gage, consisting of a ring, E, of about the same size as the ring C, but which may be of lighter make, attached to a forked stem, D, which is fitted to slide upon the outside of the slide B, and which has a hole pro-

vided in the bend of its fork for the stem *a* to pass through. The gage-ring E has attached to its face a number of pins, *c c c*, preferably not less than three, which pass through holes in the ring C, and which are of such length that all may protrude equal distances through the face of the latter ring. A spiral spring, *d*, is coiled round the stem *a*, within the forked stem D of the gage, and this spring tends to draw back the gage-ring as far as is permitted by a cam, *e*, which is fitted to turn on the stem *a* outside of the fork of the stem D. This cam is of such form and so applied that by turning it to one position it will force the gage-ring toward the ring C far enough for the points of the pins *c c c* to protrude through the face of the ring C a distance equal to the amount of play requisite for the bobbin, and by turning it to another position it will allow the spring *d* to draw the points of said pins *c c c* within the face of the ring C.

To illustrate the operation of the gage I have represented the rotating hook F and bobbin G in Fig. 2 in red outline. To apply the slide-ring by the aid of the gage, the cam is turned to a position to permit the projection of the points of the pins *c c c* from the face of the slide-ring. The bobbin is put in its place against the rotating hook and held by the fingers of the operator while the slide-ring is moved up so far that the points of the pins *c c c* press the bobbin closely against the hook. The slide-ring is then secured by the screw *b*, and the cam *e* turned to permit the spring *d* to draw back the gage and draw the pins *c c c* into the slide-ring, which leaves the bobbin just loose enough between the rotating hook and slide-ring, whatever may be the thickness of said bobbin.

What I claim as my invention, and desire to secure by Letters Patent, is—

The gage-ring D E, with its pins *c c c*, spring *d*, and cam *e*, or their equivalents, constructed and applied, in combination with the slide-ring B C, substantially as and for the purpose herein set forth.

CLARK MARSH.

Witnesses:

SHELDEN BLACKMAN,
GERARDUS KNAPP.