(Model.)

J. W. RICKS & H. S. SHAFT.

LOOPER FOR SEWING MACHINES.

No. 456,383. Patented July 21, 1891.

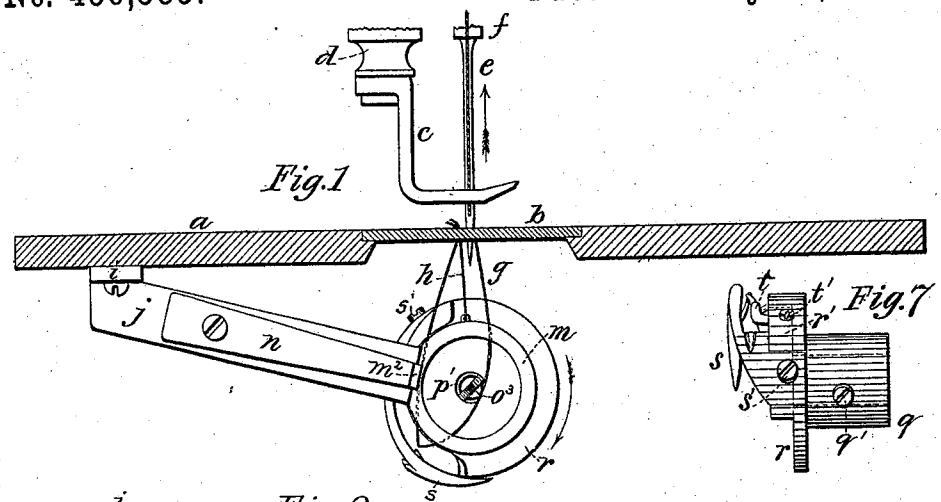


Fig. 1

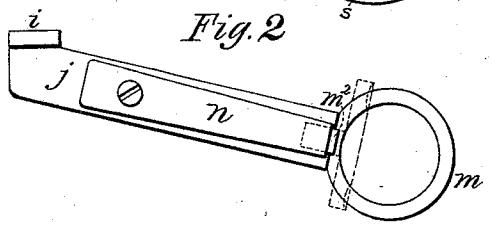


Fig. 2

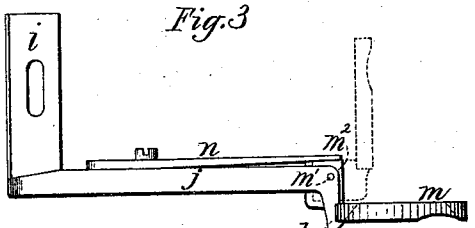


Fig. 3

Fig. 7

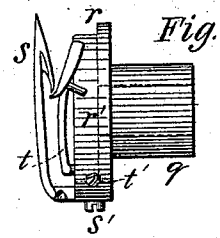


Fig. 6

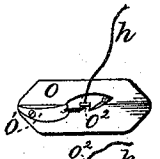


Fig. 5

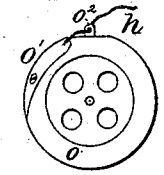


Fig. 4

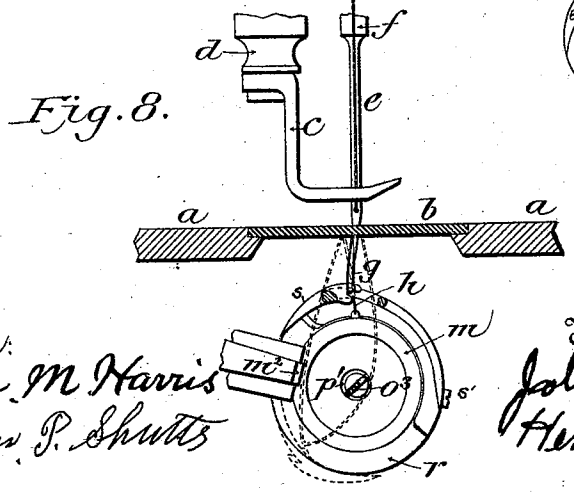


Fig. 8.

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UNITED STATES PATENT OFFICE.

JOHN W. RICKS AND HENRY S. SHAFT, OF GLOVERSVILLE, NEW YORK, ASSIGNORS OF ONE-THIRD TO HARLAN P. SHUTTS, OF SAME PLACE.

LOOPER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 456,383, dated July 21, 1891.

Application filed September 25, 1890. Serial No. 366,170. (Model.)

To all whom it may concern:

Be it known that we, JOHN W. RICKS and HENRY S. SHAFT, citizens of the United States, and residents of Gloversville, in the county of Fulton, in the State of New York, have invented a certain new and useful Improvement in Sewing-Machines, of which the following is a full, clear, and exact description.

Our invention relates to that class of sewing-machines which form a lock-stitch through the co-operation of a revolving hook and under thread and a reciprocating needle and upper thread.

The invention consists in a revolving hook constructed and arranged substantially as we will proceed now more particularly to point out and finally claim.

In the accompanying drawings, illustrating our invention, in the several figures of which like parts are similarly designated, Figure 1 is an elevation showing a sewing-machine cloth and throat-plate in section, and also showing in elevation the presser-foot and part of its bar and the needle and part of its bar. Fig. 2 is an elevation of the bobbin-holder detached. Fig. 3 is a plan of the bobbin-holder. Fig. 4 is a side elevation, and Fig. 5 a plan, of the bobbin-case and bobbin. Figs. 6 and 7 show in different elevations the revolving hook. Fig. 8 is a section like Fig. 1, with the hook S broken away to show the barbs in engagement with the loop of needle-thread, and also showing in dotted lines the position of parts when the loop is discharged from the hooks.

In the drawings, *a* is the cloth-plate.

b is the throat-plate.

c is the presser-foot; *d*, the presser-bar; *e*, the needle; *f*, the needle-bar; *g*, the needle or upper thread, and *h* the bobbin or under thread, all substantially of usual or approved construction and arrangement.

The bobbin-holder we prefer to use is constructed with a flange *i*, by which it may be screwed to the cloth-plate, and an arm *j* projects obliquely from this flange and is made with an elbow *k*, which terminates in a ring *l*. A second ring *m* is hinged at *m'* to the arm *j*, and this ring has a block m^2, which engages a spring *n* under stress, so as to be held in whatever position it may be given. The spring *n* is secured to the arm *j*. The rings *l* and *m* are counterparts, and when brought into parallel they are adapted to retain the bobbin-case *o* and its contained bobbin *p* and allow necessary freedom of motion to the bobbin-case, while at the same time rendering access to and removal of the bobbin-case at all times easy. The bobbin-case has the tension-spring *o'* and thread-eye o^2, and the said case is of circular outline with its rim V-shaped, the rings *l* and *m* being correspondingly beveled to receive it. The bobbin is supplied with an eye *p'* and the bobbin-case with a post o^3, which enters and engages the bobbin-eye *p'* to secure the bobbin in the case and permit the bobbin to revolve freely within its case. To insert the bobbin-case in the bobbin-holder, the ring *m* is turned upon its hinge, as indicated by dotted lines in Figs. 2 and 3, and then the bobbin-case is laid upon the ring *l* and afterward the ring *m* turned down into the full-line position shown in said figures.

The revolving hook comprises a collar *q*, adapted to be applied to the shaft of the sewing-machine, as by screw *q'*. This collar is supplied with the disk face *r*, which latter has the flange *r'*. A hook *s* projects laterally from this flange and then extends substantially parallel with it and may be secured thereto by a screw *s'*. A hook *t* also projects laterally from the flange and then extends substantially parallel with it, the barbs of the two hooks being in juxtaposition, but separated by a channel, and the point of the hook *s* being free, while the point of the hook *t* is buried in the flange. The hook *t* may be secured to the flange by a screw *t'*. The hook *t* is arranged between the collar and the hook *s*.

The relative arrangement of the revolving hook and the bobbin-holder and bobbin-case and bobbin is shown in Fig. 1 and needs no further description, excepting the suggestion that the hook revolves around the bobbin-case in its holder.

In the operation of our invention the loop of the needle-thread is caught by the barbs of the hooks *s* and *t*, and the loop, sliding back over the points of both hooks, is spread sufficiently to pass over the bobbin-case, and is then carried around to the center and re-

leased through the channel between the barbs of the hooks, the bobbin-thread meanwhile being engaged and the needle-thread drawn up in usual manner and by usual means to complete the lock-stitch.

By our invention a shuttle and its appurtenances are dispensed with, the soiling of the thread by oil is prevented, and a strong and simple lock-stitch formed.

What we claim is—

1. In a sewing-machine, a revolving hook composed of a collar having a flange and two substantially parallel hooks applied to such flange, one having a free point and the other a concealed point, and barbs on the hooks which lie close together and have an intervening channel, substantially as described.

2. In a sewing-machine, a revolving hook composed of a collar and two substantially parallel hooks, one having a free point and the other a concealed point, and barbs on the hooks which lie close together and have an intervening channel, substantially as described.

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