2 Sheets—Sheet 1.

J. TRIPP.

Revolving-Hook Sewing-Machines.

No. 198,257. Patented Dec. 18, 1877.

Fig. 1.

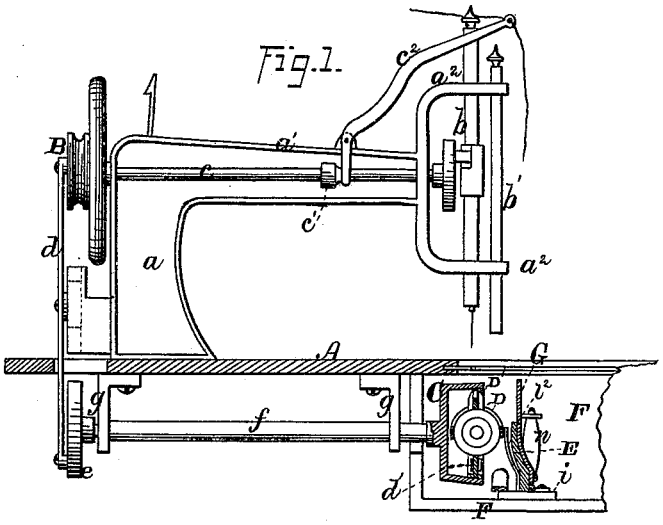


Fig. 2.

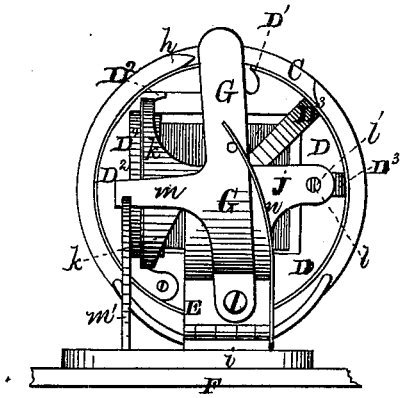
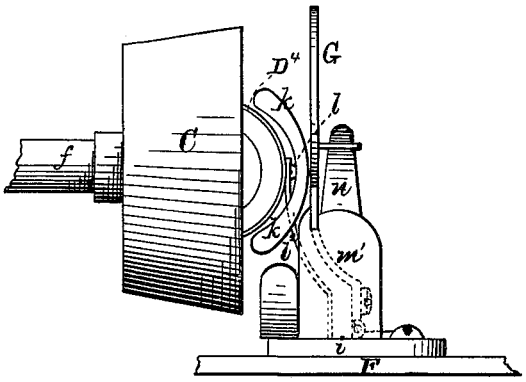


Fig. 3.



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2 Sheets—Sheet 2

J. TRIPP.

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Fig. 4.

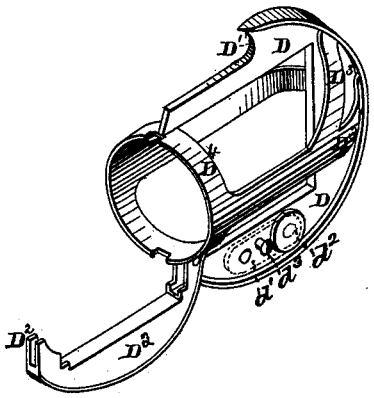
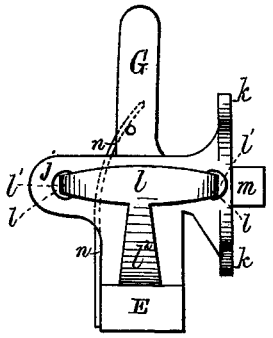


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES TRIPP, OF COLDWATER, MICHIGAN.

IMPROVEMENT IN REVOLVING-HOOK SEWING-MACHINES.

Specification forming part of Letters Patent No. **198,257**, dated December 18, 1877; application filed June 13, 1877.

To all whom it may concern:

Be it known that I, JAMES TRIPP, of Coldwater, in the county of Branch and State of Michigan, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a front view and partial vertical section of a sewing-machine with my improvement applied. Fig. 2 is an end view of my improvement. Fig. 3 is a side view thereof. Fig. 4 is a detached perspective view of the spool-holder; and Fig. 5 is a detached view of the spool-holder-retaining upright, viewed from the inner side.

Corresponding parts in the several figures are denoted by like letters.

This invention relates to that class of sewing-machines termed "revolving-hook machines;" and its object is, first, to insure the taking of the loop from the needle and spreading it to encompass the under thread in forming the stitch; secondly, to retain the spool-holder in position; thirdly, to provide the spool-holder-retaining device with a flexible or yielding bearing; fourthly, to prevent the rotation of the spool-holder; and, fifthly, to permit of the ready removal of the said holder; and to this end my invention consists in the improved construction and combinations of devices pointed out in the claims.

In the annexed drawing, A refers to a plate or table, supported in position in any known way, and upon which is secured an upright, *a*, provided with a horizontal arm or extension, a^1, having arms a^2 a^2, which support the needle-bar *b* and presser-foot bar *b'*. Through the horizontal arm or extension a^1 passes a shaft, *c*, provided with the band-wheel B, and operating the needle-bar. Upon this shaft is a cam, c^1, which vibrates a take-up lever, c^2. The band-wheel B on the shaft *c* is suitably connected, by a connecting rod or bar, *d*, to the cam or disk *e* upon the revolving hook-shaft *f*, bearing in pendants *g g*, depending from the lower side of the table A. To the free end of the shaft *f* is firmly secured a case or support, C, about in a line with the needle, to receive the spool-holder D, disposed within and endwise to the circumference of said case, with about half of its surface projecting therefrom. The open end of this case or support is provided with a hook, *h*, for taking the thread or loop from the needle as it descends, to be further hereinafter referred to.

The spool-holder D consists, principally, of a disk or plate, with an oblong opening for the reception of the spool of thread, having a hook, D^1, the office of which will be presently pointed out, and a hinged section, D^2, to permit of the removal of an empty spool and the insertion in its place of a spool with thread on it. From either side of one end of the disk or plate project bowed arms D^3 D^3, uniting and terminating upon either side of the other end of the disk into segments D^4, forming an entire circle. Upon the lower surface of the disk or plate of the spool-holder D is the thread-tension-regulating device. It consists of a spring, d^1, (shown in dotted lines in Fig. 4,) fastened to the rear or inner side of the disk, having attached to its free end a pin or stud, projecting through the disk to its front side, and provided with a head or disk, d^2. d^3 is a screw passing through the spool-holder disk, and bearing upon the spring d^1, for varying the pressure or tension of the said spring. The thread from the spool in the holder D is passed around the pin or stud, and between its head d^2 and the spool-holder disk, and thence passed outside the holder.

E is an upright to retain the spool-holder in its support or case C, hinged or pivoted to a plate, *i*, or directly to the bottom of the receptacle or support F, to which said plate is fastened. The support or receptacle F is secured to the lower side of the table A. It is obvious that the hinging or pivoting of the spool-holder-retaining upright E is to permit of its being swung out of the way, to enable the said holder to be withdrawn or removed from its support when required. This upright or bar E is preferably constructed with a cross-piece, *j*, one end of which is provided with arms *k k*, which may be made in one continuous piece, in the form of a segment, as seen in Figs. 2

and 3, or otherwise adapted to extend in close proximity with and prevent the spool-holder from revolving, and at the same time allow it a limited movement.

The upright E and its cross-piece *j* are provided with a flexible or yielding bearing, to render the surface of contact between the spool-holder and the said upright sensitive, to readily permit of the passage between said holder and upright of the thread of one side of the loop. This bearing may consist of a bowed spring-metal plate, *l*, the ends of which enter and have a limited movement in apertures l^1 in the cross-piece *j* of the upright E, and the said plate itself is connected, by an arm, l^2, to the said upright.

G is a lever or pawl pivoted to the upright E, and moving at right angles to the plane of the movement of and flush with said upright, and having an arm or projection, *m*, entering a recess or slot in an upright or plate, *m'*, fastened to the plate or support *i*. A spring, *n*, fastened to the upright E, and bearing upon a projection or pin of the lever or pawl G, retains the arm *m* of said lever in its slot in the plate *m'*, and thus enables the lever or pawl to retain the hinged upright E in position.

To recur to the revolving case or hook and the spool-holder hook, it will be observed that when the descending needle has reached the end of its downward movement the hook of the revolving case will have caught the loop or thread of the needle, and as it continues to revolve with the loop the latter will be caught by the hook of the spool-holder, and be spread around the said holder and past the under thread, previously carried up through the needle-orifice in the cloth-plate, with which it combines in forming the stitch.

By this construction and arrangement of parts it will be seen that there can be no failure of the taking of the loop from the needle and spreading or bowing it to encompass the under thread, the spool-holder fitting snugly within the revolving hook-case, and the loop being carried each side of the spool-holder, and not drawn between the bearings.

If desired, a spindle may be inserted in the spool-holder, upon which to support the spool.

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

1. The spool-holder D, in combination with the case C and hinged or pivoted upright E, having a retaining lever or pawl, G, substantially as and for the purpose set forth.

2. The spring-lever G, having a projection or arm, *m*, and slotted upright *m'*, in combination with the retaining lever or upright E, having the arms *k k* and flexible or yielding bearing *l* l^2, substantially as and for the purpose set forth.

3. The retaining-upright E, having the flexible or yielding bearing *l* l^2 and arms *k k*, in combination with the spool-holder D and case or support C, substantially as and for the purpose set forth.

4. The spring-lever G, slotted plate or catch *m'*, retaining-upright E, having arms *k k*, spool-holder D, and case or support C, in combination, substantially as and for the purpose set forth.

5. The spool-holder D, in combination with the spring d^1, headed stud or projection d^2, and pressure-regulating screw d^3, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

JAMES TRIPP.

Witnesses:
A. J. McGOWAN,
GEO. L. HARDING.