(No Model.)

J. TRIPP.

TAKE-UP MECHANISM FOR SEWING MACHINES.

No. 267,038. Patented Nov. 7, 1882.

Fig. 1.

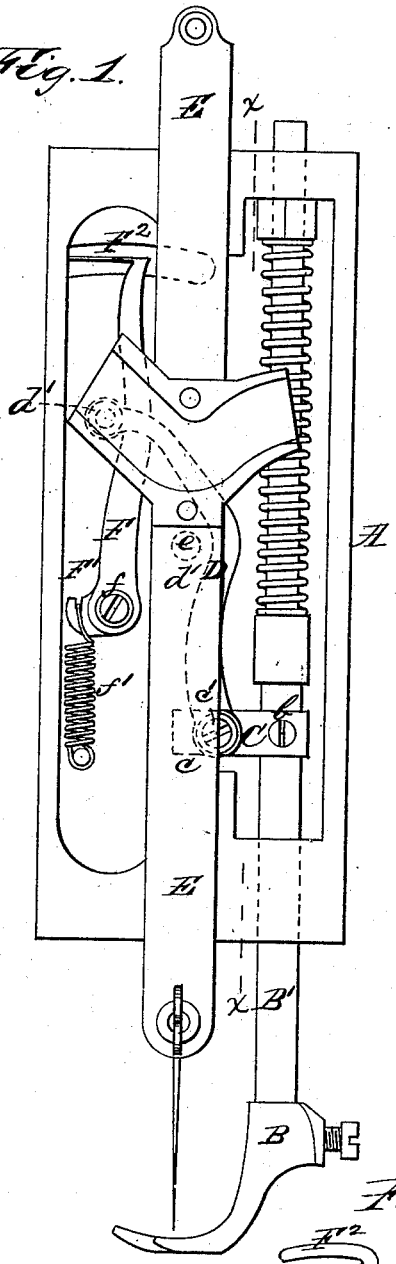


Fig 2.

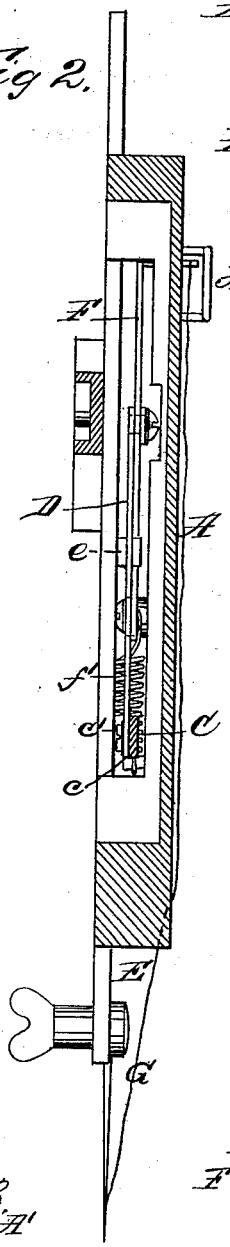


Fig. 5.

Fig 4.

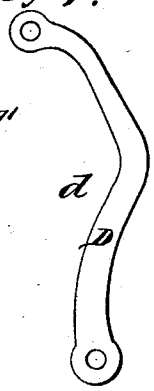


Fig. 6.

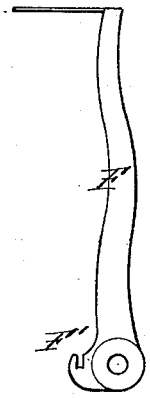
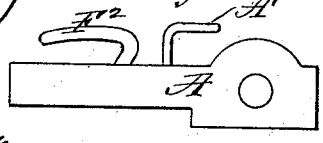


Fig. 7.

Fig. 3.



WITNESSES:

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JAMES TRIPP, OF NEW YORK, N. Y.

TAKE-UP MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 267,038, dated November 7, 1882.

Application filed August 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES TRIPP, a citizen of the United States, residing at New York city, in the county and State of New York, have invented new and useful Improvements in the Take-up Mechanism of Sewing-Machines, of which the following is a specification.

My invention relates to improvements in that part of sewing-machines which is commonly known as the "take-up;" and the object of my invention is to automatically regulate the take-up to accord with the varying thicknesses of material being sewed, and also to allow for sewing seams, laps, hems, &c., where an irregular and sudden increase or diminution of the thickness of material necessitates a variation in the amount of take-up in order to produce perfect work.

In carrying out my invention I mount on the presser-foot shaft, by preference within the head, a short arm, to the outer end of which is pivoted a peculiarly-formed bent arm, which bears against and is operated by a friction-pulley mounted on the rear of the needle-bar. To the upper end of the bent arm is applied a friction-pulley, which engages with a curved spring-lever, which is pivoted at its lower end to the sewing-machine head, while at its upper end it is formed with a bent take-up portion, which oscillates through a semicircular slot in the back of the sewing-machine head.

The accompanying drawings form part of this specification, and illustrate what I consider the best means of carrying out the invention.

Figure 1 is a detached view of the head of a sewing-machine with my improvements applied thereto. Fig. 2 is a vertical section on the line *x x* of Fig. 1. Fig. 3 is a plan view. Figs. 4, 5, 6, and 7 are detail views of parts.

Similar letters of reference indicate corresponding parts.

A represents the sewing-machine head. B is the presser-foot, and B′ the presser-foot shaft, upon which is mounted, by means of a set-screw, *b*, the short arm C, which is cut away, and has pivoted to it by means of a set-screw, C′, a bent arm, D, which at *d* is bent into the form of a cam. The part *d* constantly rests against and is operated backward and allowed to come forward by means of a friction-pulley, *e*, mounted on the rear of the needle-bar E.

To the upper end of the bent arm D is applied a friction-pulley, *d′*, which bears against the front edge of a curved lever, F, which at its lower end is pivoted, by means of a screw, *f*, to the sewing-machine head, and it is kept in contact with the pulley *d′* by means of a spring, *f′*, which at its lower end is fixed to the sewing-machine head, while at its upper end it engages with a short arm, F′, formed on or affixed to the lever F. At its upper end the lever F is provided with a bent take-up portion, F^2, adapted to engage with the thread G and draw it through the bent loop A′ affixed on the extension of the sewing-machine head.

The operation of the device is as follows: The machine being put into operation, the presser-foot B and presser-foot shaft B′ and the needle-bar E will be operated in the ordinary manner, and at each movement of the presser-foot B the arm C will be raised to a height regulated by the amount or thickness of material under the presser-foot B. Such raising of the arm C by the presser-foot B will raise the bent arm D, and thereby regulate the time at which the friction-pulley *e* (carried by the needle-bar) shall come into contact with the cam portion *d* of the bent arm D, thereby regulating the throw of the curved lever F, and consequently of the take-up portion F^2, the time of the take-up, and consequently the length of thread taken up. If the material is thin, the arm C will be only slightly raised, and the take-up will be exercised to its full extent. If a seam or a greater thickness of material comes under the presser-foot, the arm C will be raised to a greater height, and the bent arm D will be raised so as to retard the action of the pulley *e* (carried by the needle-bar E) on the bent arm F, and consequently the take-up portion F^2 will have a smaller or shorter throw. It will thus be seen that the take-up will be automatically regulated according to the thickness or amount of material for the time under the presser-foot B.

Instead of using the friction-pulleys *e d′*, it is obvious that I can employ studs or cam-projections.

Having thus described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. The combination, with the presser-foot and presser-foot bar of a sewing-machine, of a bent or curved lever, D, provided with a cam portion, *d*, adapted to be raised and lowered automatically by the presser-foot B and bar B′ from time to time into position to regulate the position of an arm or lever, F, carrying the take-up portion F^2, and operated by a friction-pulley or an equivalent stud or projection, *e*, carried by the needle-bar E, substantially as and for the purposes set forth.

2. In combination with the presser-foot and presser-foot bar of a sewing-machine, an arm or bearing, C, and a bent arm, D, pivoted thereto, and provided with a cam-surface, *d*, of a friction-pulley, or an equivalent stud or projection, *e*, carried by the needle-bar, and a bent or curved lever, F, formed at its upper end with a take-up portion, F^2, the bearing C and arm D being controlled in position by the presser-foot and bar, and controlling the length, time, and extent of the take-up, substantially as and for the purposes described.

3. The combination, with the presser-foot B and presser-foot bar B′ of a sewing-machine, of the arm C and the pivoted bent lever D, cam portion *d*, and friction-pulley *d′*, of the needle-bar E, friction-pulley or equivalent stud or projection *e*, curved pivoted spring-lever F *f*, take-up portion F^2, and loop A′, substantially as and for the purpose described.

In witness whereof I have hereunto set my hand this 31st day of July, 1882.

JAMES TRIPP.

Witnesses:
MAX BAYERSDORFER,
WM. E. RICHARDS.