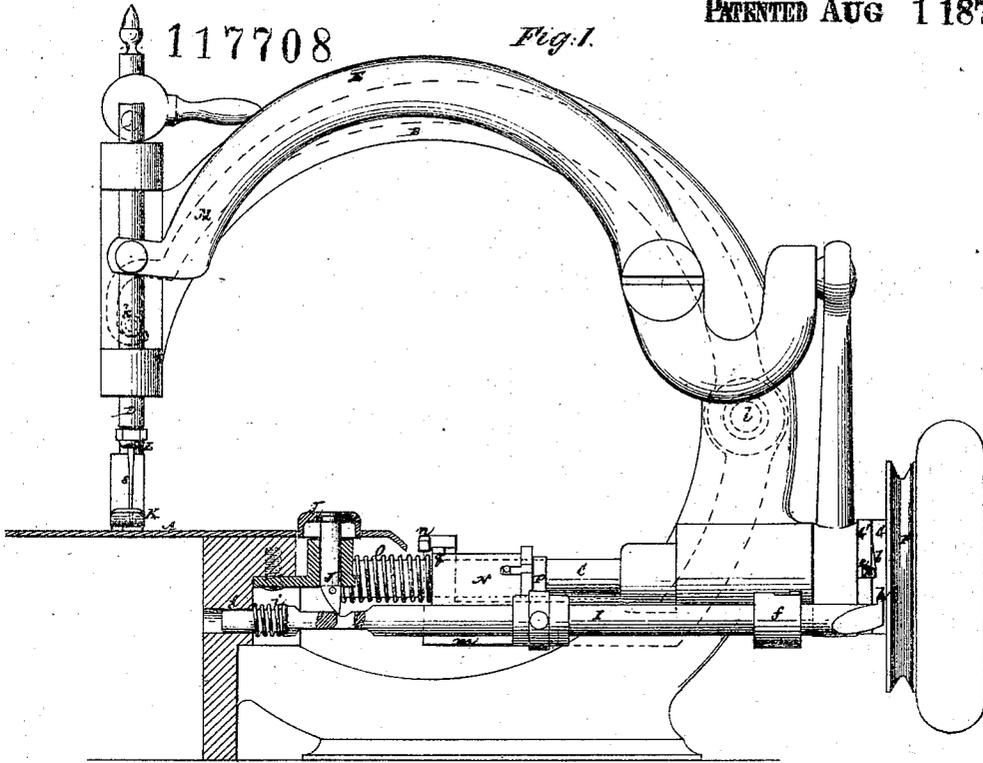


*Elliott P. West's Improvements in Sewing Machines.*

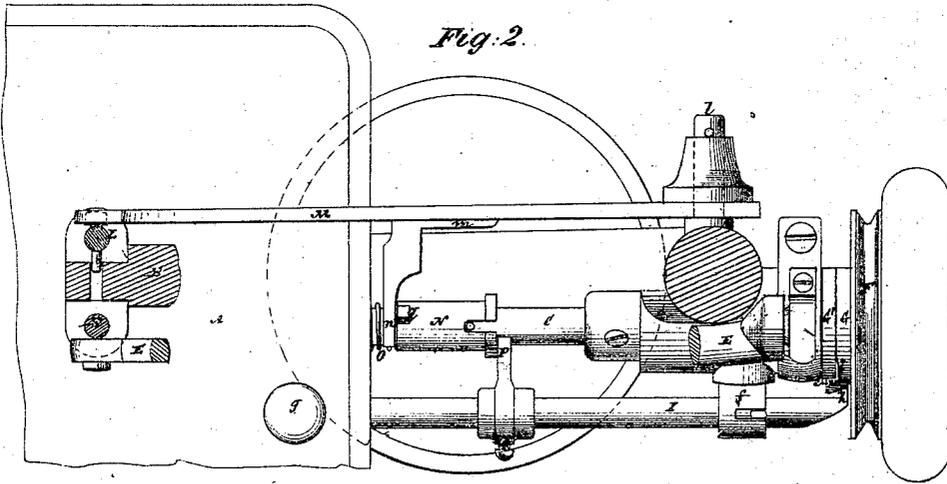
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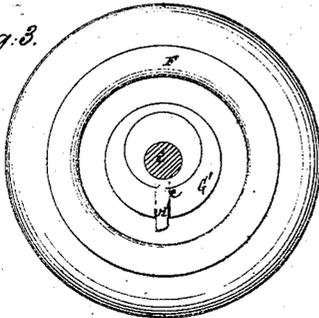
*Fig. 1.*



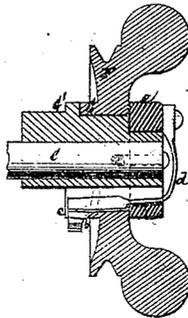
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses:*

*F. C. Barnes*  
*John J. Silby*

*Elliott P. West*

# UNITED STATES PATENT OFFICE.

ELLIOTT P. WEST, OF JERSEY CITY, NEW JERSEY.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 117,708, dated August 1, 1871.

### To all whom it may concern:

Be it known that I, ELLIOTT P. WEST, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a sectional side elevation of a sewing-machine with my invention applied to it; Fig. 2, a horizontal section of the same above the cloth-bed or sewing-table; Fig. 3, an interior face view of the driving-wheel or pulley and clutch; and Fig. 4, a transverse section thereof, with engaging and disengaging devices attached.

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

My invention consists in a combination, with a sewing-machine, of a device or devices for simultaneously arresting the motion of the machine and raising the presser-foot to facilitate the turning or shifting of the work on the machine, as when making sharp curves in the line of stitch. The invention, which also includes various peculiarities in the construction of said attachment, likewise embraces such an arrangement of the same as regards its action, relatively to the needle-motion, that the machine is stopped and presser-foot lifted while the needle is in the cloth, to provide for the turning of the latter about the needle as an axis.

Referring to the accompanying drawing, A represents the cloth-bed of a sewing-machine; B, the goose-neck or frame thereof; C, the driving-shaft; and D the needle-bar, deriving its motion from a needle-arm, E.

The driving-shaft C has its operating-pulley F arranged to run loosely upon it, and is driven by or through the intervention of a clutch, the one half G of which is fast on the pulley and notched as at *b*, while the other half G' is fast on the shaft C, and formed with a groove or slot, *c*, in it. This slot serves to receive and guide an engaging and disengaging-key or tongue, H, arranged to extend through a longitudinal groove in the pulley, and carried by a spring, *d*, which, passing through an end collar, *e*, fast to the half-clutch G', is secured to said collar at a point on the opposite side of the driving-shaft to that

which the key H occupies in its passage through the pulley, whereby said tongue or key, which is bent outward at its projection through the slot *c*, is made capable not only of a movement in and out from the shaft C, but also in direction of the length of it, to allow of its being tripped from engagement with the notch *b* of the pulley-clutch G, that, with the pulley, may be fitted to rotate on a reduced portion of the other half or shaft-clutch G' as a sleeve. Said key H is tripped or forced and held out from the driving-notch *b*, in the half-clutch G, when it is required to arrest the motion of the shaft C without stopping the rotation of the pulley F, by means of a tripping-bar, I, preferably arranged to extend from the clutch to and under the cloth-table and sliding in bearings *f f*, so as to be under the control of a bevel-nosed finger-pin, J, which is provided with a button, *g*, on top, arranged to extend up through the cloth-table at a convenient spot, so that by pressing down on the button the bevel-nose of the finger-pin is made to force the tripping-bar I away from the pulley F, and to bring a bent end or nose, *h*, on the bar I, in the path of the protruding end of the key H as it rotates when in lock with the notch *b*, in common with the pulley and clutch. The nose *h* of the sliding-bar I being thus adjusted to intercept the key H, the latter, in coming round and striking it, is forced and held inward and out of lock with the notch *b*, so that the pulley F rotates independently of the shaft C, and the motion of the machine is consequently stopped. On releasing pressure from the button *g*, a spring, *i*, forces the bar I back to its normal position and the finger-bar J up again. This releases the nose *h* of the bar from hold on the key H, and out of the path of it when in lock with the notch *b*, which latter position the spring *d* then serves to throw and hold the key in, thereby causing the shaft C to be rotated again in common with the pulley F. Instead of the tripping-bar being operated by hand, it may, if desired, be actuated by treadle. The stopping, at pleasure, of the driving-shaft C, however, is only one of the functions of the disengaging mechanism, another duty of it being to simultaneously lift or relieve the presser-foot K from hold on the cloth, so that the latter can readily be turned or shifted on the table, as required during the stoppage of the machine. To this end the presser-foot bar L, which may be hung as usual and be

provided with the ordinary attachments for lifting and lowering it by hand, subject to the control of a spring, has connected or in hooked gear with it, as at *k*, a lever, *M*, pivoted, as at *l*, and having a lever-arm, *m*, which is bent to form a wing, *n*, arranged to lie over the driving-shaft *C*. Fitted so as to be capable of longitudinal motion on said shaft, but turning with it, is a sleeve, *N*, that is slid in the one direction by a spring, *O*, and in the other by an arm, *P*, attached to the sliding or tripping-bar *I*. The sliding sleeve *N* is provided, at or near its end which is adjacent to the wing *n* of the lever *M*, with a cam or projection, *q*, which, when the shaft *C* is rotating, is kept from contact with the wing *n* by the action of the spring *O*, but when the tripping-bar *I* is slid so as to disengage the key *H*, the cam *q* is simultaneously brought under the wing *n* by the action of the arm *P* on the sleeve *N*, and said cam caused to lift the lever *M* and so release the presser-foot simultaneously with the stopping of the machine by the disengagement of the key *H*.

The disengaging mechanism is preferably so pitched, or the key *H* and cam *q* so set in relation with the driving-shaft *C*, the tripping-bar *I*, and the devices by which motion is communicated to the needle, that said key and cam only come into action to stop the machine and release the presser-foot when the needle *S* is in the cloth, so that the needle will serve as an axis about which to turn the cloth when shifting or adjusting the latter to a new curve in the line of stitch, and to facilitate

which was the object of simultaneously stopping the machine and releasing the presser-foot.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination, with the loose driving-pulley *F* and main shaft *C*, of a clutch and disengaging mechanism, constructed and combined with devices connected with the presser-foot, so that on disengaging the shaft from the pulley the presser-foot is simultaneously released from its hold on the cloth, substantially as specified.

2. The arrangement of the disengaging mechanism and the presser-foot lifting devices connected therewith, relatively with the needle or its operating devices, whereby the main shaft is disengaged from the driving-pulley and presser-foot released when the needle is down in the cloth, essentially as described.

3. The disengaging finger-pin *J*, arranged to project through the cloth-bed or table, in combination with the sliding tripping-bar *I* and spring *i*, substantially as specified.

4. The combination of the key *H*, the spring *d*, the clutches *G G'*, and the tripping-bar *I*, or nose *h*, essentially as described.

5. The combination of the sliding cam *q*, or sleeve carrying the same, the main shaft *C*, the lever *M*, and the tripping-bar *I* or arm *P* thereof, substantially as specified.

Witnesses: ELLIOTT P. WEST.

FRED HAYNES,  
JOHN J. SIBLEY.