2 Sheets—Sheet 1.

W. G. CUMMINS.

SEWING-MACHINES.

No. 194,995. Patented Sept. 11, 1877.

Fig: 1.

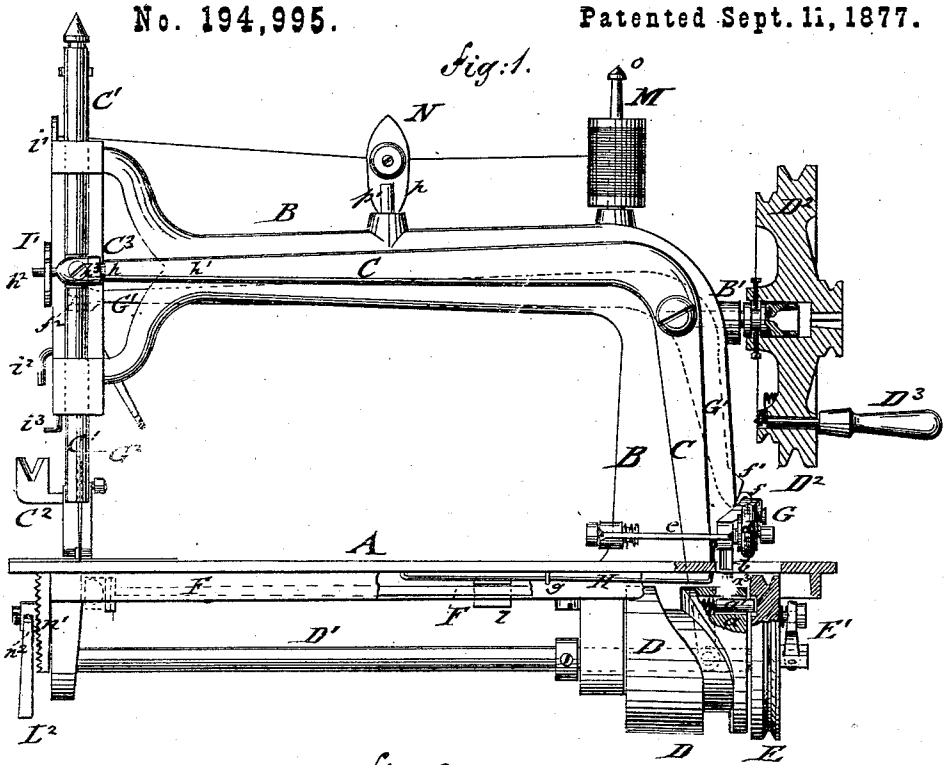
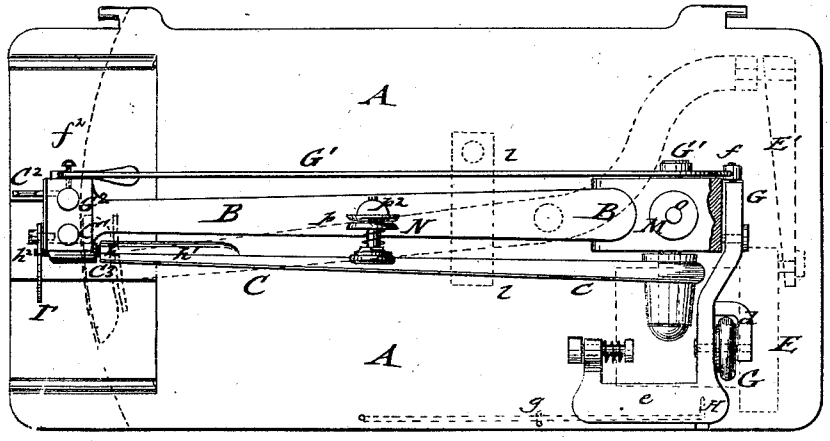


Fig: 2.



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2 Sheets—Sheet 2.

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Fig: 3.

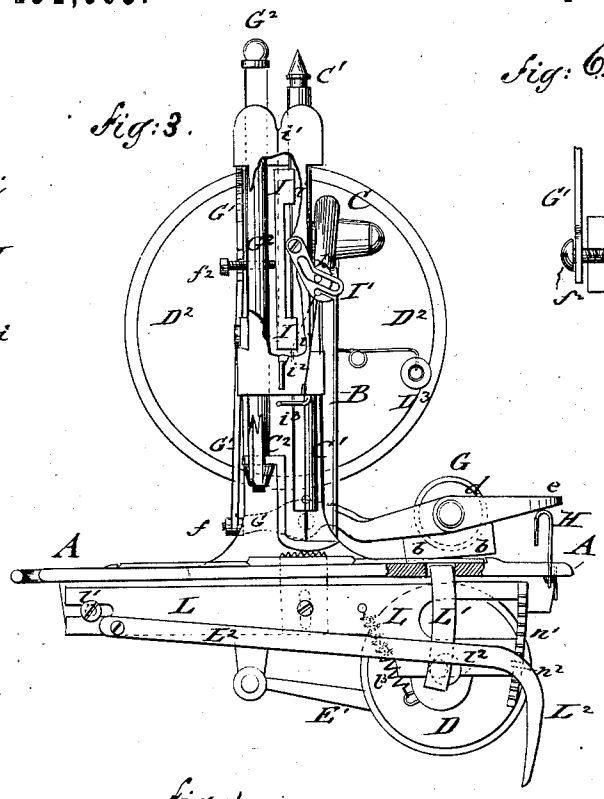


Fig: 5.

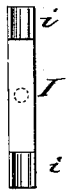


Fig: 6.

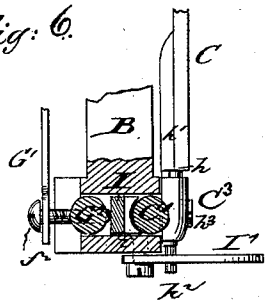
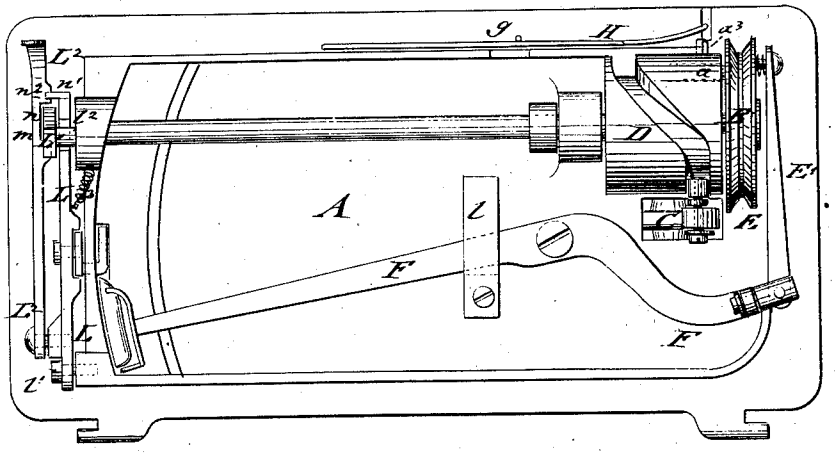


Fig: 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM G. CUMMINS, OF COOKEVILLE, TENNESSEE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **194,995**, dated September 11, 1877; application filed February 10, 1877.

To all whom it may concern:

Be it known that I, WILLIAM G. CUMMINS, of Cookeville, in the county of Putnam and State of Tennessee, have invented a new and Improved Sewing-Machine, of which the following is a specification:

This invention relates to improvements in lock-stitch shuttle sewing-machines for general family use, which can be stopped or started instantly at the will of the operator without stopping the treadle. The bobbin may also be wound while the needle and feed-motion is stopped, and be run by treadle or hand in convenient manner, the object being not only to extend the adaptation, but to simplify the construction, especially of those parts subject to wear and repair, and thus produce a low-priced, reliable, and readily-repairable sewing-machine of wide range.

The invention consists essentially of an improved connection of the bobbin-winder with the driving-shaft and clutch-pulley, and by an elbow-lever with the presser-bar, so as to interrupt the operation of the sewing-machine without stopping the treadle. The bobbin-winder is retained in raised or lowered position by an elevator and clasp-spring, as required.

In the accompanying drawings, which fully illustrate my invention, and to which reference is made, Figure 1 represents a side elevation, and Fig. 2 a plan view, of my improved sewing-machine with parts shown in section. Figs. 3 and 4 are, respectively, end and bottom views of the sewing-machine. Fig. 5 is a detail view of the steel guide-bar of the needle-bar; Fig. 6, a detail horizontal section through needle-bar, guide-bar, and presser-bar.

Similar letters of reference indicate corresponding parts.

Referring to the drawing, A represents the bed-plate; B, the main standard; and C, the needle-lever, which is operated by grooved cam D on driving-shaft D^1, that runs the operating parts of the machine, either in the usual manner, by suitable belt-and-pulley connection with balance-wheel and treadle, or by hand-power, by belt-and-pulley connection with a hand-wheel, D^2, turning on a fixed shaft of the main standard B, as desired.

The cam D of the driving-shaft D^1 connects with a loose pulley, E, that may be thrown in or out of gear with the cam, and which pulley, by an eccentrically-pivoted crank-rod, E′, transmits motion to the shuttle-lever F, that is fulcrumed and guided at the under side of the bed-plate.

The cam D and pulley E are connected by a spring-clutch, *a*, which consists of a sliding and spring-acted bolt, a^1, that is guided horizontally in a socket-hole of cam D, and thrown into a segmental slot, a^2, of the pulley E, so as to gear therewith, and cause the same to revolve in either direction with the driving-shaft.

The sliding bolt a^1 is provided with an extension, a^3, at right angles thereto, that passes through a hole of the cam, so as to be engaged by an inclined brake-plate, *b*, of the bobbin-winder G, said plate *b* extending through a slot of the bed-plate, when depressed, and releasing thereby the clutch from the pulley, so that it may run loose on the driving-shaft, and thereby instantly the working of the needle and feed will be interrupted without interrupting the treadle-motion.

When the pressure on the bobbin-winder is released, the spring-clutch *a* locks the pulley E again to the driving-shaft, and the sewing may be continued.

The bobbin-winder G is fulcrumed to standard B, and provided with a friction-wheel, *d*, that passes through a recess of bed-plate, and comes into contact with pulley E. The front part of bobbin-winder G is made of U shape, and forms a finger board or rest, *e*, back of which the bearings for the spindle of the bobbin are arranged.

By pressing on the finger-board, the brake-plate *b* throws pulley E and cam D out of gear, and admits the winding of the bobbin at any time in a quick and easy manner without setting the needle and feed in motion, which saves these parts from unnecessary wear, and does not require the work to be removed from the machine.

At the rear end of the bobbin-winder G is a small roller, *f*, that engages the inclined end f^1 of an elbow-lever, G^1, that is fulcrumed at its angle or bend to the rear side of stand-

ard B, and extended to the presser-bar G^2, engaging by its fork-shaped end a screw-pin, f^2, of the same.

The instant the bobbin-winder G is pressed down, the roller f engages the elbow-lever G^1 and lifts the presser bar and foot from the work, so that the operator may turn the goods at pleasure without disconnecting from machine, or, when the machine is disconnected, assist the goods in starting under pressure, or the presser-foot in starting over a seam.

The bobbin-winder G is held in elevated position until depressed by a spring-hook, H, that is fastened to under side of bed-plate and near front edge, and extended, by its upwardly-bent and hook-shaped end, through a slot of the bed-plate to a point under finger-board of bobbin-winder, as shown in Figs. 2 and 3.

The spring is retained by a pin, g, and may be drawn out toward the front edge of bed-plate, and placed on top of finger-board to retain the winder in lowered position for winding bobbin, adjusting work, and other purposes.

The elevating-spring acts thus also as a clasp-spring for the bobbin-winder, so as to keep the feed, needle-bar, and presser-foot at rest for any length of time without requiring the holding of the bobbin-winder by hand. This forms an essential point of practical advantage of the machine for family sewing.

Between the needle-bar C′ and presser-bar G^2 is inserted a steel bar, I, that is provided with suitable bearings i at each end, fitted to the needle-bar, against which they are pressed by the screw-pin f^2 of the presser-bar G^2.

By this guide-bar I the needle and presser-bars are prevented from getting loose and shaky by continuous use, and may be readily adjusted to wear, and kept true and steady.

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

1. As an improvement in sewing-machines, the combination of the bobbin-winding arrangement G, having brake-plate, with the clutch-pin and its spring, of cam D of driving-shaft, and loose pulley E, for interrupting motion of feed and needle without stopping motion of treadle, substantially as and for the purpose set forth.

2. The combination of fulcrumed bobbin-winder G, having friction-roller at rear end, with fulcrumed elbow-lever G^1, and presser-bar G^2, to raise presser-foot from work, as described.

3. The combination of bobbin-winder G, with clutch-connected cam and pulley of driving-shaft, and with elbow-lever and presser-bar, to interrupt simultaneously action of feed, needle, and presser-foot without stopping motion of treadle, substantially as and for the purpose described.

4. The combination of the bobbin-winder, having finger-rest or board e, with the elevator and clasp-spring H, to keep bobbin-winder in raised or depressed position, as required, in the manner specified.

5. The combination, with needle-bar C′, and presser-bar G^2, having screw-pin f^2, of the intermediate guide-bar I, as and for the purpose described.

WILLIAM G. CUMMINS.

Witnesses:

JOHN ALONZO COPELAND,

WALTON SMITH.