

D. M. SMYTH & G. W. GLAZIER.

Feeding Mechanisms for Sewing-Machines.

No. 150,492.

Patented May 5, 1874.

Fig. 1.

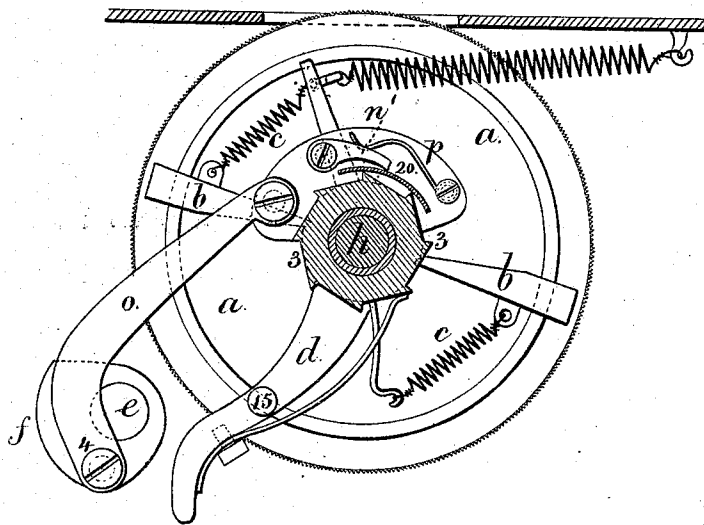
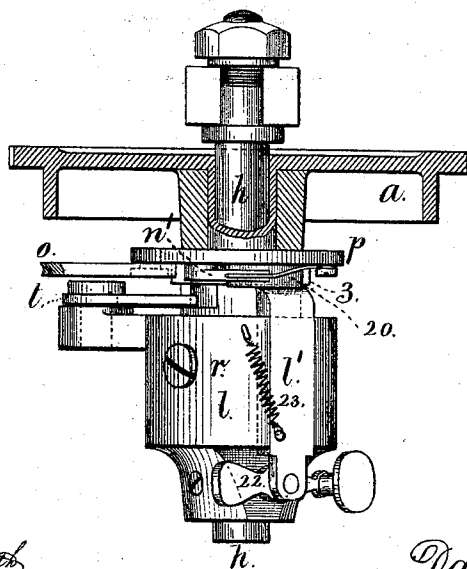


Fig. 2.



Witnesses

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David M. Smyth,
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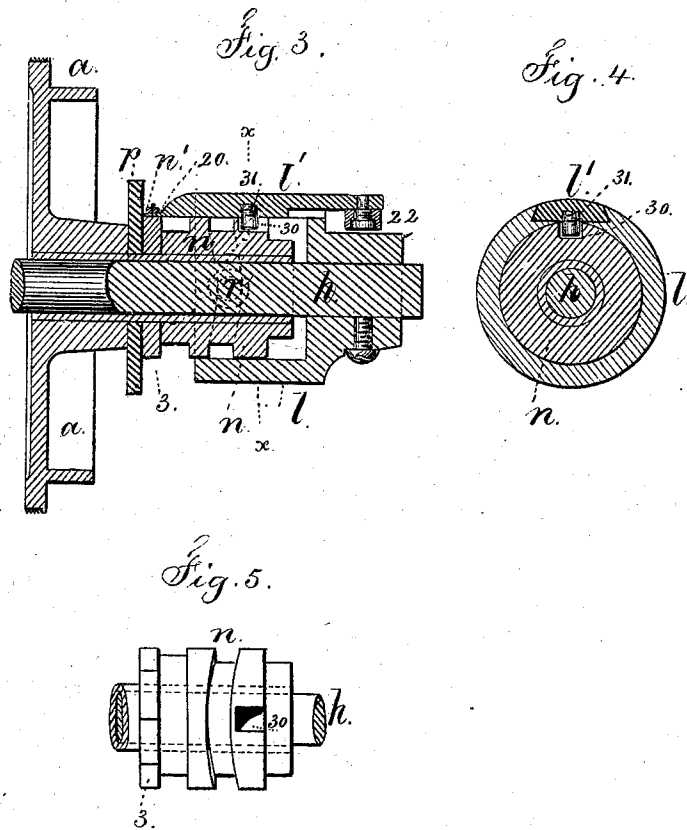
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Harold Snell

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UNITED STATES PATENT OFFICE.

DAVID M. SMYTH, OF LYNN, AND GEORGE W. GLAZIER, OF SALEM, MASS.,
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IMPROVEMENT IN FEEDING MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **150,492**, dated May 5, 1874; application filed
January 6, 1874.

To all whom it may concern:

Be it known that we, DAVID M. SMYTH, of Lynn, and GEORGE W. GLAZIER, of Salem, both in the State of Massachusetts, have invented an Improvement in Sewing-Machine Feed-Motions, of which the following is a specification:

Our invention relates to the class of sewing-machines in which there are two feed-movements, one the ordinary longitudinal feed and the other a lateral feed. These feed-movements have been locked out of action alternately by self-acting or automatic mechanism, to perform a variety of ornamental lines of stitching, as shown in the patents of D. M. Smyth, Nos. 130,324 and 130,325. Our improvement relates to a device, operated by hand, for locking out of action the lateral feed at such a point in the zigzag or ornamental sewing that the ordinary or straight-line sewing will start in the proper line relative to said ornamental sewing. This device consists of a slide and lifting plate fitted to move in the cylinder that surrounds the pattern-cam, and provided with a pin to enter a slot in said cam. This slot is so located that the pin cannot enter it until said cam has brought the ornamental stitching to the desired point. This occurs once during the revolution of the pattern-cam, and at this time, if the slide is liberated, the pin enters the slot, and the slide is moved forward by its spring, and the lifting-plate, running under the actuating-pawl, lifts it and locks out of action the lateral feed, and the ordinary straight-line sewing commences at the proper place.

In the drawing, Figure 1 is an elevation of the feed-wheel and section of the ratchet-wheel moving the lateral cam; and Fig. 2 is a plan of the parts, partially in section. Fig. 3 is a longitudinal section of the pawl-lifter, pattern-cam, and feed-wheels. Fig. 4 is a cross-section at the line *xx*, and Fig. 5 is an elevation of the pattern-cam.

In Figs. 1 and 2 the feed-wheel *a* is upon the shaft or stud *h*, and is operated by the shaft *e*, cam *f*, lever *d*, clamps *b*, and springs *c*,

as is usual in sewing-machines of this class; but the wheel is free to be moved endwise upon this shaft by a pattern-cam that is within the hollow hub *l*, that is secured to the end of the shaft *h*, and has a pin, *r*, entering a groove in the pattern-cam.

This pattern-cam is turned by the ratchet-wheel 3, pawl *n'*, plate *p*, and link *o* to the crank-pin 4, substantially the same as in the aforesaid patent No. 130,324, only the ratchet-wheel is upon the end of the pattern-cam, next to the feed-wheel *a*.

The stud 15 upon the lever *d* serves for holding the longitudinal feed out of action automatically by a catch-lever, *t*, Fig. 2, as in said patent.

This mechanism allows the operator to use the pattern-cam for ornamental stitching, or to disconnect the same and use only the ordinary straight sewing-mechanism, as may be required.

When ornamental and ordinary sewing are being made in the same line of stitching, it is necessary that the slide *l'* should be moved forward at such a time, when changing from zigzag to straight-line sewing, as will bring the two styles of stitching in their proper relative position in the line of sewing.

We accomplish this by the device shown in Figs. 3, 4, and 5. The pattern-cam *m* is provided with a slot in its periphery, as at 30, and upon the under side of the slide-bar *l'* is a pin, 31, which passes through a slot in the cylinder *l*. When the slide is withdrawn, the pin 31 is in front of the pattern-cam *n*, and the zigzag or ornamental sewing will be proceeded with. This slot 30 is so positioned that the pin 31 can only enter therein when the ornamental stitching has arrived at the required point, as determined by the revolution of the pattern-cam; and if the slide is free and is moved forward by its spring at this time, the lateral feed of the cloth is stopped at such a point that the ordinary straight-line sewing will start in the proper line relative to the zigzag sewing. The slide *l'* is moved forward by the spring 23, when

the lever-cam 22 is turned aside, as before explained, and its end, running in beneath the pawl *n'*, lifts the same and stops the lateral feed-motion.

We claim as our invention—

The slide *l'* and lifting-plate 20, sliding in the stationary cylinder *l*, and having a pin, 31, on its under side, in combination with the revolving pattern-cam *n*, having a notch, 30,

and the ratchet-wheel 3 and feed-wheel, substantially as and for the purposes set forth.

Signed by us this 29th day of December,
A. D. 1873.

DAVID M. SMYTH.

GEO. W. GLAZIER.

Witnesses:

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W. W. WRIGHT.