

F. B. TAYLOR.
Sewing-Machines.

No. 146,721.

Patented Jan. 20, 1874.

Fig 1.

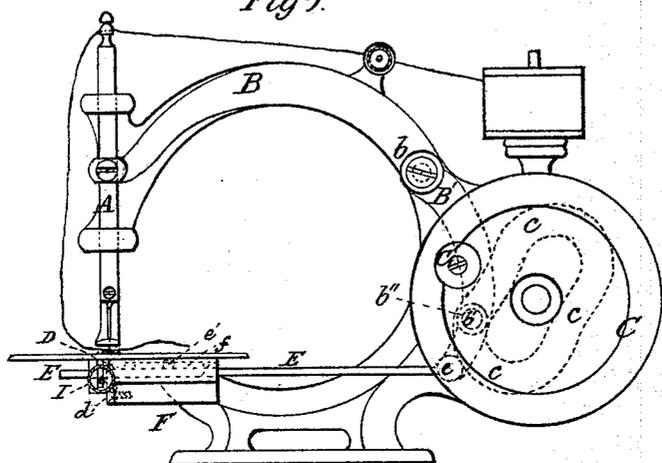
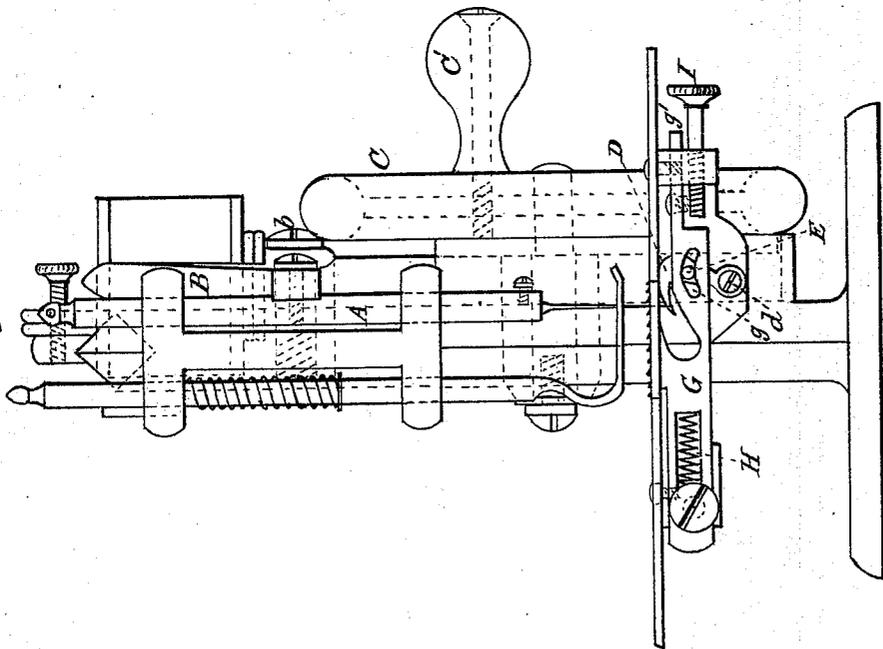


Fig 3



Witnesses

Thomas Nightrigale Palmer

Henry James Farlow

Inventor

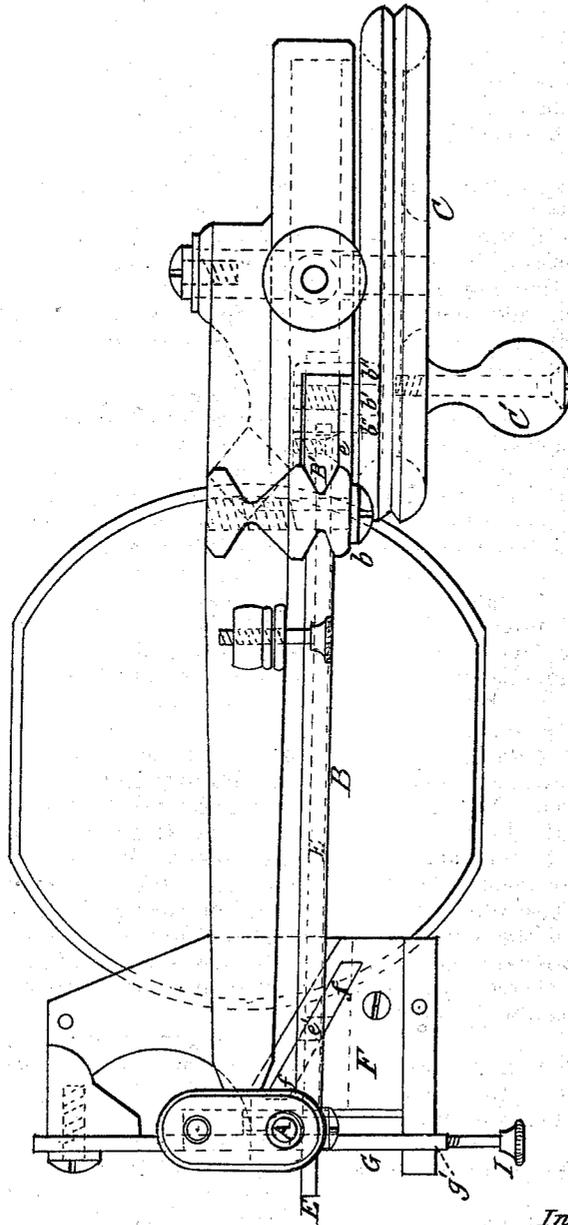
Fleming Ballou Taylor

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Fig 2



Witnesses

Thomas Nightingale Palmer

Henry James Farrow

Inventor

Frederic Ballou Taylor

UNITED STATES PATENT OFFICE

FENNER BALLOU TAYLOR, OF LONDON, ENGLAND.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **146,721**, dated January 20, 1874; application filed October 29, 1873.

To all whom it may concern:

Be it known that I, FENNER BALLOU TAYLOR, of London, England, have invented Improvements in Sewing-Machines, of which the following is a specification:

My improvements relate to that class of sewing-machines known as "loop-stitch machines," and have for their object the construction of a machine which shall be lighter, more simple, and less expensive than any good machine heretofore produced, and embrace a novel arrangement for producing the feed and looping action in connection with the motion of the needle.

In my improved machine, the needle-bar is operated by a rocking arm having an extension, forming an elbow crank or lever, which is provided with a stud, on which revolves a friction-roller, said stud and roller taking into a cam-groove formed in the inner surface of the driving-wheel.

The hook or looper and the feeding device are both operated by a rod hinged to the said elbow-lever. The said rod has a reciprocating longitudinal motion and a lateral motion, the former being imparted to it by the elbow-lever, and the latter by means of a stud or projection on the said rod working in an oblique cam-slot in a plate arranged under the cloth-plate of the machine. The said rod passes through a hole in the looper, and by its lateral motion imparts to the said looper the necessary vibratory movement. The feed-bar has a curved slot, through which the said rod passes, and imparts to the said bar an upward, forward, and downward movement, the return motion being effected by a spiral spring working in a longitudinal slot in the said bar.

Figure 1 is a side elevation of my improved machine. Fig. 2 is a plan of the same with the cloth-plate removed. Fig. 3 is an end elevation of the same.

Like letters indicate like parts in all the figures.

The drawings show the position of the several parts when the machine is at half-stroke.

The needle-bar A is operated by the arm B, working on a fulcrum-pin, *b*. The said arm is provided with an extension, B', (shown

partly by dotted lines, Fig. 1,) which forms an elbow crank or lever. This elbow-lever is provided with a stud, *b'*, on which turns a friction-roller, *b''*, the said stud and roller taking into a cam-groove, *c*, formed in the inner surface of the driving-wheel C, which is arranged parallel with the arm B. The driving-wheel C being put in motion by the handle C', it imparts an oscillating motion to the elbow-lever B', thus causing the arm B to rock upon its fulcrum *b*, and produce the vertically-reciprocating motion of the needle-bar A.

The hook or looper D, pivoted to the frame of the machine at *d*, is operated by the rod E, which is hinged to the elbow-lever B' at *e*. This rod E has two motions—a reciprocating longitudinal motion, imparted to it by the oscillation of the elbow-lever B', and a lateral motion, which is given to it by a stud or projection, *e'*, working in an oblique slot, *f*, formed in the plate F. The forward end of the rod E passes through a hole in the looper D, as shown in Fig. 3, and by its lateral motion imparts to the said looper the necessary vibratory movement on its pivot *d*.

The feed-bar G is operated by the rod E, working in the curved slot *g* in the said bar. The vibratory movement of the looper D imparts to the rod E a curvilinear motion, which causes the said rod to impart to the feed-bar G an upward, forward, and downward movement, the return movement being effected by the spiral spring H. The portion *g'* of the feed-bar G works in a slot formed in the frame of the machine, (see Figs. 1 and 2,) thus preventing any lateral displacement of the feed-bar.

The length of stitch is regulated by the screw I, which sets against the feed-bar G, as shown in Fig. 3.

I claim as my invention—

1. The elbow-lever B', actuated by the cam-wheel C, combined with the rod E, provided with a stud, *e'*, working in an oblique slot, *f*, whereby reciprocating and lateral movements are imparted to said rod E.

2. The combination of the looper D with the rod E, passing through said looper, whereby the reciprocating and lateral motions of said

rod impart the necessary vibratory motion to said looper, substantially as set forth.

3. The feeding device G, having a curved slot, *g'*, and the rod E passing through said curved slot in said feed-bar G, said rod E having a curvilinear motion imparted to it by the looper as it vibrates on its axis, which

motion imparts to the feed-bar G an upward, forward, and downward motion, as set forth.

FENNER BALLOU TAYLOR. [L. S.]

Witnesses:

THOMAS NIGHTINGALE PALMER,
HENRY JAMES FARLOW.