

J. A. HOUSE.
Sewing-Machines.

No. 145,570.

Patented Dec. 16, 1873.

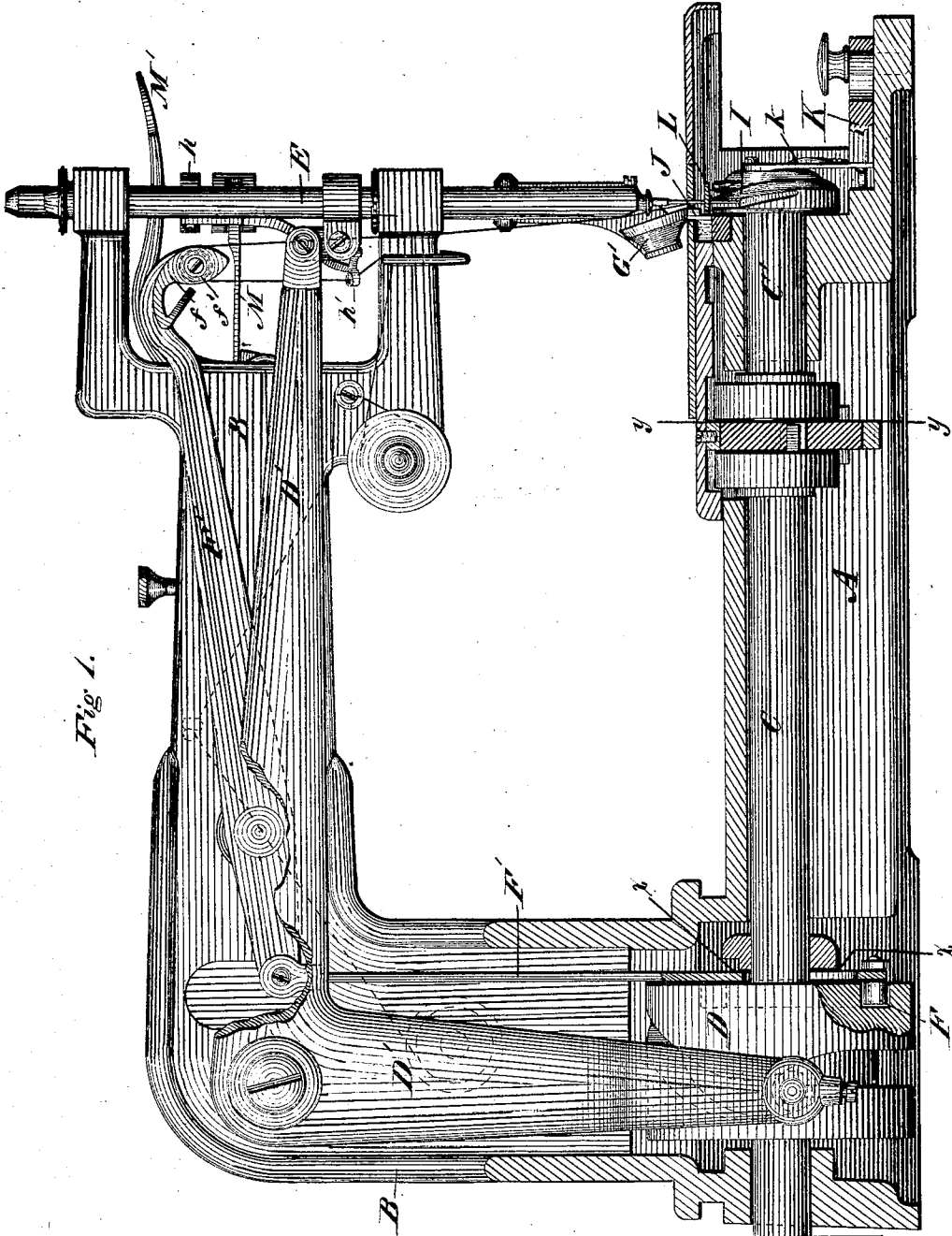


Fig. 1.

Witnesses.

Harry King
B. H. Morse

Inventor.
James A. House

by his attorney
Wm. D. Baldwin

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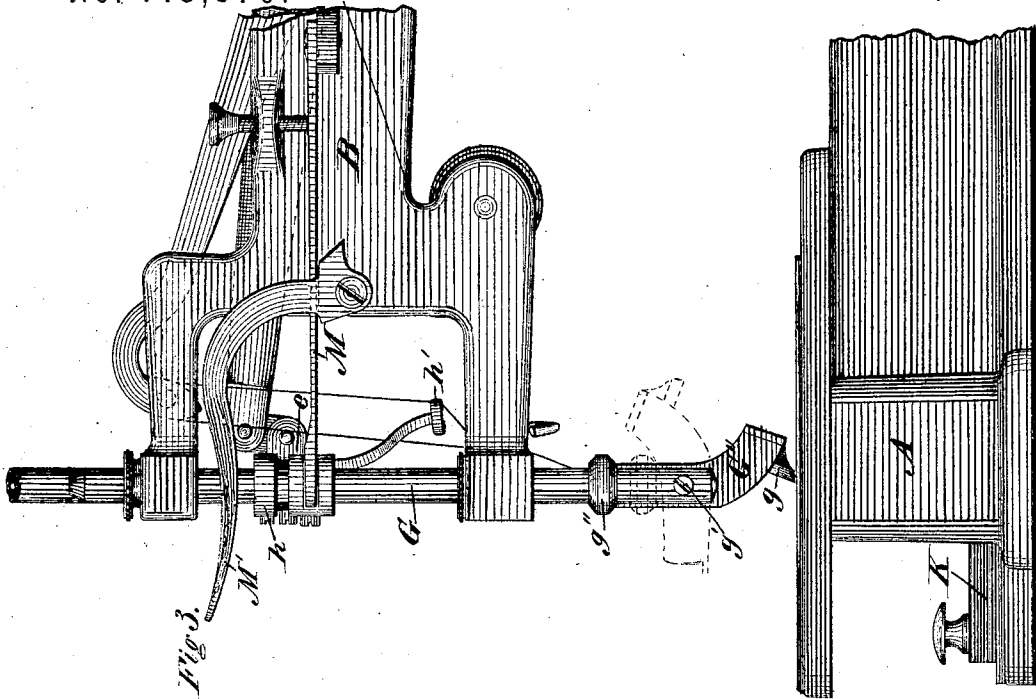


Fig. 3.

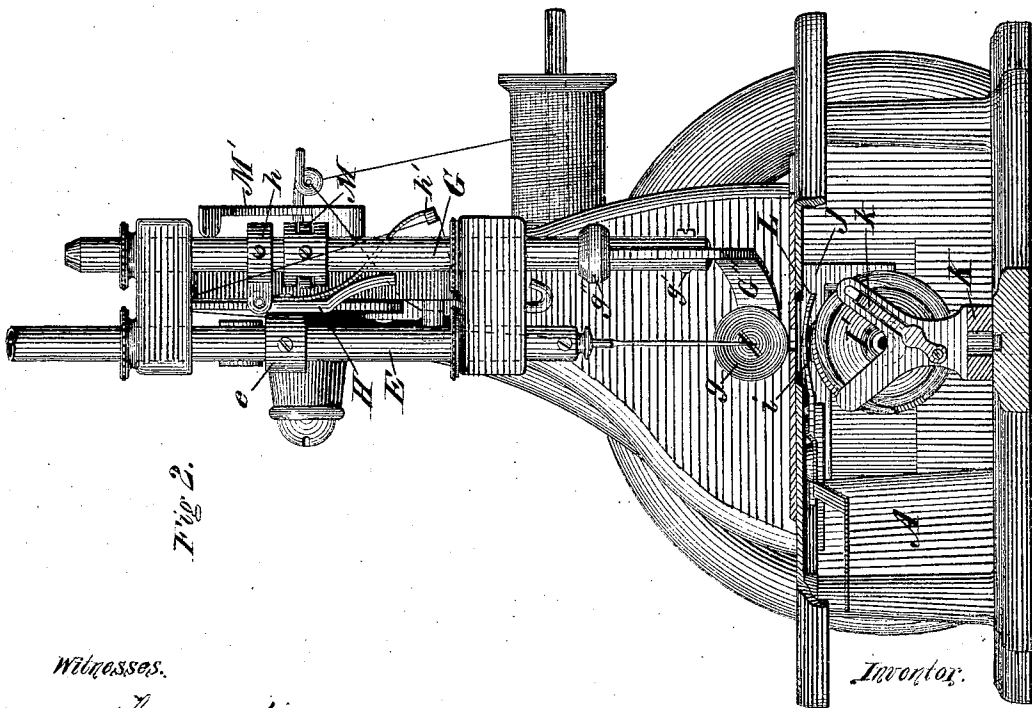


Fig. 2.

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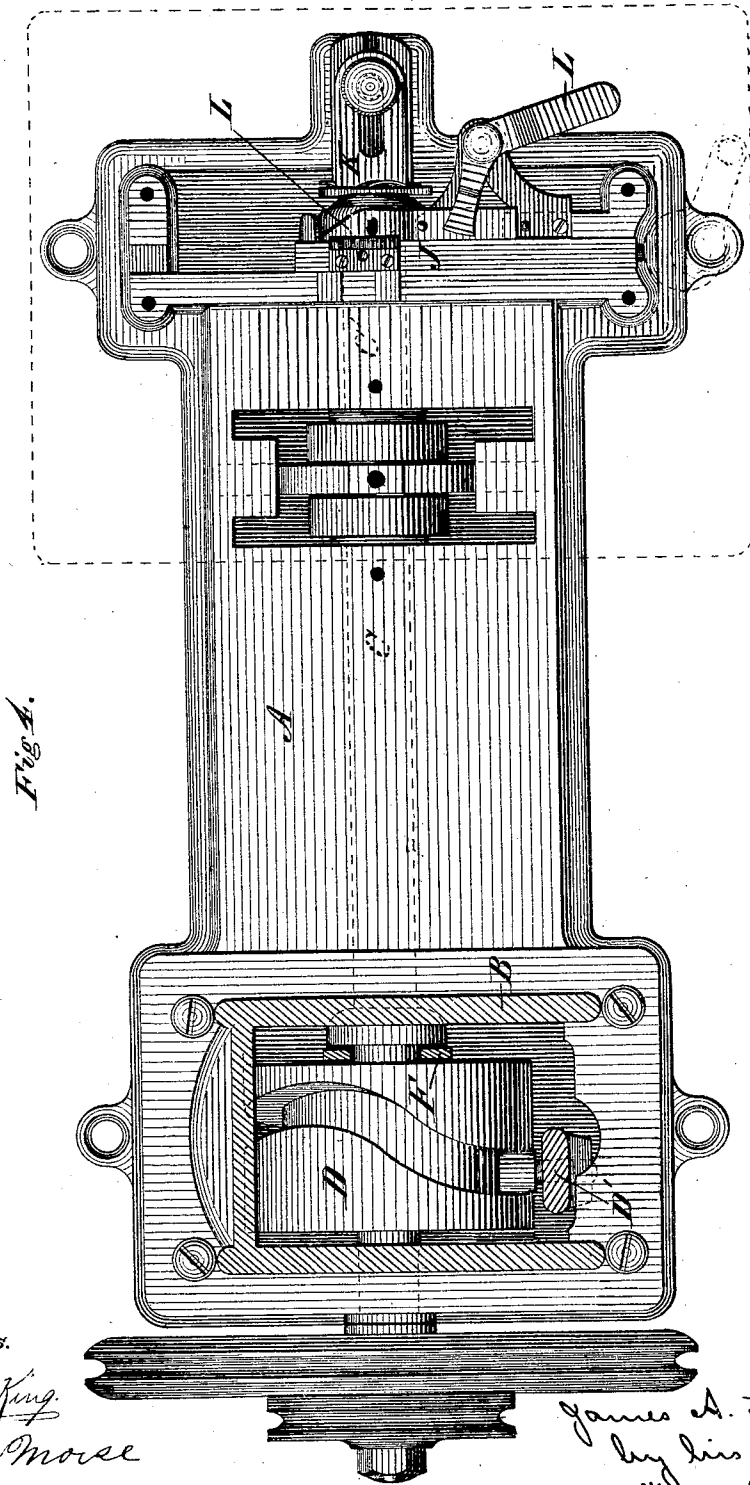


Fig. A.

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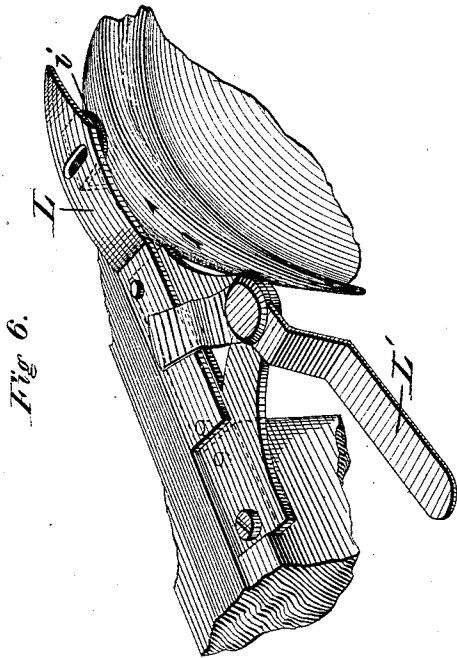


Fig. 6.

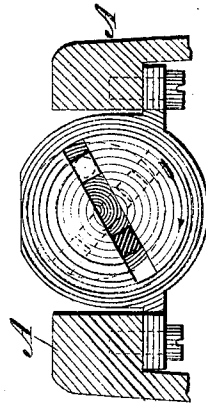


Fig. 8.

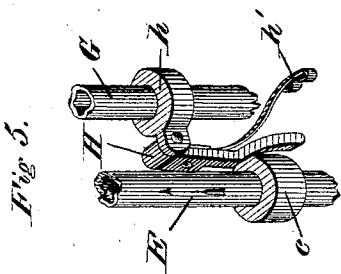


Fig. 5.

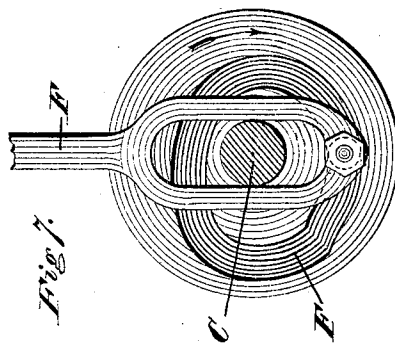


Fig. 7.

Witnesses.

Harry King
B. H. Morse

Inventor.

James A. House
by his Attorney
W. D. Baldwin

UNITED STATES PATENT OFFICE.

JAMES A. HOUSE, OF BRIDGEPORT, CONN., ASSIGNOR TO THE WHEELER AND WILSON MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 145,570, dated December 16, 1873; application filed November 3, 1873.

To all whom it may concern:

Be it known that I, JAMES A. HOUSE, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification:

My invention has been made with a view of producing a sewing-machine of the Wheeler and Wilson type, more especially adapted to the sewing of leather and heavy fabrics, and constitutes an improvement on the machine patented to me March 5, 1872, as No. 124,360.

The subject-matter claimed is hereinafter specified.

In the accompanying drawings, which represent my improvements as embodied in the best way now known to me, Figure 1 represents a view, in elevation, of one side of the machine, with portions broken away to show other parts more clearly; Fig. 2, a front view; Fig. 3, a view, in elevation, of portions of the needle end of the machine; Fig. 4, a plan or top view of the front end of the lower portion of the machine with the table removed; Fig. 5, a view, in perspective, of the thread-controlling device; Fig. 6, a similar view of the tension-finger, enlarged; Fig. 7, a transverse section of the main shaft on the line *x x* of Fig. 1, and Fig. 8 a similar section on the line *y y* of Fig. 1.

The mechanism is mounted upon, and some parts of it inclosed by, a hollow frame or casing, A, upon which a bracket-arm, B, is mounted. A shaft, C, driven by power applied in any suitable well-known way, carries a cam, D, which vibrates a needle-arm, D', having its fulcrum on the bracket-arm, and linked to a needle-bar, E, reciprocating endwise in guides in the bracket-arm. The shaft C carries another cam, F, which vibrates a take-up arm, F', likewise pivoted on the bracket-arm. The front end of this lever is provided with an eye or loop, *f*, through which the upper thread passes, as well as with a roller, *f'*, over which said thread runs. This shaft C also imparts a differential movement to a shaft, C', carrying a revolving hook, I, in

which a bobbin, I', is secured. The machine is also provided with the usual four-motion feed J, and with a presser-foot, G'.

The construction and operation of the devices hereinbefore mentioned are substantially the same as those described in my Letters Patent hereinbefore referred to, except as herein-after stated.

A presser-bar, G, movable freely endwise in its bearings in the bracket-arm, is pressed down to its work by an adjustable spring, M, and lifted, when required, by a cam-lever, M', acting on said spring. A presser foot or roller, *g*, is mounted on an arm, G'', hinged or pivoted, at *g'*, to the presser-bar G, so as to allow the presser-foot easily to be swung out of the way. A ring or collar, *g''*, movable on the bar, serves to hold the presser-foot down to its work, when desired. Upon this presser-bar G is also mounted an adjustable collar, *h*, to which an arm, H, is hinged. This arm carries a tension-spring provided with an eye, *h'*, through which the upper thread passes. As the needle-bar rises, a collar, *e*, on it strikes this hinged arm H, and forces it to one side, thus rapidly drawing up the upper thread from the hook, while in the descent of the needle-bar the arm is left free to swing inward after the needle enters the fabric, and thus rapidly slacken the thread. When thick material is being sewed, the presser-foot necessarily rises to accommodate it; consequently the needle-bar in its descent releases the swinging arm H, and thus leaves the thread free to run out at an earlier stage, thus compensating the rise of the presser foot or wheel, it being my intention that the thread-controller shall be released just as the eye of the needle descends into the cloth. The bobbin is held up to its work by an adjustable slide-rest, K, having one or more slotted arms, through which holding-springs *k* pass. The hook is provided with a pad, *i*, preferably of metal, between which and a spring tension-finger, L, the bobbin-thread is clamped at each revolution as soon as the loop of needle-thread has passed around the bobbin and upward through the finger, to tighten the stitch. The spring ten-

sion-finger L is mounted on the frame under the cloth-plate, and its pressure upon the hook-pad regulated by a lever, L', also pivoted on the frame, thus adapting the tension to thread of varying fineness. The needle works through a hole in this finger.

I claim as my invention—

1. The combination, substantially as set forth, of a presser-bar, a presser-foot pivoted therein, and a locking-ring on the presser-bar, whereby the presser-foot, when at work, is locked by the ring, and yet can be turned up out of the way when desired.

2. The combination, substantially as set forth, of a spring tension-finger and a rotating pad on the hook, to lock the bobbin-thread while the stitch is being tightened.

3. The combination, substantially as set forth, of the rotating pad, the tension-finger, and the adjustable spring-lever for varying the tension of the lower thread.

In testimony whereof I have hereunto subscribed my name.

Witnesses: JAMES A. HOUSE.
 GEORGE H. DIAMOND,
 A. R. LACEY.