(No Model.) 2 Sheets—Sheet 1.

# J. F. SNEDIKER.

## BUTTON HOLE SEWING MACHINE.

No. 261,399. Patented July 18, 1882.

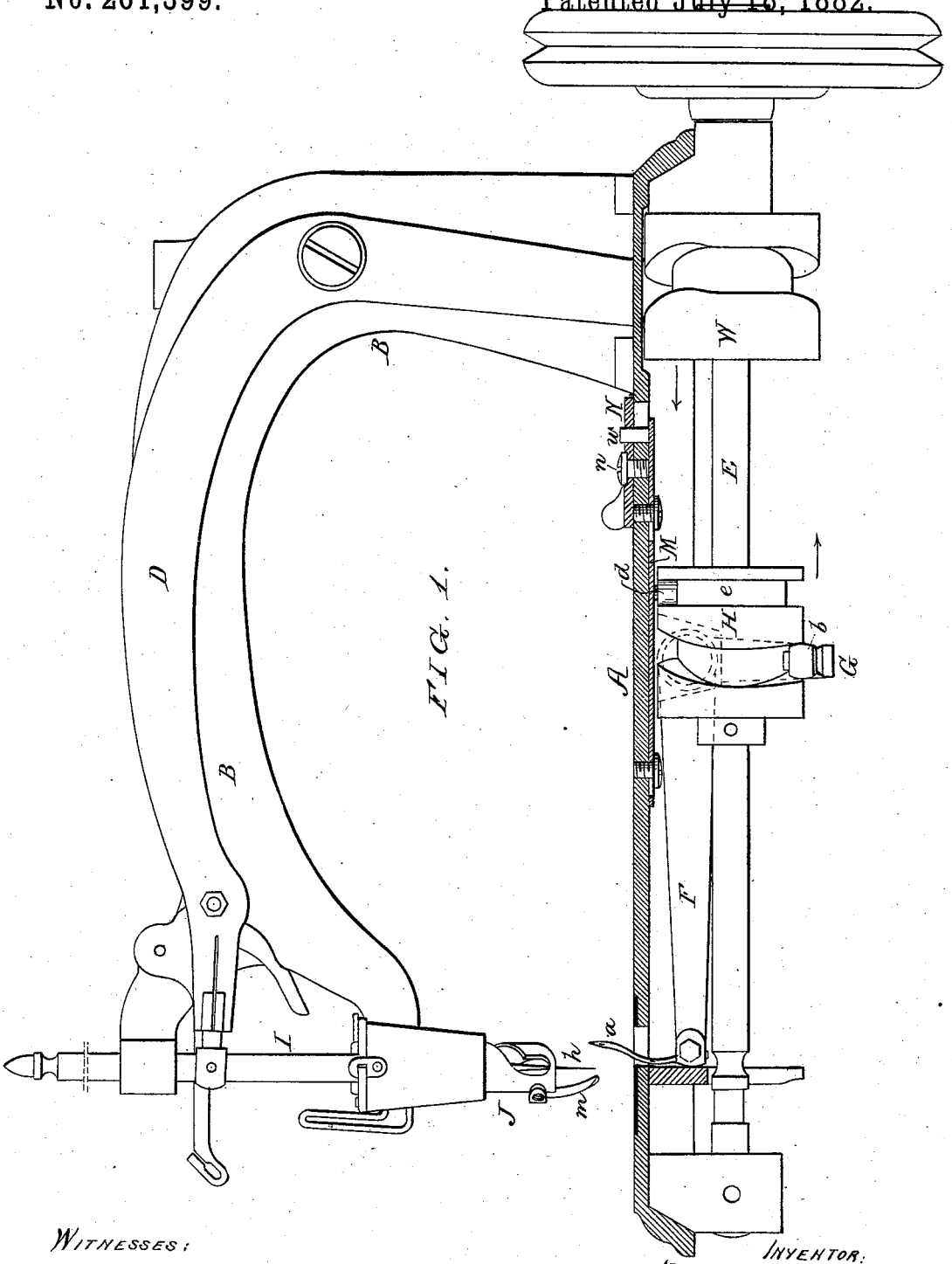


FIG. 1.

WITNESSES:

Harry Drury

Harry Smith

INVENTOR:

James F. Snediker

by his attorneys.

Howson and Sons

(No Model.) 2 Sheets—Sheet 2.

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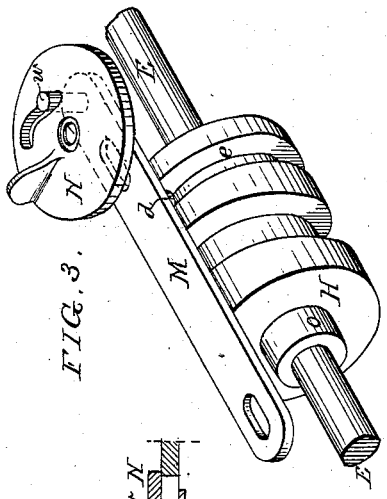

FIG. 3.

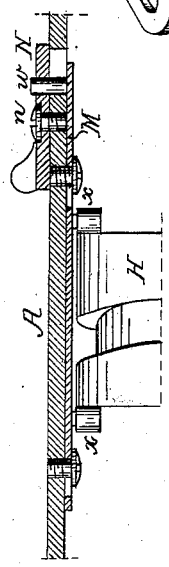

FIG. 4.

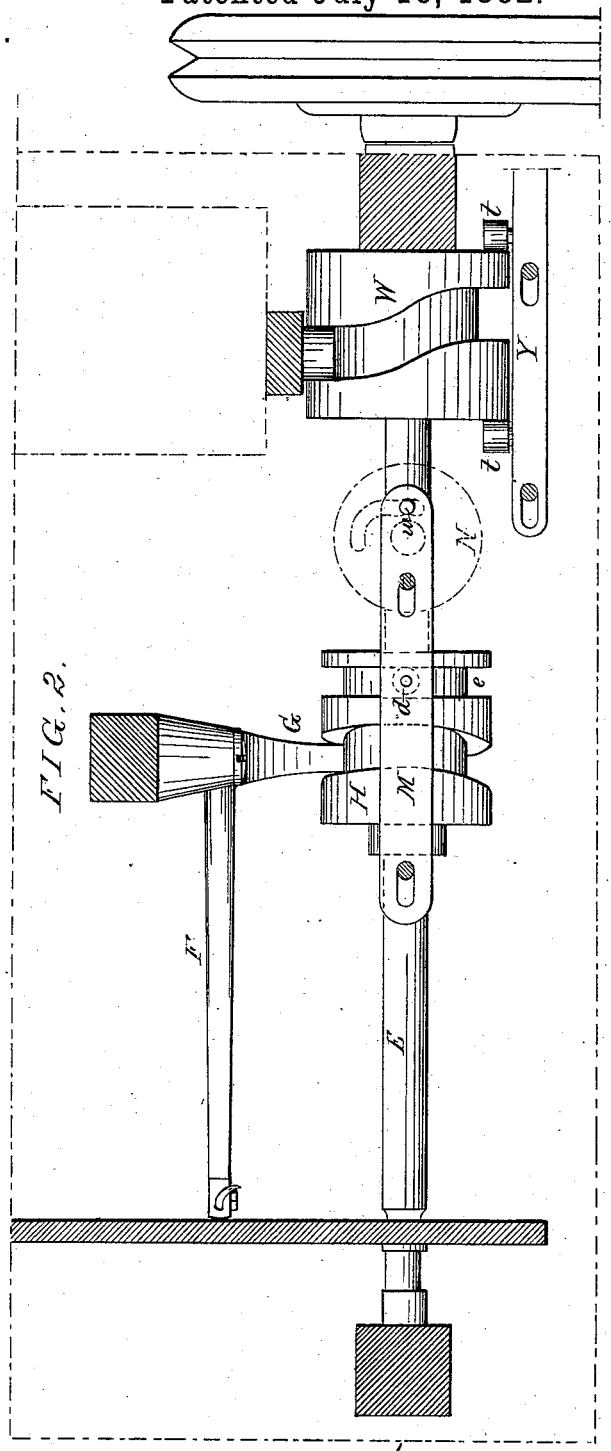

FIG. 2.

WITNESSES:

Harry Drury

Harry Smith

INVENTOR

James F. Snediker

by his attorneys.

Howson and Sons

# UNITED STATES PATENT OFFICE.

JAMES F. SNEDIKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE NATIONAL SEWING MACHINE COMPANY, (LIMITED,) OF SAME PLACE.

## BUTTON-HOLE SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 261,399, dated July 18, 1882.

Application filed April 24, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. SNEDIKER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Button-Hole Sewing-Machines, of which the following is a specification.

My invention relates to an improvement in the button-hole sewing-machine for which Letters Patent No. 51,086 were granted to the assignees of George Rehfuss, November 21, 1865, antedated June 17, 1865; and the object of my invention is to afford facilities for the application of automatic attachments to the machine.

In the accompanying drawings, Figure 1, Sheet 1, is a side view, partly in section, of a button-hole sewing-machine showing my improvement; Fig. 2, Sheet 2, a plan view of the mechanism to which my invention relates; Fig. 3, a perspective view of part of Fig. 1, and Fig. 4 a modification of my invention.

A is the bed-plate, B the stationary arm, D the vibrating needle-arm, and E the driving-shaft, of a button-hole sewing-machine of the class referred to above.

To the under side of the bed-plate is pivoted a looper-arm, F, carrying at its outer end the eye-pointed looper *a* for the under thread, this arm forming, with a shorter arm, G, a bell-crank lever, and this short arm being provided with an anti-friction roller, *b*, adapted to the groove of the scroll-cam H on the driving-shaft. The pivot-pin of the looper-arm is so inclined that the said arm and looper *a*, when depressed, will occupy the position shown in Fig. 2, and when the arm is raised the looper *a* will be near the usual eye-pointed needle, *h*, which is attached to the needle-bar I. A sleeve, J, concentric with the needle-bar, is oscillated on the same, and to this sleeve is attached the loop-catcher *m*. By the combined action of the loop-carrier *a*, eye-pointed needle *h*, and loop-catcher *m* a button-hole stitch is formed on the edge of the fabric.

The above description applies to the well-known button-hole sewing-machine manufactured under the aforesaid patent.

Heretofore the fabric has been guided by hand in using this machine—a duty requiring skill and experience on the part of the operator.

In attempting to apply automatic devices for traversing the fabric to machines of this class the fact that when the looper is depressed the needle is in the fabric and when the needle is out of the fabric the looper projected above the same presented difficulties in the way of adjusting the clamping-plate carrying the fabric and connected with the automatic mechanism to the bed-plate of the machine. In order to overcome this difficulty, I make the scroll-cam H adjustable on the driving-shaft E, instead of securing it permanently thereto. On sliding the scroll-cam in the direction of the arrow, Fig. 1, the arm F will be depressed and the loop-carrier *a* will be beneath the bed-plate, where it may be permitted to remain until the automatic device carrying the fabric is adjusted to the base-plate beneath the needle.

There may be a groove in the shaft and a feather in the eye of the scroll-cam.

Different devices may be used for moving back the cam; but I prefer a bar, M, so secured to the under side of the bed-plate that it can be moved to and fro longitudinally thereon to a limited extent, the bar being provided with a pin, *d*, entering the groove *e* of the cam, and the pin having, if deemed necessary, a roller adapted to the groove. Another plan is to provide the bar with two horizontal anti-friction rollers, *x x*, between which the scroll-cam is confined, as shown in Fig. 4.

The device for operating the bar M consists, in the present instance, of a disk or plate, N, adapted to turn on a pin, *n*, screwed into or otherwise secured to the base-plate, the disk having a cam-slot, through which extends a pin, *w*, on the bar, and the bed-plate of the machine being slotted to receive and permit the longitudinal movement of the pin.

By turning the disk in one direction the bar and the scroll-cam M will be moved rearward, and the looper-arm and looper will consequently be depressed, and by moving the disk in the other direction the looper-arm and looper will be restored to their proper working condition.

Further facilities for the application of automatic devices to the bed-plate of the machine may be afforded by making the scroll-cam W, which operates the needle-arm, adjustable on the driving-shaft, the cam being combined with

a bar, Y, Fig. 2, movable on the bed-plate of the machine, and provided with anti-friction rollers *t*. On sliding the cam in the direction of its arrow, Fig. 1, the needle will be raised and more room will be afforded for the application of the clamping-plate and automatic mechanism to the bed-plate of the machine.

Mechanism similar to that described above for operating the bar M may be used for operating the bar Y.

I claim as my invention—

1. The combination of the driving-shaft E, looper-arm F, and looper *a* of a button-hole sewing-machine with the scroll-cam H, movable longitudinally on the said shaft, substantially as set forth.

2. The combination of the adjustable bar M on the bed-plate, the looper-arm, and shaft E with the scroll-cam confined longitudinally to the said bar, substantially as specified.

3. The combination of the driving-shaft, scroll-cam H, and bar M with the disk N, having a cam-slot adapted to a pin extending upward from the bar, substantially as described.

4. The combination of the needle-arm with the scroll-cam W, and with mechanism for adjusting the said cam longitudinally on the driving-shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAS. F. SNEDIKER.

Witnesses:
HARRY DRURY,
HARRY SMITH.