

(No Model.)

D. MILLS.  
BOOT OR SHOE SEWING MACHINE.

No. 477,435.

Patented June 21, 1892.

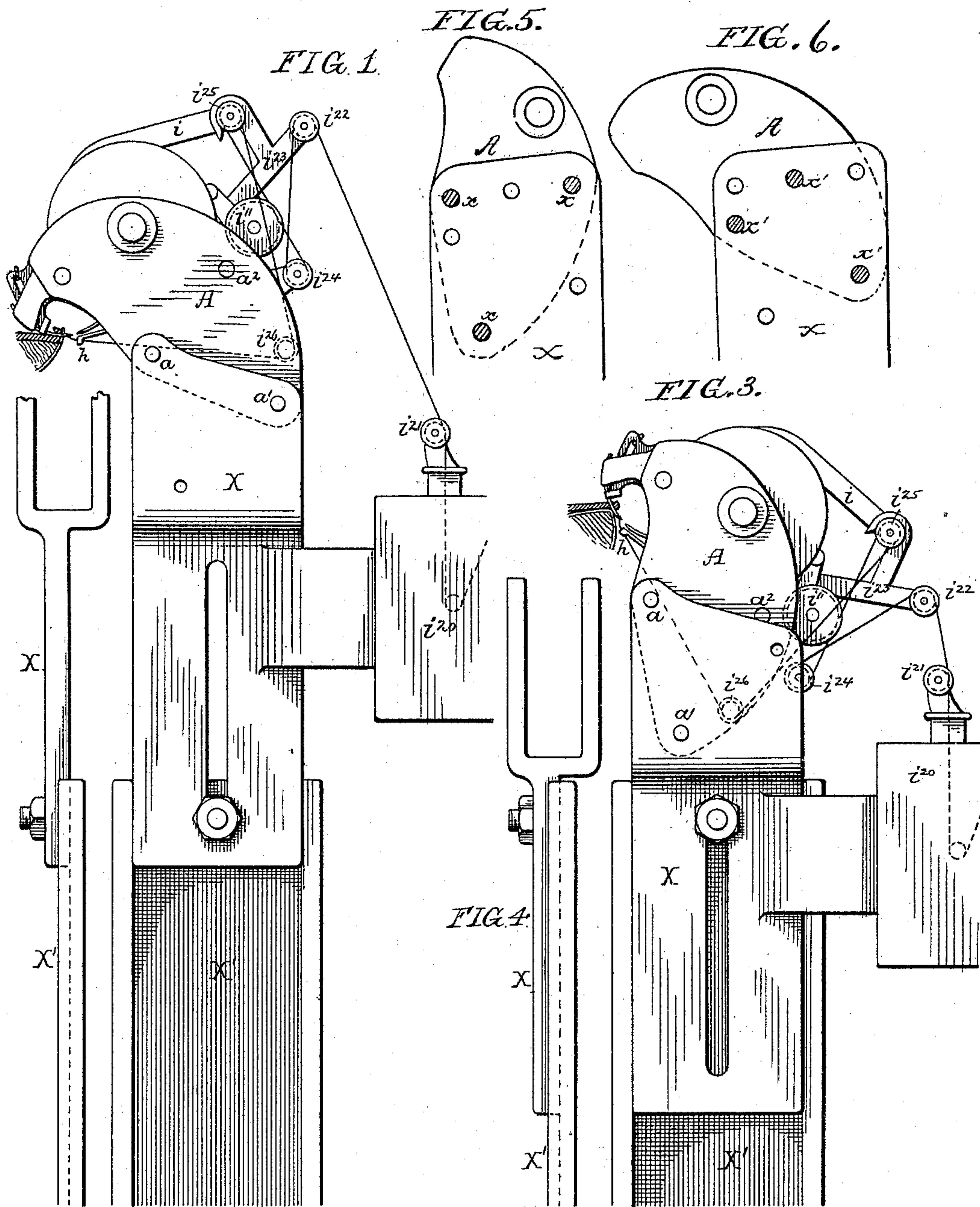


FIG. 2.

Witnesses  
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# UNITED STATES PATENT OFFICE.

DANIEL MILLS, OF PHILADELPHIA, PENNSYLVANIA.

## BOOT OR SHOE SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 477,435, dated June 21, 1892.

Application filed October 6, 1891. Serial No. 407,942. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL MILLS, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Boot or Shoe Sewing Machines, of which the following is a specification.

My invention relates to a machine whose general character is set forth in the application filed by myself and Daniel Mills, Jr., on December 1, 1890, Serial No. 373,198, and in four several applications filed by myself and bearing even date herewith. The machine described in the specifications accompanying said applications is designed for sewing a welt to the insole and upper, for stitching the outsole to the welt, and also for sewing the soles to the uppers of "turned" shoes. The characteristic features of the mechanism in said machine are a curved needle, which has a reciprocating motion or partial rotation to and fro around an axis, and operates with an awl and with a looper, a feed-dog, back gages, a discoidal bobbin, a hook for carrying the thread over the same, and other devices actuated by suitable cams, the whole of the mechanism being supported in a strong head placed on a stand in such a manner as to permit the work to be properly presented to the sewing mechanism.

My present improvements consist in mounting the head of the machine in such a manner that said machine can be used for sewing on welts or for turned work, and also for "fair-stitching" or sewing outsoles to welts with the sole in the same relative position to the operator in all cases, and, further, in a special arrangement of levers, rollers, and wax-pot, whereby the action of the machine is not affected, nor is any change in the position of the wax-pot rendered necessary when the head of the machine is shifted in changing from one class of work to another.

In the accompanying drawings, Figure 1 is a side view of the machine, showing the head in the position to which it is adjusted when the machine is used for sewing welts or turned work. Fig. 2 is an end view of the supporting frame or stand for the machine in the position shown in Fig. 1. Fig. 3 is a side view showing the head of the machine in the position to which it is adjusted when the ma-

chine is employed for fair stitching or sewing welts to outsoles, and Fig. 4 is an end view of the supporting frame or stand in the position shown in Fig. 3. Figs. 5 and 6 are diagrams illustrating another method of accomplishing the main object of my invention.

It will not be necessary in this specification to describe the sewing mechanism of the machine, as that is fully set forth in the other applications above alluded to. It is sufficient to say that said sewing mechanism is carried by a strong frame or head A. This frame or head is fitted and firmly bolted together by the bolts  $a a' a^2$ , and is also secured to the stand or support by the bolts  $a a'$ , the bolt  $a$  forming an axis upon which the head and the whole of the mechanism carried thereby can be turned from the position shown in Fig. 1 to that shown in Fig. 2 without deranging any of the parts of the mechanism.

When the machine is in the position shown in Fig. 1, the parts of the sewing mechanism are in position for sewing turned work or for sewing a welt to an upper and insole, the needle in this case traveling in a plane substantially parallel to the "between substance," or that part of the sole between the inside and outside channels. For fair-stitching, however—that is to say, for sewing an outer sole to a welt—the head of the machine is swung around, as indicated in Fig. 3, so that while the needle works in a plane almost at right angles to the sole, as is necessary in this class of work, the boot or shoe is held in the same position as when sewing "turns" or "welts"—that is to say, with the sole uppermost, which is the most convenient position for the operator. One machine by the adjustment of the head is thus adapted for the proper performance of two different classes of work which have hitherto required separate machines.

It is well understood by those familiar with the state of the art that a welting or "turn" machine requires to be mounted on a high stand or support, while for stitching the outsole to the welt a low stand or support is used. In my present case I make the stand in two parts  $X X'$ , so as to be adjustable, the lower part  $X'$  being secured to the floor in the usual way and the upper part  $X$  carrying the sewing mechanism and also the wax-pot  $i^{20}$ , so that when the sewing mechanism is raised or



lowered for the different classes of work the wax-pot always occupies the same relative position thereto. The thread after passing through the wax-pot  $i^{20}$  on the upper or adjustable member of the standard or column of the machine passes thence around a roller  $i^{21}$  and thence over a roller  $i^{22}$  on a pull-off lever  $i^{23}$ , actuated by the pull-back lever  $i$ , thence around the tension device  $i^{24}$ , thence around the thread-locking drum  $i^{11}$ , thence around the grooved roller  $i^{25}$  on the pull-back lever, thence to the roller  $i^{26}$ , secured to the frame or head, and from there to the looper  $h$ . The thread thus passes in the same course from the wax-pot to the looper in whichever of its two positions the head of the machine happens to be, as will be evident on reference to Figs. 1 and 3.

Although it is preferable to provide for the adjustment of the head A of the machine by pivoting the same to the stand X in the manner shown and described, it will be evident that the main object of my invention may be attained even if the head is not thus pivoted to the stand. For instance, in Figs. 5 and 6 I have shown diagrams illustrating a construction in which the head when in one position of adjustment is secured to the stand by bolts  $x$ , and when in the other position of adjustment by an independent set of bolts  $x'$ , the head being first detached from the stand, then adjusted to the new position, and then again secured in place.

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

1. The combination, in a boot or shoe sewing machine, of the fixed frame or stand, the sewing mechanism, the frame or head carrying the same and mounted upon the fixed frame or stand and adjustable thereon to positions permitting either an upright or a lateral action of the needle, and means for securing the adjustable frame to the fixed frame

in its different positions of adjustment, whereby the machine is adapted for performing different classes of work with the sole uppermost, substantially as specified.

2. The combination, in a boot or shoe sewing machine, of the fixed frame or stand, the sewing mechanism, the frame or head carrying the same and pivoted to the fixed frame or stand, so as to be adjustable thereon to positions permitting either an upright or a lateral action of the needle, and means for securing the pivoted frame in either of its two positions of adjustment, substantially as specified.

3. The combination of the shifting head of the machine, the pull-back and tension mechanism, the wax-pot, the stand carrying said head and wax-pot, a thread-guiding roller on the mechanism carried by the shifting-head, and a thread-guide located on the wax-pot and serving to permit the delivery of thread from said wax-pot in the same direction in either position of adjustment of the shifting-head, substantially as specified.

4. The combination of the supporting-stand, comprising a lower fixed member and an upper vertically-adjustable member, with the head carrying the sewing mechanism and mounted upon said upper member of the stand, but adjustable thereon to positions permitting either an upright or a lateral action of the needle, means for securing said adjustable head to the stand in its different positions of adjustment, and a wax-pot likewise carried by said upper member of the stand, substantially as specified.

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

DANL. MILLS.

Witnesses:

EUGENE ELTERICH,  
HARRY SMITH.