

No. 724,447.

PATENTED APR. 7, 1903.

H. A. DODGE & W. WILSON.  
AWL MECHANISM FOR SEWING MACHINES.

APPLICATION FILED AUG. 15, 1902.

NO MODEL.

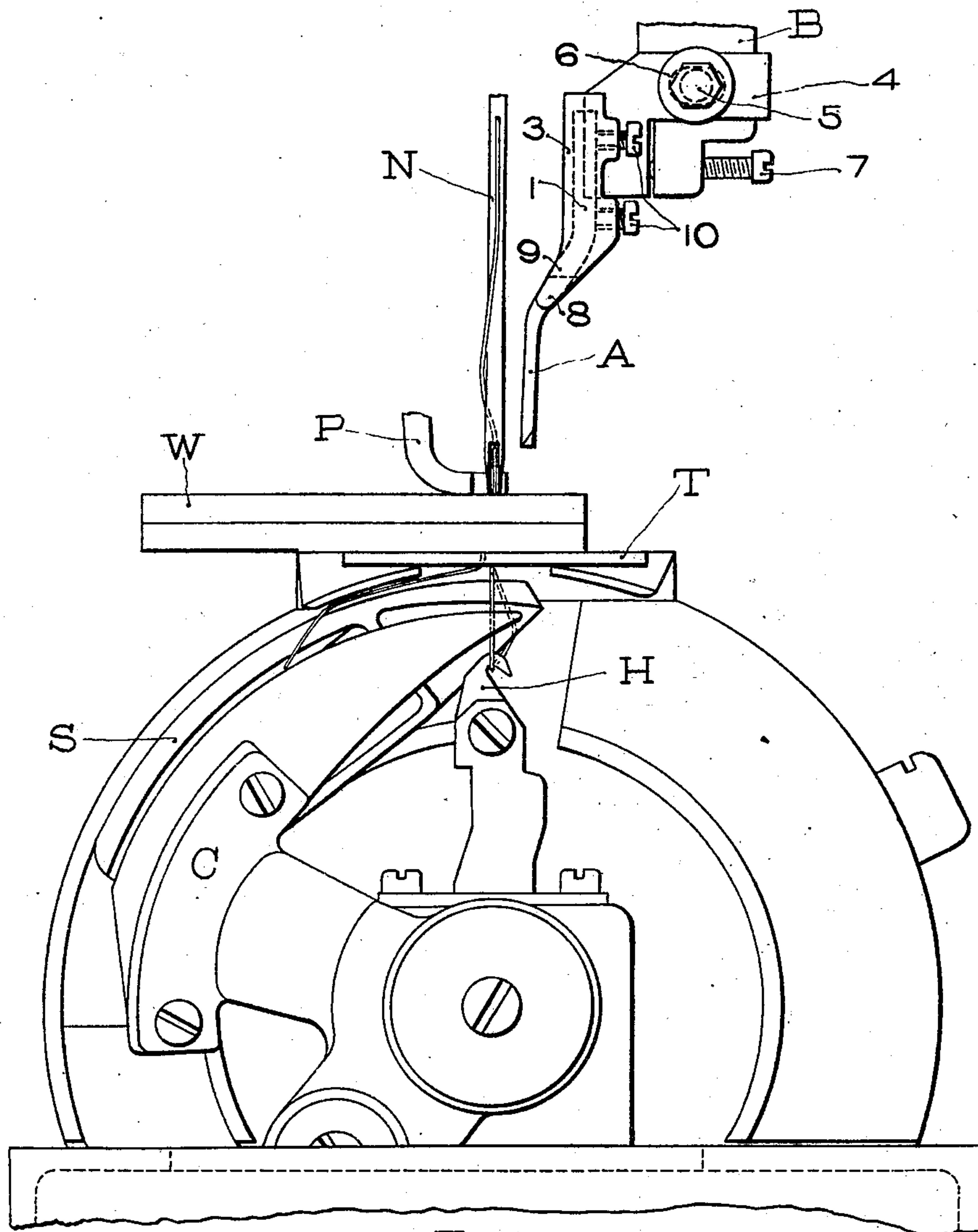


Fig. 1.

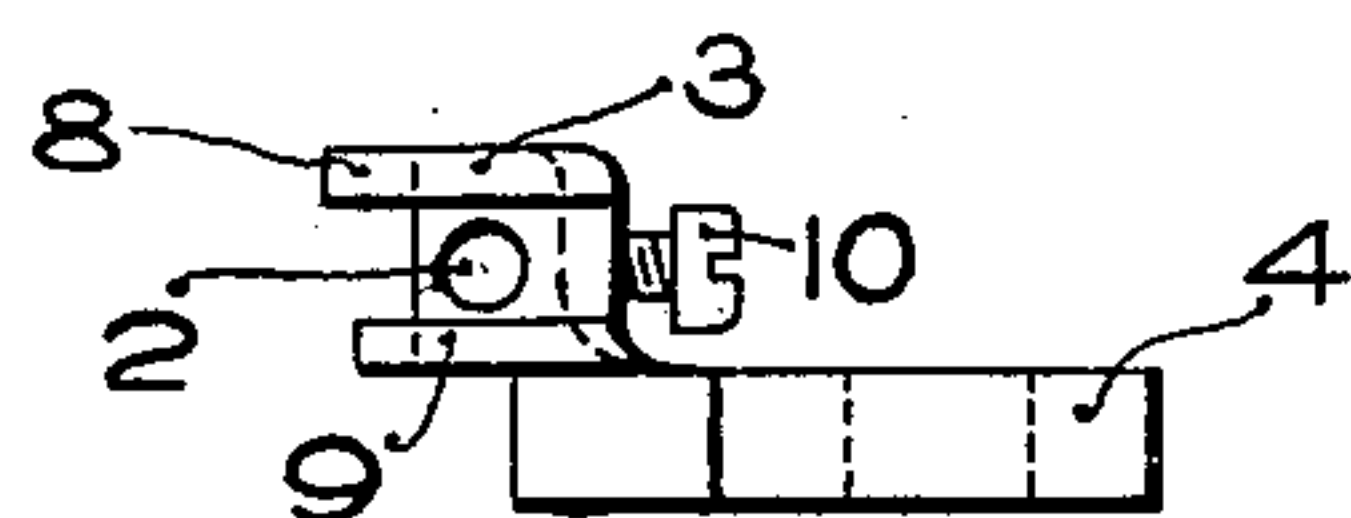


Fig. 3.

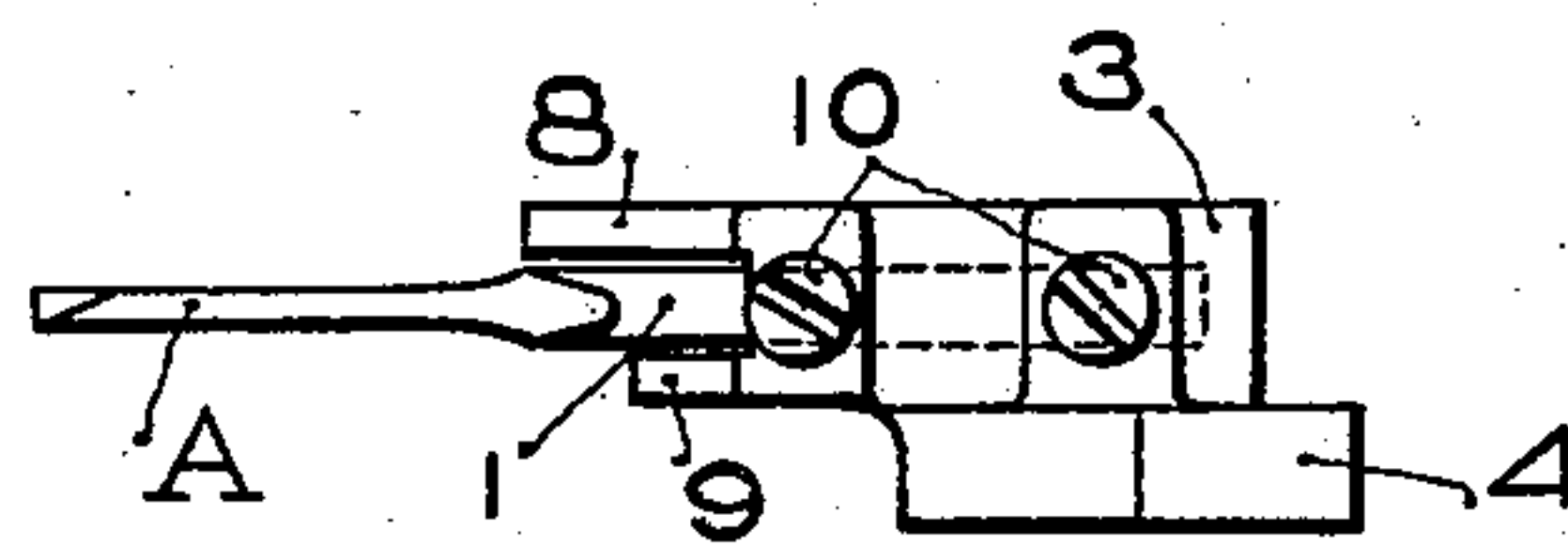


Fig. 2.

WITNESSES  
Edwin H. Samuels  
Alfred H. Hildreth

INVENTORS.  
Harry A. Dodge and  
William Wilson  
by their Attorneys  
Phillips, Van Dusen & Fish

# UNITED STATES PATENT OFFICE.

HENRY A. DODGE AND WILLIAM WILSON, OF BOSTON, MASSACHUSETTS,  
ASSIGNORS TO CAMPBELL, BOSWORTH MACHINERY COMPANY, OF PORT-  
LAND, MAINE, A CORPORATION OF MAINE.

## AWL MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 724,447, dated April 7, 1903.

Application filed August 15, 1902. Serial No. 119,735. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY A. DODGE and WILLIAM WILSON, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to eye-pointed-needle sewing-machines, and more particularly to the awl mechanism of such sewing-machines.

In eye-pointed-needle sewing-machines it is especially important that the path of the needle should be accurately located with relation to the other stitch-forming devices, because after the needle has carried a bight of thread down through the materials the loop-retainer of chain-stitch machines or the thread-hook of shuttle or lock-stitch machines engages such loop of thread drawn down by the needle, and the paths of motion of such instrumentalities lie close to the path of motion to the needle. This is necessary in order that the loop-retainer, thread-hook, or shuttle may engage the loop of thread, for if the needle be too far distant from such co-operating instrumentality the latter is liable not to engage the loop, while if the paths of motion of the needle and its co-operating instrumentality lie too close together the needle is liable to collide with such instrumentality. It has been found by experience with machines of this type, in which the awl penetrates entirely through the materials being sewed, that the needle will follow the awl-hole, being guided thereby through the materials, and when it was desired to change the position of the path of motion of the needle in order to effect its proper co-operation with the other stitch-forming devices that this could be accomplished by adjustment of the awl, so that the awl would form the puncture in the materials in proper position to guide the needle through the materials, so that it should properly co-operate with

the other stitch-forming devices. To this end in prior machines of this class it has sometimes been the practice to adjust the position of the awl laterally—that is, transversely to the line of the seam—by means of small pieces of paper inserted between the shank of the awl and the awl-haft. The lateral adjustment of the awl not only secures the correct presentation of the needle to the other stitch-forming devices, but by effecting the lateral adjustment of the awl the variations of the position of the needle owing to changes in size of the needle may be compensated for. The various methods of adjustment of the awl which have been heretofore employed, so far as we are informed, have been objectionable because, among other reasons, of the inability of the operator to adjust the awl to such a position as to cause the needle upon its descent to strike the co-operating instrumentality upon the opposite side of the work.

The object of the present invention is to reorganize and improve eye-pointed-needle sewing-machines so as to avoid the above objections and to accomplish other useful results apparent to those skilled in the art.

In the accompanying drawings, Figure 1 is a front end elevation of so much of an eye-pointed-needle lock-stitch wax-thread sewing-machine embodying the invention as is necessary to show the relations therewith of the present invention. Fig. 2 is a side elevation of the awl and awl-haft, and Fig. 3 is a bottom plan of the awl-haft employed in carrying out this invention.

The present invention is shown as applied to the well-known "Bosworth" sewing-machine. The needle N is eye-pointed and mounted in the needle-haft carried by the needle-bar in the usual manner above the work and actuated so as to reciprocate vertically in a fixed line. The presser-foot P is shown resting on the upper surface of the work W, resting on the work-table T. The shuttle S is carried and operated by the shuttle-carrier C. The thread-hook H engages the loop of thread carried down through the work by the needle, opens it, and draws it down for the shuttle S to enter and pass



through, whereupon it releases the loop held by it, so that the take-up may pull it back into the materials in the usual manner. The foregoing parts and their mode of operation  
5 are in the illustrated embodiment of the invention the same as in the said Bosworth sewing-machine.

The awl A, which is, as is usual in this class of machines, square in cross-section, is provided with the round shank 1, offset from the  
10 awl-body proper. The shank 1 of the awl is received in the round hole 2 of the awl-haft 3, which is provided with the lateral member 4, received in the correspondingly-shaped  
15 slot in the lower end of the awl-bar B. The awl-haft 3 is secured to the awl-bar B by means of the bolt 5, which passes through the elongated slot 6 of the forwardly-extended member 4 and screws into the awl-bar B, so  
20 that the awl-haft may be adjusted forward or back with relation to the needle. A stop-screw 7 is provided in the lower part of the awl-bar, so the awl-haft may be removed and replaced again without disturbing the adjust-  
25 ment of the parts, if desired, and also to serve as an abutment to receive the thrust due to feeding the work without liability of the member 4 slipping in the slot of the awl-bar. Two ears 8 and 9 extend down from the body  
30 of the awl-haft on opposite sides of the shank 1 of the awl, being separated from each other a distance greater than the diameter of said shank, and such ears are extended along the offset of the shank, so that they permit the  
35 shank to be turned slightly in the hole 2. Thus the awl may be moved laterally with relation to the needle to bring the awl-hole into the correct position for the needle. The awl is clamped in adjusted position by means of  
40 the set-screws 10. The range of adjustment

of the awl is, however, limited by the ears 8 and 9, so that by no possibility can the awl be secured in a position where it will cause the needle to interfere with the thread-hook.  
45 Thus the awl-hole is made in the materials at such a place that when the needle passes down through the work its side is presented close to the path of motion of the thread-hook. The lower end of one of the ears 9 is cut away, as seen in dotted line in Fig. 1 and  
50 in full lines in Fig. 2, to avoid interference with the presser-foot during the feed when sewing extreme thicknesses of materials, such as materials about one inch thick.

The present invention is not limited to eye-  
55 pointed-needle lock-stitch leather-sewing machines, but may be embodied in other forms of eye-pointed-needle sewing-machines.

Having thus described the invention, what  
60 is claimed is—

1. A sewing-machine, having, in combination, an eye-pointed needle, a laterally-adjustable awl having an offset shank, and an awl-haft provided with ears to engage the off-  
65 set shank to limit the lateral adjustment of the awl, substantially as described.

2. A sewing-machine, having, in combination, an eye-pointed needle, a laterally-adjustable awl, and means for carrying the awl,  
70 said awl and carrying means having cooperating parts to limit the lateral adjustment of the awl, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY A. DODGE.  
WILLIAM WILSON.

Witnesses:

HORACE VAN EVEREN,  
FRED O. FISH.