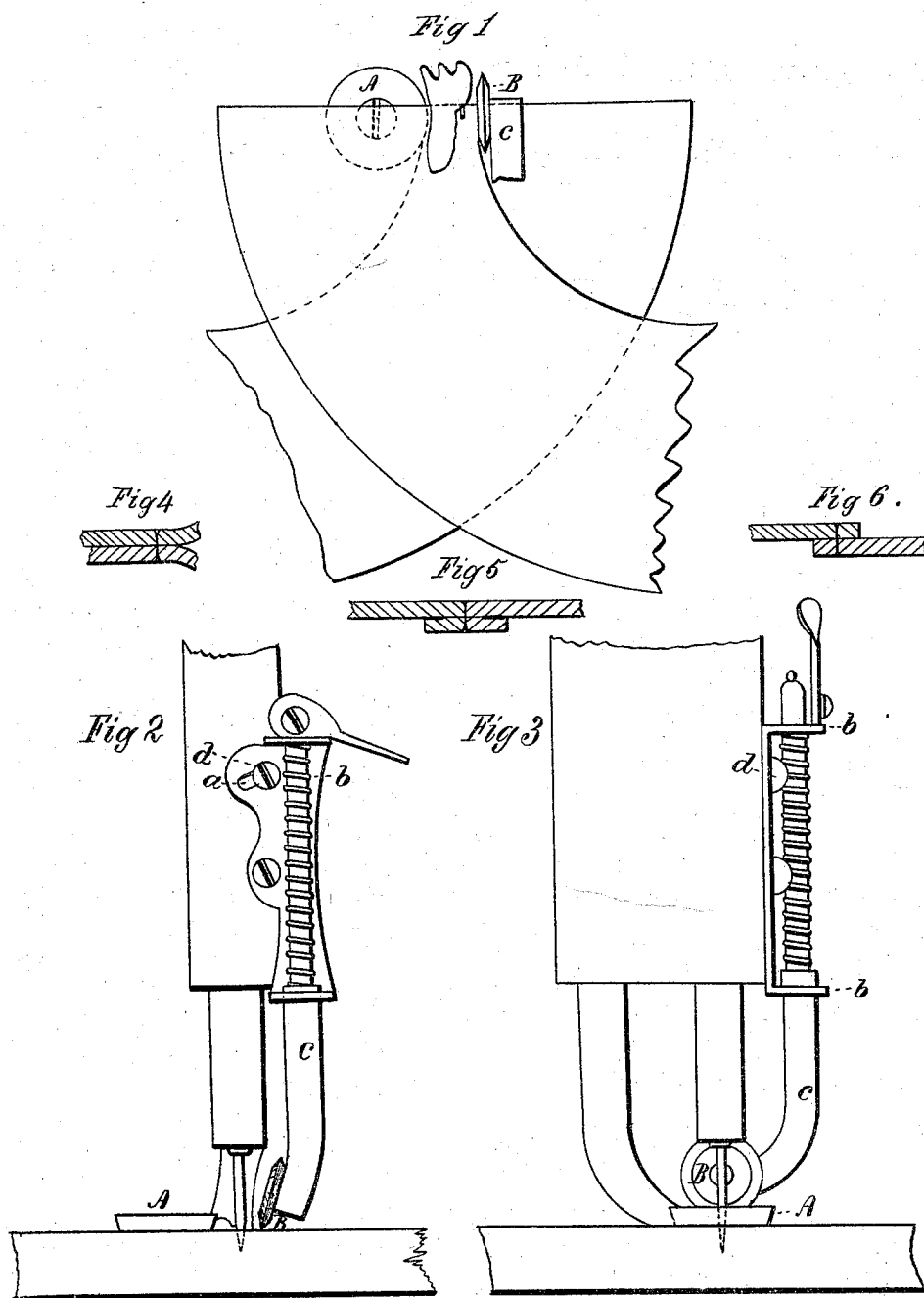


H. BOND.
Guides for Sewing Shoes.

No. 143,955.

Patented Oct. 28, 1873.



Witnesses.

Henry W. Holland
A. H. Spencer

Inventor.

Hiram Bond
by J. E. Maynard
his atty

UNITED STATES PATENT OFFICE.

HIRAM BOND, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR TO MOSES HOW,
OF SAME PLACE.

IMPROVEMENT IN GUIDES FOR SEWING SHOES.

Specification forming part of Letters Patent No. **143,955**, dated October 28, 1873; application filed July 31, 1873.

To all whom it may concern:

Be it known that I, HIRAM BOND, of Haverhill, Essex county, Massachusetts, have invented an Attachment for Sewing-Machines for Making Lap-Seams, of which the following is a specification:

My invention is more especially designed for the sewing of lap-seams in leather or other somewhat stiff material in which the edges to be lapped and sewed together are not parallel to each other; but as its main object is to form the seams of boots and shoes it will be described with especial reference to those seams.

The usual way of forming this heel-seam is to lay the edges of the two quarters together, so that they will be parallel, and to sew a common seam through them parallel to the edge, as illustrated in Fig. 4. After this seam is sewed the quarters are separated and the seam rubbed down, the edges of the quarters being bent down upon the rest of the quarter, as illustrated in Fig. 5. A welt is sometimes inserted between the edges of the quarters, but the operation is precisely the same, except that their thicknesses are sewed through and the welt must be finished by a proper tool.

It is obvious that this mode of forming the heel-seams throws a great strain upon the threads, and it is also objectionable for other reasons, and the purpose of my invention is to obviate these difficulties by a sewing-machine attachment which will readily sew together with a lap-seam edges not cut parallel to each other.

My attachment consists of two guides, so mounted that one shall guide the edge of the under piece of stock and the other the edge of the upper piece of stock, while at the same time the presser-foot and needle can lie directly between the acting edges of these guides.

In the drawings, A is the guide for the under piece of stock, and is a disk of metal mounted upon a stud projecting upward from the bed of the machine. This guide is about the thickness of the leather to be sewed, and it is of great advantage to bevel it and cut shallow grooves diagonally across its working-face. The under piece of stock rests upon the bed of the machine, with its edge against the guide

A. After the stock is thus placed the guide B is brought down upon it, the guide A being on one side of the presser-foot and needle, and the guide B on the other. The other piece of stock is placed with its edge over the guide A, and resting upon the side of the guide B, so that when the presser-foot is brought down upon them they will be in the proper relation to each other to be sewed together. The stock is readily kept with its edges in the proper relation by the operative, all that is necessary being to keep the edge of the under piece in contact with the guide A, and the edge of the upper piece in contact with the guide B. But it is more difficult to keep the edge of the under piece in contact with its guide, it being out of sight; and in this respect my guide B performs another very important function, for, by reason of its edge resting upon the under piece of stock, it tends to force the edge of this piece against the guide A. The degree of this tendency is easily regulated by changing the direction of the axis of the guide with relation to the line of feed. Thus, supposing this axis to be exactly horizontal, and the line of feed at right angles to it, the edge of the stock will be constantly kept against the guide A by the action of the edge of the guide B, when the edge of the stock is a concave curve; but when the edge of the stock is a convex curve the axis of the guide should be inclined to the line of feed, so as to form an obtuse angle with it on the stitch-making side. This axis is not shown as horizontal in the drawings, and in practice is always inclined a little to a horizontal plane, in order to bring the bevel on the guide to conform to the edge of the upper piece of stock, as illustrated in Fig. 2. The amount of lap of one piece upon the other is regulated by means of the slot *a* in the plate *b*, which carries the arm *c*, to which the axis of the guide B is secured, and the set-screw *d*. By these means the guide B can be moved toward and from the guide A, and the farther apart they are the greater the lap.

The first seam will always be at the same distance from the edge of the under piece of stock if the guide A be not adjustable, and the machine shown in the drawings is not adapted

to sew first seams at varying distances from the edge; but as it is desirable in this class of work to sew two or more seams, in sewing the second seam the guide A is not used, but the work is guided by the edge of the upper piece of stock resting against the guide B; in fact, the guide A may be removed when the second seam is sewed.

In practice I use disks of different diameters for the guide A, according to the varying distances of the first seam from the edge of the under piece of stock, and of different thicknesses for the different thicknesses of stock.

In practice it is of benefit, for greater speed, to use two machines, the first in all respects like that shown in the drawings, and the second just like the first, except that it lacks the guide A, the first seam being sewed on the first machine and the second seam on the second, the distance of the first seam from the edge of the under piece of stock being deter-

mined by the guide A, and the distance of the second seam from the edge of the upper piece of stock being determined by the guide B.

I am aware that guides for lap-seams are not new with me; but in all such guides known to me metal pieces were used which lie directly across the line of the seam, so that it was impossible to place the pressure-foot and needle between the acting parts of the guides, and they were all otherwise objectionable and differed widely from my attachments.

What I claim as my invention is—

The combination of the two guides A and B, arranged in relation to the sewing mechanism substantially as described.

This specification signed by me this 26th day of July, 1873.

HIRAM BOND.

Witnesses:

HENRY W. HOLLAND,
J. E. MAYNADIER.