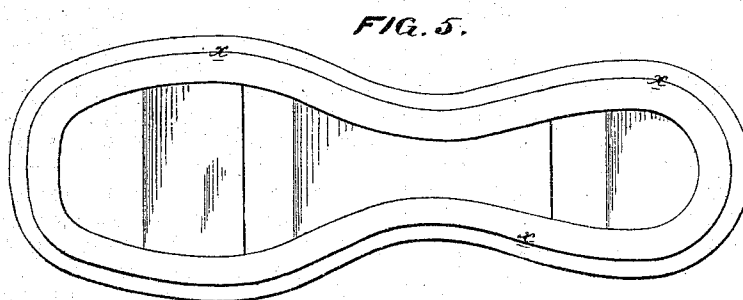
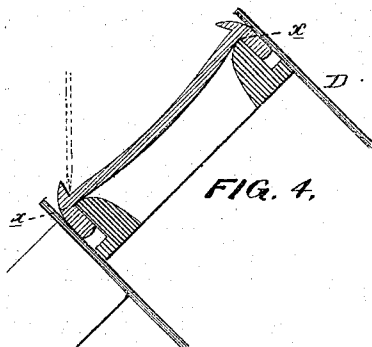
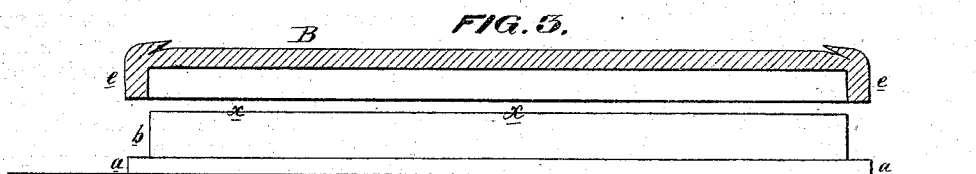
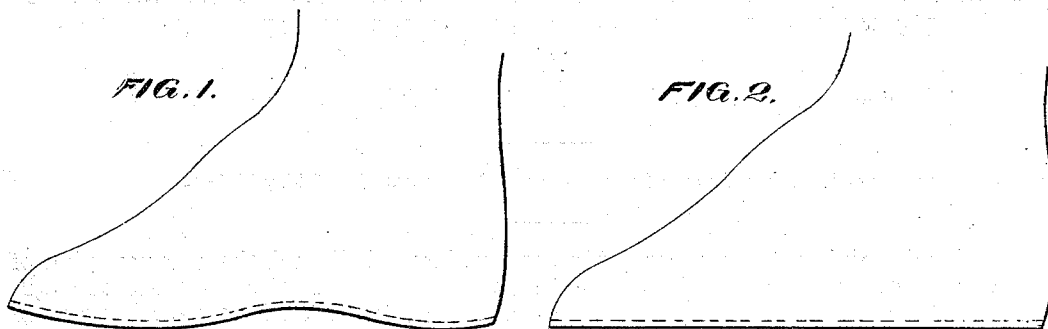


W. J. B. MILLS.

Improvement in the Manufacture of Shoes.

No. 126,822.

Patented May 14, 1872.



WITNESSES: *Henry Smith*
Thomas M. Harris

W. J. B. Mills
by his Atty.
Horizon and Son

UNITED STATES PATENT OFFICE.

WILLIAM J. B. MILLS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
DE WITT C. TAYLOR, TRUSTEE, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MANUFACTURE OF SHOES.

Specification forming part of Letters Patent No. 126,822, dated May 14, 1872.

Specification describing an Improvement in the Manufacture of Shoes, invented by WILLIAM J. B. MILLS, of Philadelphia, Pennsylvania.

Improvement in the Manufacture of Shoes.

My invention relates to an improvement in stitching the sole to the upper of ordinary turn-round or welted shoes, in which both sides of the stitches are external during the process of sewing; and my improvement consists in making such stitches in the usual curved channel, but in the same angle to the border of the sole, so that in applying the work to the sewing-machine the operator may be relieved from the duty of constantly changing the position of the work, a duty which demands tedious and careful manipulation when the stitches are made in the usual manner.

In the accompanying drawing, Figures 1 and 2 are diagrams illustrating the difference between the usual course of the stitches for securing the upper to the sole in ordinary shoes, and that of the stitches made according to my improvement; Fig. 3, an edge view of the last; Fig. 4, a transverse section of a last and sole as they appear when applied to the machine; and Fig. 5, a plan view of the last.

In the manufacture of boots and shoes by hand it has been the invariable practice to fit the upper to a last having at the base an irregular surface, rounded in some directions and hollowed in others, according to the well-known plan, the stitches which secure the upper to the sole being made to follow the longitudinal curve of the base of the sole, as shown, for instance, in Fig. 1. It appears to have been considered indispensable to adopt the same plan in manufacturing shoes by machinery, sewing-lasts of a character similar to those used in hand-stitching having been employed in presenting the work to a sewing-machine, which made the stitches in the same curved course as they were made by hand, much to the inconvenience of the operator, who was compelled to present the sole to the machine at constantly varying angles by careful manipulation. This plan, moreover, demanded somewhat complex mechanism to accommodate the constantly changing position

of the last. I discard the common plan of stitching, and make all the stitches throughout in one and the same angle, relying upon the ordinary finishing-last for imparting the desired longitudinal curve to the sole.

In carrying out my invention I use a sewing-last which differs entirely from those hitherto used, and which forms the subject of a separate application for a patent. This last, although one main feature prevails throughout, admits of many modifications. For the present purpose the sewing-last shown in Figs. 3, 4, and 5 will suffice as an example to illustrate the mode of carrying my invention into effect. This last consists of a metal frame, perfectly straight, as shown in Fig. 3, and having at the edge two flanges, *a* and *b*, the latter being of such shape that the flanged border *c* of a molded sole *B* will fit snugly over it, while the projection of the flange *a* should be such that its edge will be flush with the exterior of the flanged border of the sole when the latter is fitted to its place, as in Fig. 4. As the edge *x* of the last is in the same angle throughout, it is evident that the part of the sole which bears on this edge *x* must be in the same angle throughout, and consequently that the course of the stitches made adjacent to the said edge *x*, as shown in Fig. 3, must be made in one and the same angle.

After the sole has been snugly fitted to the sewing-last, as described, the upper *D* is fitted over both last and sole, as shown in Fig. 4, and after the upper is temporarily tacked to the border of the sole at intervals, the whole can be applied to a sewing-machine in the manner shown in the said Fig. 4. As stitch succeeds stitch the turning of the work is always in the same plane, and the changes in lateral position which are demanded by ordinary lasts, so as to present the sole properly to the machine, are obviated. After the stitching has been completed and the sewing-last withdrawn, the upper and its sole are applied to a finishing-last having the desired longitudinal and transverse curves, which can be readily imparted to the sole during the finishing of the shoe.

Any sewing-last so made as to retain the border of the sole where the stitches occur in the same angle, may be used in place of that

above described, as fully explained in a separate application for a patent.

I claim as my invention, and as an improvement in the manufacture of shoes—

The mode described of securing the sole and upper together upon a last by a series of stitches at the same angle in respect to the border of the sole.

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

WILLIAM J. B. MILLS.

Witnesses:

WM. A. STEEL,
HARRY SMITH.