(No Model.)

H. R. SILLIMAN.

LAST.

No. 492,114. Patented Feb. 21, 1893.

Fig. 1.

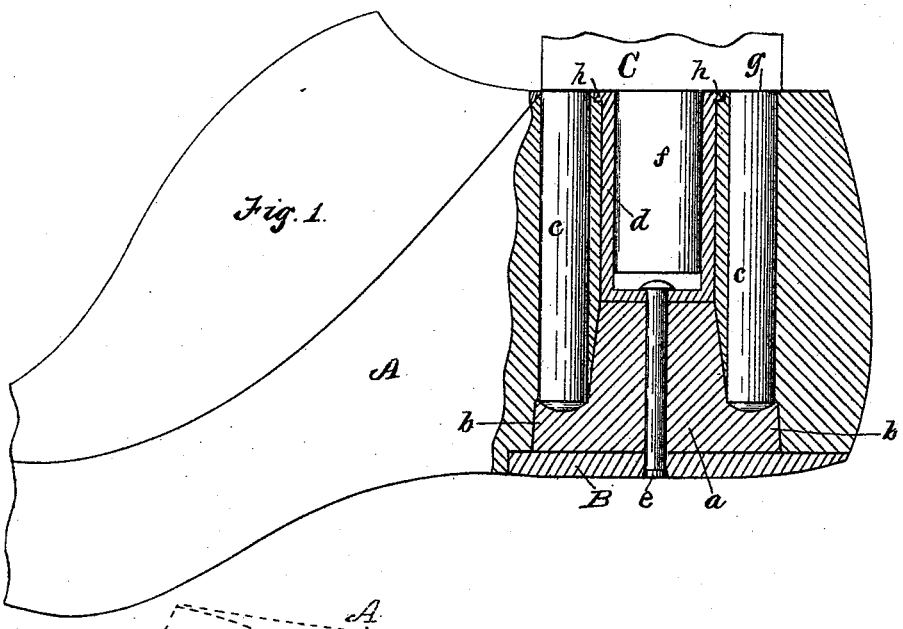


Fig. 2.

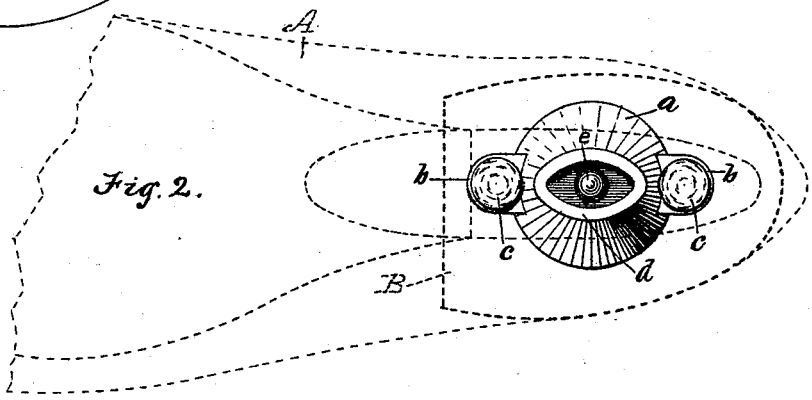


Fig. 4.

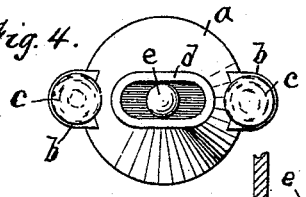


Fig. 3.

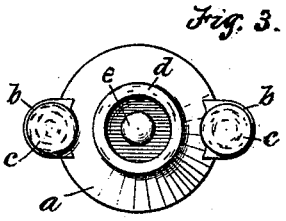
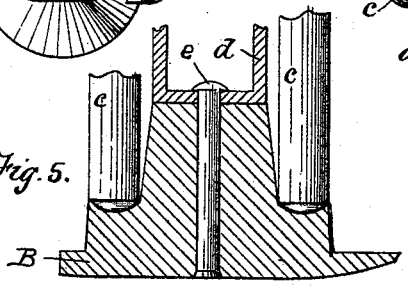


Fig. 5.



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UNITED STATES PATENT OFFICE.

HERBERT R. SILLIMAN, OF ROCHESTER, NEW YORK.

LAST.

SPECIFICATION forming part of Letters Patent No. 492,114, dated February 21, 1893.

Application filed May 16, 1892. Serial No. 433,160. (No model.)

To all whom it may concern:

Be it known that I, HERBERT R. SILLIMAN, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Lasts, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

In manufacturing shoes by different processes the heels are frequently rough-formed and then nailed to the sole by means of a single blow or pressure, all of the nails being driven at once, the shoe being on the last during the operation. This process subjects the heel portion of the last to a severe stress of compression on account of which the last unless reinforced by supporting irons, crushes and gives way and very soon becomes destroyed or rendered worthless for further use in manufacturing shoes. Various forms of supporting irons have been used in the lasts to receive the stress of the blow or pressure but heretofore the difficulty of the quick destruction of the last has not been wholly overcome; and to improve the last in this respect is the object of my invention, the same being hereinafter fully described and particularly pointed out.

Referring to the drawings, Figure 1 is a side elevation of a last, the heel portion being centrally and vertically sectioned, showing my improved sustaining irons in place. Fig. 2 is a plan of the irons, the last being shown by dotted lines. Figs. 3 and 4 are simple modifications of the forms of the irons. Fig. 5, shows a different construction of the heel plate.

Referring to the parts shown, A is a last substantially of common construction, B being the iron heel-plate against which the nails in the heels of the shoe are driven. This plate I preferably make unusually thick and strong.

a is an iron block forming a base for other parts, resting upon the heel-plate. This block is made tapering or conical in form, it being preferably circular at the base and oval or flat at the top, as clearly shown in Figs. 2 and 4. At two opposite sides this block or base is formed with lateral projections *b b*, as shown, constituting rests for stout shafts or posts *c c*. Immediately upon the base or block is placed a thimble *d* corresponding in cross section with the top of the base or block, this thimble being open at its upper end and closed at its lower end in contact with the base or block. The thimble is placed between the posts *c c*, and the construction of the parts is such that the longest diameter of the thimble is directed toward the posts. This line or diameter, when the irons are placed in the last, corresponds with a longitudinal line of the last.

The thimble, the base or block and the heel-plate are held together by a vertical rivet or screw *e* passing through each, as shown, and no screws or other fasteners for the heel-plate are passed through the latter into the last. The thimble is formed with a projecting flange *h*, at its upper end which prevents it with the base or block and the heel-plate from being pulled out of the last.

f is the spindle of the jack or spindle support C, of the machine for driving the nails, which spindle is oval or flat in form to fit the interior of the flattened thimble. The spindle stops short of the bottom of the thimble, as shown in Fig. 1, so the pressure due to the driving of the nails falls upon the upper surfaces or ends only of the thimble and the posts, at the line or plane *g*, the upper ends of all three being even with the comb of the last.

By making the spindle socket or thimble flat or oval as shown, and placing it so that the short diameter is cross wise of the last much less of the latter is displaced by the thimble and a greater body or mass of the wood is left at the sides of the thimble than if the latter were circular in cross section as it has been heretofore made. This is a great advantage as the last is left stronger, while the posts in addition to the thimble give a solid and unyielding body between the nail-driving head and the jack or thimble support.

The form shown in Fig. 3, shows the thimble as being circular. This form of the thimble is to be used only when applying my invention to old lasts which are already bored for circular thimbles of the old kind. In supplying new lasts with these improved irons only the oval or the flat thimble, shown in Figs. 2 and 4, is used.

In some cases I prefer to make the heel-plate and the base or block both in a single piece as shown in Fig. 5, calling it then the heel-

plate. This form has certain advantages as it constitutes a more solid body or anvil against which to drive the nails.

The heel-plate, and the block *a* when it is made separate from the heel-plate, with the thimble are put into the last from the bottom, while the posts *c c* are driven to place from the top or comb of the last in holes previously bored therein.

I prefer to make the inner ends of the posts convex, as shown in Figs. 1 and 5, the body or part upon which they rest being hollowed to receive them.

What I claim as my invention is—

1. A last having a heel-plate in combination with a flat thimble or spindle-socket, and posts on either side thereof, said thimble and posts being supported by the heel plate, and the thimble placed in the last with its greatest diameter longitudinal to the last, substantially as shown and described.

2. A last having a heel-plate, in combination with a block or base-piece resting upon the heel-plate, a thimble resting upon said block or base piece, and posts at the sides of the thimble resting upon said base-piece, the thimble, base-piece and heel-plate being connected by a fastening rivet and the thimble having a flange at its upper end, substantially as and for the purpose specified.

3. A last having a heel-plate and a block or base-piece within the last independent of the heel-plate and resting thereon, in combination with a thimble resting upon the block or base-piece, and posts at opposite sides of the thimble having their lower ends abutting against imperforate ledges or seats formed at the sides of the base-piece midway between its upper surface and the heel-plate, with their upper ends even with the upper end of the thimble and, with the latter, adapted to support a stress of compression, substantially as shown and described.

4. A last having a heel-plate, in combination with a flat thimble or spindle-socket, and posts on either side thereof, said thimble and posts being supported by the heel-plate, and the thimble placed in the last with its greatest diameter longitudinal to the last, the upper ends of the thimble or spindle-socket and the posts being even and level with the comb of the last, substantially as shown and described.

In witness whereof I have hereunto set my hand, this 13th day of May, 1892, in the presence of two subscribing witnesses.

HERBERT R. SILLIMAN.

Witnesses:
ENOS B. WHITMORE,
M. L. MCDERMOTT.