No. 660,279. Patented Oct. 23, 1900.

J. E. TILT.

LAST.

(Application filed Apr. 19, 1900.)

(No Model.)

Fig. 2.

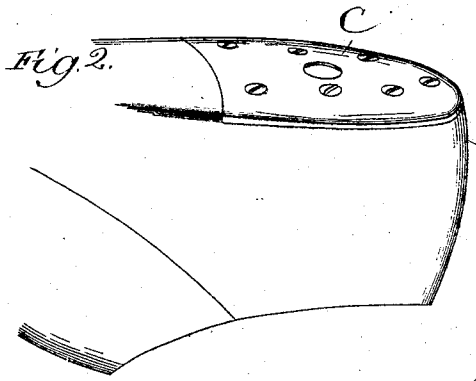


Fig. 1

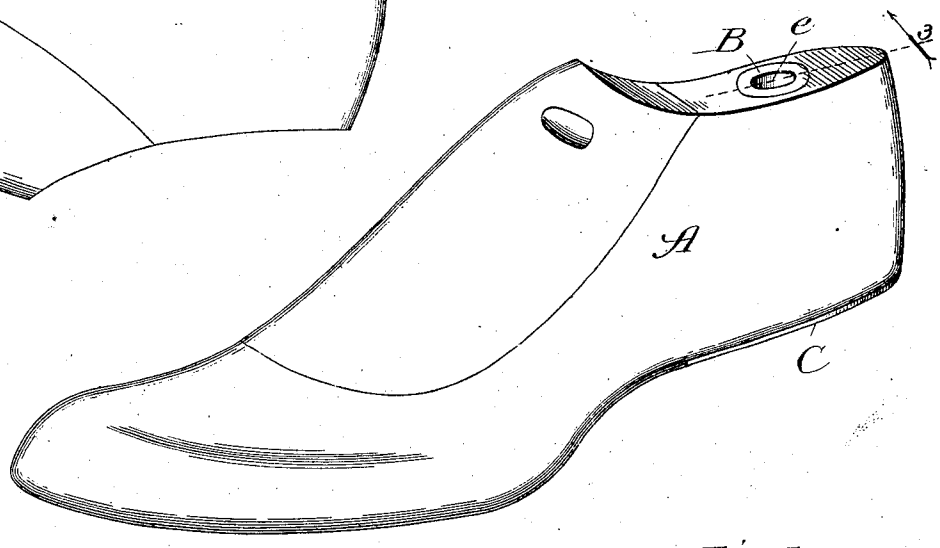


Fig. 3.

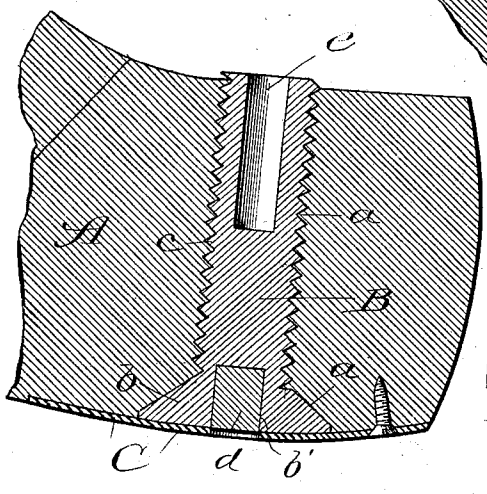
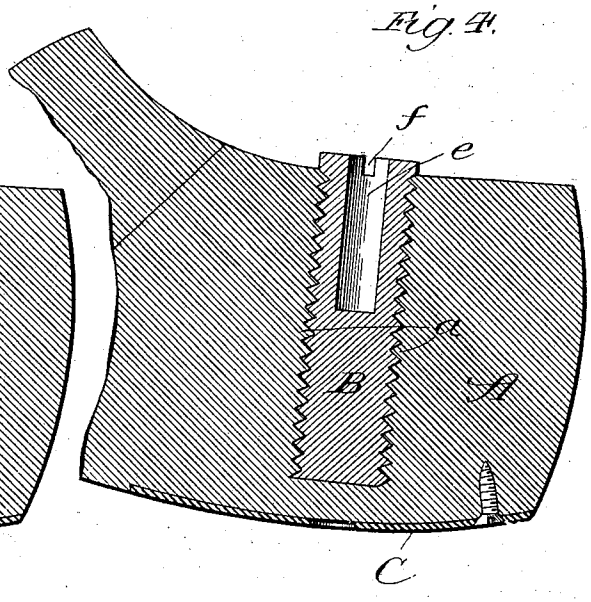


Fig. 4.



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UNITED STATES PATENT OFFICE.

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LAST.

SPECIFICATION forming part of Letters Patent No. 660,279, dated October 23, 1900.

Application filed April 19, 1900. Serial No. 13,468. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. TILT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Lasts, of which the following is a specification.

My invention relates to improvements in lasts employed in the manufacture of boots and shoes. Lasts for use in machines in factories are provided at the upper sides of their heel portions with sockets to receive stationary pins or studs by which the lasts are supported, and the under sides of the heel portions are shod with heel-plates. The enormous pressure to which in practice lasts are subjected at their heel portions renders it desirable that they shall be reinforced to withstand the crushing strain. For this purpose metallic socket-pieces have been provided and driven into smoothly-bored holes in the heel portion and extend part way through the latter or entirely through to the heel-plate, with which, in some instances, they have been formed integral. In constructions hitherto provided where the socket-piece extends but part way through the last the crushing strain must be borne entirely by the wood at the base of the socket, and experience has shown that the wood soon gives way under the crushing strain, while in those constructions wherein the socket-piece contacts with or is integral with the heel-plate the socket-piece, owing to its length, becomes bent under the enormous pressure and is apt to loosen or distort the heel-plate.

My object is to provide a construction of reinforcement for the heels of lasts which, while as inexpensive as any others with which I am familiar, is much stronger and more capable of withstanding the heeling pressure of machines in use, and therefore more effective in prolonging the usefulness of the last.

To the above end my invention consists in providing the heel portion of a last with a socket-piece having a continuous comparatively-large external screw-thread of slight spiral inclination and provided with means by which it is inserted by screwing it in a threaded socket in the last, whereby the strain upon the socket-piece is distributed throughout the wall of the socket instead of being confined to the base thereof.

In the drawings, Figure 1 is a perspective view of a last of my improved construction; Fig. 2, a broken perspective view of the heel portion inverted; Fig. 3, a section taken on line 3 of Fig. 1; and Fig. 4, a view the same as Fig. 3, but illustrating a modification.

A is a last, which may be of any desired construction. Bored into the heel portion is a socket *a*, and fitting the said socket is a socket-piece B. In the construction shown in Fig. 3 the socket-piece is provided with a head *b*, and the socket *a* is enlarged at *a'* to receive the head. In the head *a'* is a squared socket *b'* to receive a driving-tool. The socket *a* is formed with an internal thread corresponding exactly with a thread *c* on the shank of the socket-piece. The thread *c* is coarse—say eight or ten to the inch—to obtain a particularly-strong hold upon the wall of the socket. The socket-piece is screwed into place from the under side of the heel, a suitable tool being inserted into the socket *b'* for the purpose. When inserted, the end of the shank extends flush with or slightly beyond the upper part of the heel portion, and the head *b* extends flush with and conforms to the under surface of said heel portion. Before the heel-plate C is placed in position the socket *b'* is preferably plugged with a piece of wood *d*. The socket *e* of the socket-piece receives the usual pin or stud on a jack, and under the pressure in the heeling operation the strain is so distributed by the threads of the socket-piece that even under the greatest pressure usually employed the wood will easily withstand without injury the crushing strain. As the entire crushing strain is distributed along the wall of the socket, there is no strain against the heel-plate C. For this reason the head *b* may be dispensed with, as shown in Fig. 4. In this construction the threaded socket *a* extends somewhat short of the lower side of the heel portion, and the socket-piece B is unprovided with the head *b* and has notches *f* in its upper end for the reception of a tool by means of which the socket-piece is screwed down to the base of the socket. The distribution of the strain by the threads so relieves the base of the socket that there is no danger of injury thereto. Furthermore,

the same distribution of strain prevents bending of the socket-piece between its ends.

Lasts provided with my improvements are much more durable than any other of which I am aware, and as the replacement of lasts has always been a matter of great expense to manufacturers the importance of my improvement may be easily appreciated. My improved reinforcing means, furthermore, is less expensive to provide than any other means for the same purpose of which I am aware and can be applied to old lasts. Being screwed into place it cannot become loosened by shrinking of the last, and as it is not driven in a manner to endanger splitting of the last the usual rivet provided through the upper part of the heel portion to prevent splitting may be dispensed with.

What I claim as new, and desire to secure by Letters Patent, is—

1. A last having an internally-screw-threaded socket in its heel portion, and a reinforcing socket-piece provided with a continuous coarse screw-thread of comparatively-slight spiral inclination screwed into the socket and held therein against longitudinal movement by the engagement of the threads, said socket-piece having means for engagement with an inserting-tool.

2. A last having the reinforcing socket-piece provided along its shank with a coarse screw-thread, of comparatively-slight spiral inclination, extending continuously about and substantially throughout the length of the shank and fitting an internally-threaded socket in the heel portion, and provided with a head portion resting in contact with the heel-plate.

JOSEPH E. TILT.

In presence of—
M. J. FROST,
A. D. BACCI.