(No Model.)

J. M. WATSON.

SHANK STIFFENER.

No. 320,989. Patented June 30, 1885.

Fig. 1.

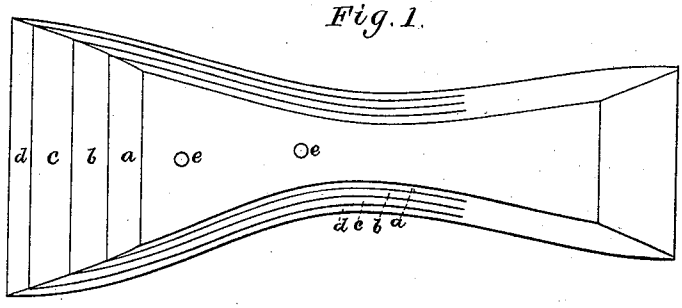

Fig. 2.

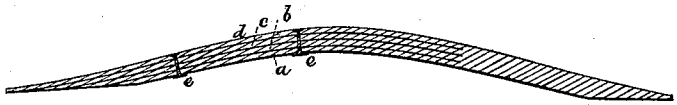

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

JEREMIAH MEARS WATSON, OF SHARON, MASSACHUSETTS.

SHANK-STIFFENER.

SPECIFICATION forming part of Letters Patent No. 320,989, dated June 30, 1885.

Application filed March 30, 1885. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH MEARS WATSON, of Sharon, in the county of Norfolk, in the Commonwealth of Massachusetts, have invented a new and useful Improvement in the Manufacture of Shank-Stiffeners; and I do hereby declare the same to be described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a bottom view, Fig. 2 a longitudinal section, and Fig. 3 an edge view, of a stiffener made in accordance with my invention, the nature of which is defined in the claim hereinafter presented.

The shank-stiffener to which my present invention relates is constructed of a thin plate or piece of wood of the requisite form, split one or more times lengthwise of it from its toe to a suitable distance from its heel, and parallel to its upper surface; or it consists of a pack of several thin layers of wood secured together at or near their rear ends and left free to slide on each other between such and their toes or front ends, such being represented in the United States Patent No. 112,754, dated March 14, 1871, and granted to assignees of myself, such patent having been subsequently—to wit, on March 4, 1873—reissued.

The above-mentioned shank-stiffener, though excellent and highly useful in most respects, fails at times on account of inability to retain its normal arched form longitudinally of it, which defect arises in a measure, though not entirely, on account of the leaves or strata being connected only at and near their heels or rear portions.

When the blank of the stiffener is not split or sawed lengthwise, an attempt to arch it, even when steamed, is attended with an overstraining of some and contracting of others of its fibers, and of course, in consequence thereof, the stiffener becomes weak and liable to return to its straight condition. The splitting or sawing the back lengthwise or composing it of a series of layers of wood arranged in a pack, and connected at or near their heels, will enable the free parts to slide on one another while the bending or arching is being effected; but a stiffener of such kind is much weaker than a solid one, and cannot be relied on to retain its arched form while in use.

In carrying out my present improvement, the wooden blank, after having been properly split lengthwise and reduced to form along its edges, is to be subjected for a suitable period of time to the action of steam; or, in other words, is to be heated and softened by steam, either discharged upon it or made to surround it, after which it is to be molded or arched lengthwise within a suitable mold, within which it is to be pressed. Next, while so arched, and in a wet state, rivets are to be inserted through and fixed in the layers or leaves. Next, the article in its proper form is to be desiccated. When so made, the shank-stiffener is not liable to the objections hereinbefore stated. Its longitudinal fibers are not overstrained, its leaves readily slide on one another, while softened by the steam the arching of it is effected, and after being riveted together, and subsequently dried in the mold, the article will retain its desirable stiffness and elasticity with little if any danger of breaking down while in use.

In the drawings this shank-stiffener is shown as having its leaves or layers *a*, *b*, *c*, and *d* united at and near their heels, and is connected by rivets *e e* going through and arranged in them, as represented.

I claim—

The mode, substantially as specified, of treating a shoe-shank-stiffener blank, such mode consisting in slitting or dividing it one or more times for a portion of its length to form in it a series of layers or leaves, as described, subjecting it to the action of steam, as explained, and subsequently pressing or arching it in its steamed condition within a mold, and finally inserting nails or rivets through its series of leaves and desiccating it, as set forth.

JEREMIAH MEARS WATSON.

Witnesses:

R. H. EDDY,

ERNEST B. PRATT.