

G. M. WELLS.
Last.

No. 223,263.

Patented Jan. 6, 1880.

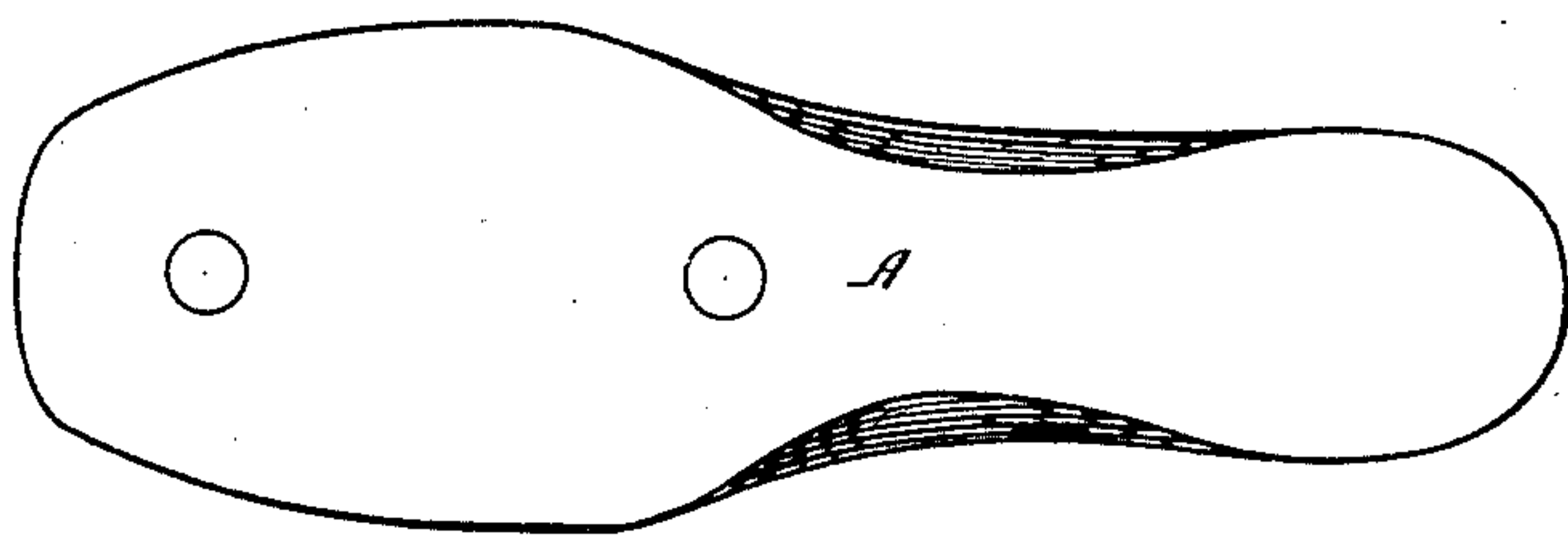
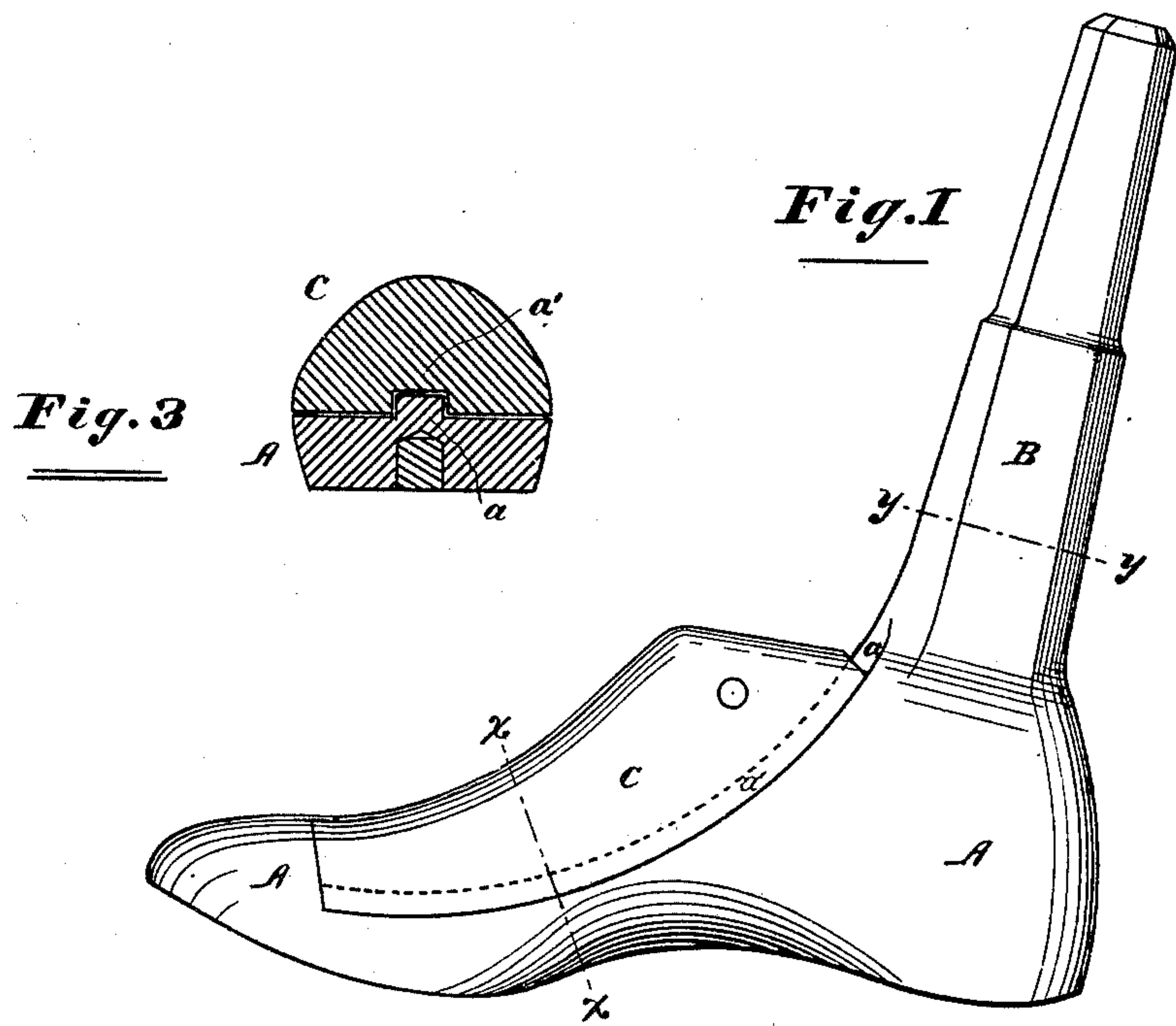


Fig. 2

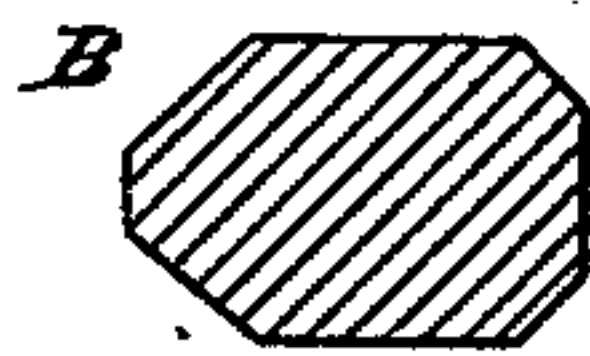


Fig. 4

Attest:

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UNITED STATES PATENT OFFICE.

GEORGE M. WELLS, OF BOSTON, MASSACHUSETTS.

LAST.

SPECIFICATION forming part of Letters Patent No. 223,263, dated January 6, 1880.

Application filed March 23, 1878.

To all whom it may concern :

Be it known that I, GEORGE M. WELLS, now of Boston, in the county of Suffolk and State of Massachusetts, (formerly of Chicago, Illinois,) have invented an Improved Last, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, making a part hereof, in which—

Figure 1 is a side view of one of my improved lasts; Fig. 2, a bottom view; Fig. 3, a cross-section on line *z z* of Fig. 1; and Fig. 4, a cross-section on line *y y* of Fig. 1.

The object of my invention is to make a last which can be supported with great firmness and solidity by means of a stem projecting from the last and a socket formed in a block or standard attached to a bench or other support, or formed in the so-called "jack" of a pegging or nailing machine, the purpose being to make the last substantially rigid under the blow of a hand-hammer or of the driver of the machine, to facilitate the placing of the last in position for use and its removal all that is required being to put its stem in and take it out of the socket, and yet retain the block of the last substantially unaltered.

The common way of supporting lasts, whether for hand or machine work, is by means of a toe-rest and a heel-pin, the pin entering a hole bored in the last, and suitable mechanism being required to move either the rest or pin in order to get any approach to firmness. This is the old method, and the only one largely used for holding lasts in pegging and nailing machines and for hand-work on the sole.

Lasts are also frequently clamped in heel-ing-machines and other machines, one member of the clamp bearing against the top-lift of the heel, while the other member bears directly against the upper ankle part of the last. An example is shown in the patent to Hart, No. 178,633, dated June 13, 1876.

I have also patented lasts provided with stems for supporting them rigidly under the blow of a hand-hammer or machine driver; but in one instance (see my Patent No. 74,180, dated February 4, 1868) the block of the last was altered by having the supporting-stem made a part of it, while in the other (see my

Patent No. 216,491, dated June 10, 1879) the body of the last was altered by the use of a heel-block.

In my present invention the block of the last is not altered necessarily, nor is there any heel-block required; but the stem is secured directly to the upper ankle part of the last, and so far back or over the heel that it does not interfere with the necessary motions of the block, as will be well understood by all skilled in the art on inspection of the drawings, in which—

A represents the body of the last; B, the stem, and C the block. For greater strength the body A and stem B are best made of metal, and in one piece. I doubt, indeed, whether they would be of any practical value if made of one piece of wood, and have no doubt that they would be worthless if made in separate pieces, both of wood, although they might be made of two pieces of metal firmly put together.

The block C, for lightness, is best made of wood, as usual, but may, of course, be of metal. The stem B must be well back over the heel, and so shaped that it will not prevent the pulling of the last—that is, will not obstruct the passage of the block when it is pulled out of the shoe or boot—for, as will be clear, this last is worthless unless the block C can be pulled out of the shoe formed over it; and this is done with my last as in lasts of the usual form.

My invention consists in this improved last, made up of the body A, stem B, and block C, the stem projecting from the upper ankle part of the body A, which is, except for the addition of this stem, the same in substance as the body of the common last, the block C being the same in substance as the block of the common last, and operated in the same way, so that my last can be used readily by workmen accustomed to the common last, and the body A and stem B being arranged so that the stem will project from that part of the last over the heel, and will not be in the way of the block C as it is pulled out of the boot or shoe.

Two or more plugs of wood are shown in Fig. 2, and one of them is shown in cross-section in Fig. 3. These are to receive the nails by which the sole is held to the last, as will be understood.

The rib *a* is highly useful, not only because it may serve to direct the block and hold it in place by means of a corresponding groove in the block, but also because with such a rib
5 the body A can be made light and yet strong at the junction of B and A, and well adapted to bear the strain when the workman or the machine is nailing or pegging about the toe.

What I claim as my invention is—
10 The improved last made up of the body A,

stem B, and instep-block C, the body and stem being firmly connected together, and arranged to prevent the stem from obstructing the proper motion of the block C on the body A, as and for the purposes described.

GEORGE M. WELLS.

Witnesses:

F. F. WARNER,
JAMES H. COYNE.