

(No Model.)

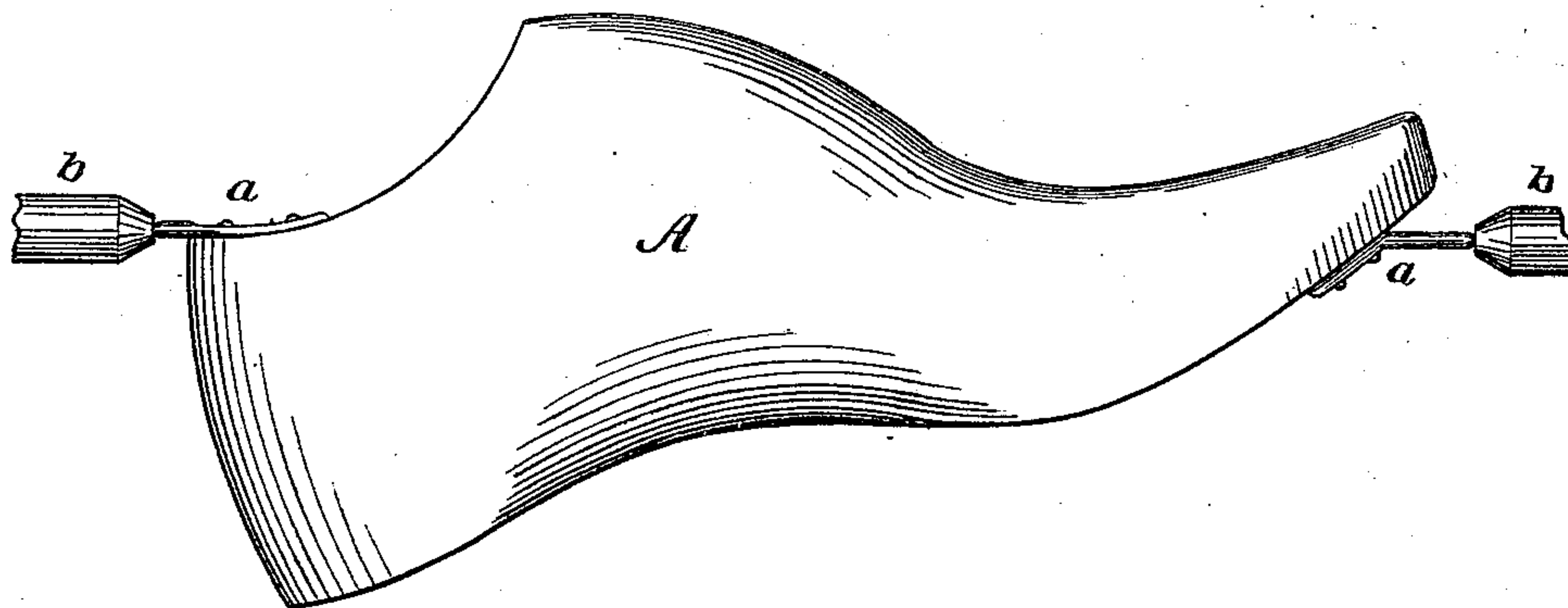
W. KINGSTON.

METHOD OF AND DEVICE FOR MAKING WOODEN LASTS.

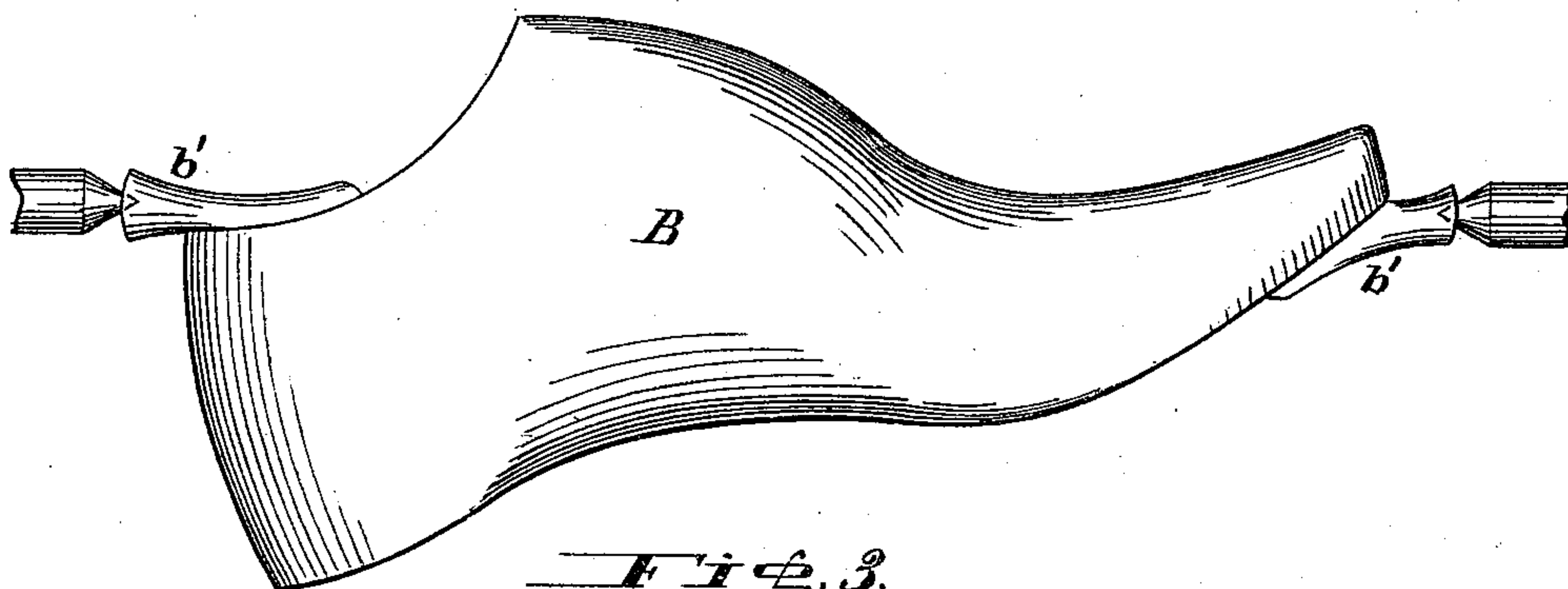
No. 355,615.

Patented Jan. 4, 1887.

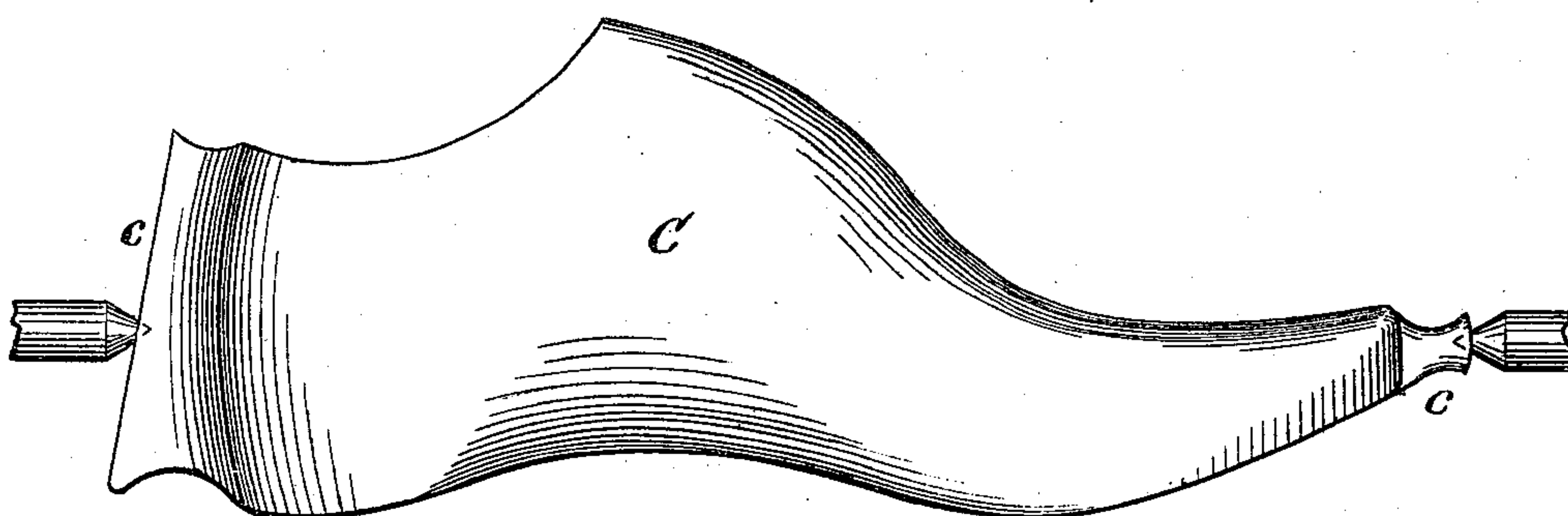
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## METHOD OF AND DEVICE FOR MAKING WOODEN LASTS.

SPECIFICATION forming part of Letters Patent No. 355,615, dated January 4, 1887.

Application filed September 27, 1883. Serial No. 107,545. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM KINGSTON, a citizen of the United States, residing at Little Falls, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Methods of and Devices for Making Wooden Lasts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of the present invention is to obviate the necessity of finishing the toe and heel portions of wooden lasts by a skilled workman or a machine specially devised for the purpose.

Wooden lasts as heretofore made in a lathe always possessed front and rear projections, by reason of the centering-dogs being applied to the centers of the curved toe and heel surfaces. These projections are in the method devised by me brought to other points than the curved toe and heel surfaces, and can readily be removed by an unskilled workman. In other words, it is the aim of my invention to turn a wooden last which shall have perfectly true toe and heel surfaces, and I accomplish this in the manner hereinafter described and claimed.

In the drawings, Figure 1 is a side view of the model or pattern used in carrying out my method. Fig. 2 is a side view of the last as turned in the lathe and having projections at the top and bottom. Fig. 3 is a view showing the old form of last with end projections.

The model or pattern A (shown in Fig. 1) has plates *a*, screwed or otherwise secured to its top and bottom surfaces. These plates project beyond the ends of the model and engage with the centering dogs or chucks *b* of a lathe. If desired, these plates or devices for holding the model between the lathe-centers can be dispensed with, and the centers may be in the form of gripping devices, which reach onto and under the last-pattern and hold the same. Instead of applying the plates *a* to the bottom and top of the pattern, they can be secured to

the sides of the same. In every instance, however, the last-pattern is caught or held at other points than the ends. It will thus be manifest that the last B turned or made in the lathe has the end projections, *b'*, located at other points than on the curved toe and heel surfaces, and consequently I am enabled by my method to turn or make a wooden last which does not require the final finishing operation on the curved toe and heel surfaces. The projections *b'* can easily and quickly be cut off by an unskilled workman, whereas the projections or "lumps" *c* left on the ordinary last, C, as seen in Fig. 3, require the work of an experienced workman to remove them and properly shape or finish the ends of the last.

The advantages of my method over the existing one of making wooden lasts are obvious, and I may only state that I materially lessen the cost of manufacture of wooden lasts by turning them in a lathe with true or properly curved toe and heel portions.

It will be perceived that this improvement need not necessarily be used for both the toe and heel of a last. If only one end of the pattern-last is centered according to my invention—the toe, for example—and the other end centered in the old way, then the toe will be turned on the lathe and the heel will have a stub.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The method herein described of turning wooden lasts with curved and finished toe-surfaces, which consists in holding or centering the forward end of the pattern-last at a point below the toe, whereby the lathe or turning-tool finishes the toe and leaves the front stub of the last-blank projecting from the sole of the last below the toe, and afterward removing the said stub, substantially as herein set forth.

2. The method herein described of turning-wooden lasts with curved and finished heel-surfaces, which consists in holding or centering the rear end of the pattern-last at a point above the heel, whereby the lathe or turning-tool finishes the heel and leaves the rear stub of the last-blank projecting from the surface.



of the last above the heel, and afterward removing the said stub, substantially as herein set forth.

3. The method herein described of turning  
5 wooden lasts with curved and finished toe and heel surfaces, which consists in holding or centering the pattern-last at points above the heel and below the toe, whereby the lathe or turning-tool forms the stubs or projections of the  
10 last-blank on the substantially-flat surfaces of the last above the heel and below the toe, and afterward removing the said stubs, as herein set forth.

4. In the manufacture of wooden lasts, a last  
15 pattern or model provided with means for centering the toe of the pattern in a last-turning lathe at a point below the same, substantially as and for the purpose herein set forth.

5. In the manufacture of wooden lasts, a last  
20 pattern or model provided with means for cen-

tering the heel of the pattern in a last-turning lathe at a point above the same, substantially as and for the purpose set forth.

6. In the manufacture of wooden lasts, a last pattern or model provided with means for cen- 25 tering it obliquely in a last-turning lathe at points above the heel and below the toe, substantially as and for the purpose herein set forth.

7. A last pattern or model having plates or 30 centering devices *a*, attached at other points than the ends thereof and extending beyond said ends, as herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WM. KINGSTON.

Witnesses:

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C. T. BELT.