

(No Model.)

J. C. BICKFORD & W. I. STETSON.

C. T. STETSON, Administratrix of W. I. STETSON, deceased.

No. 388,618.

LAST. Patented Aug. 28, 1888.

Fig. 1.

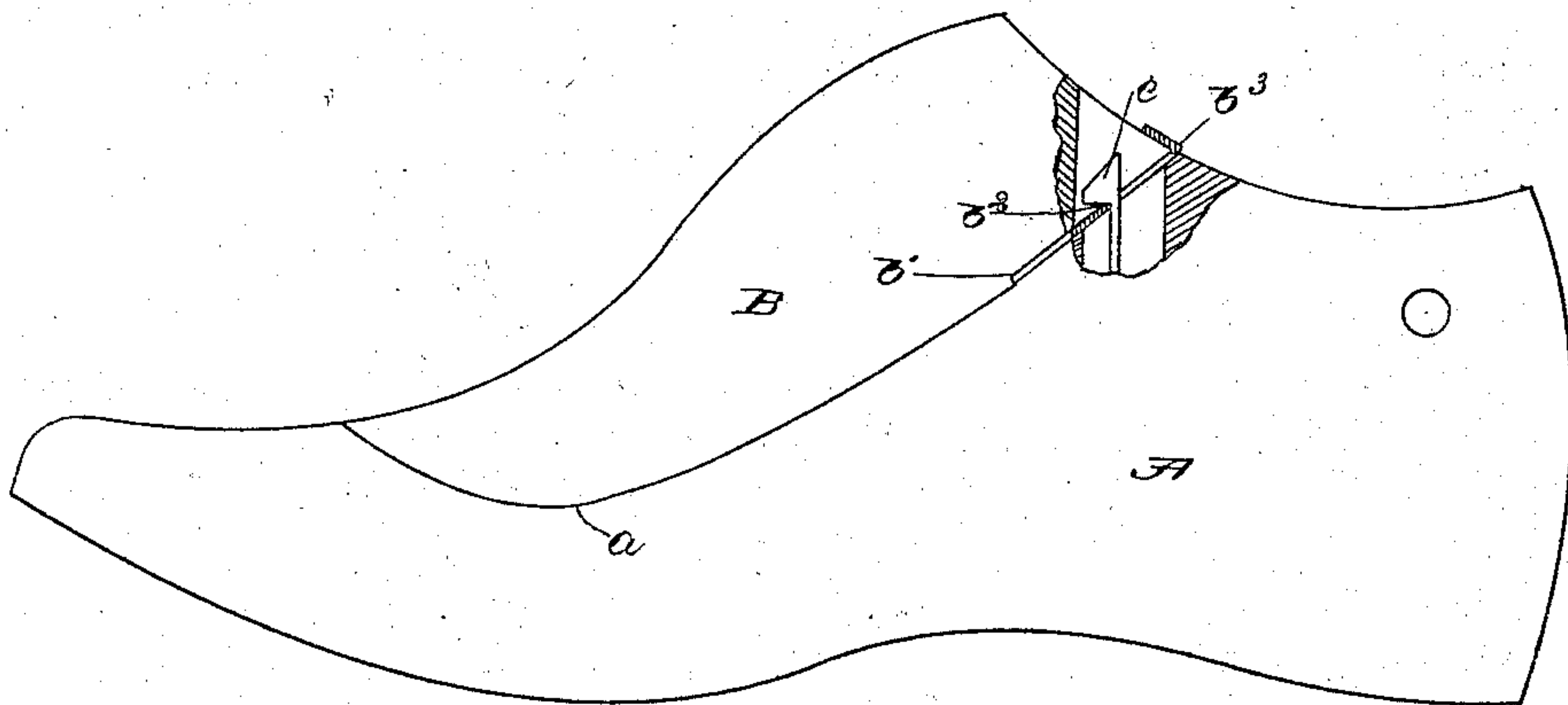


Fig. 2.

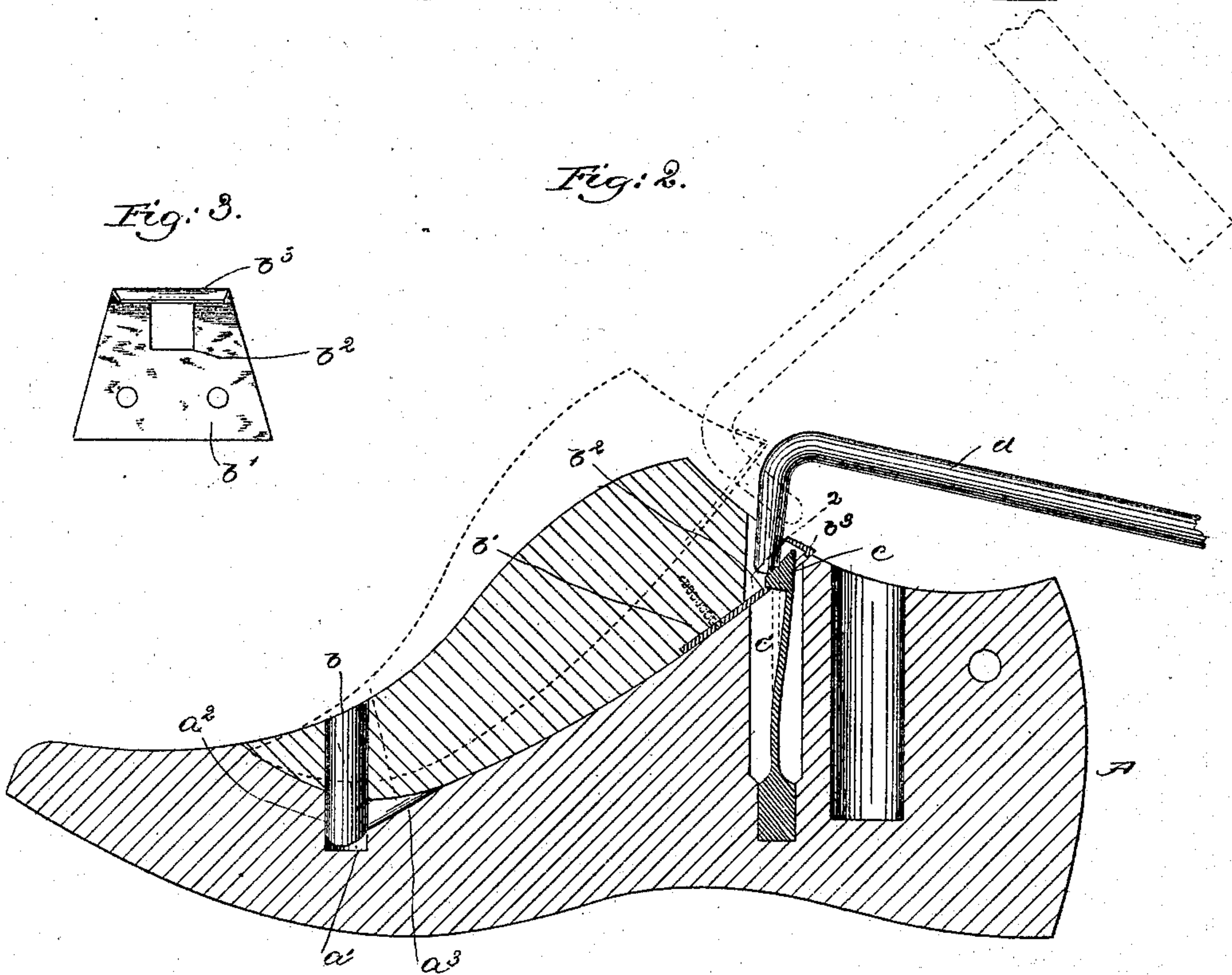
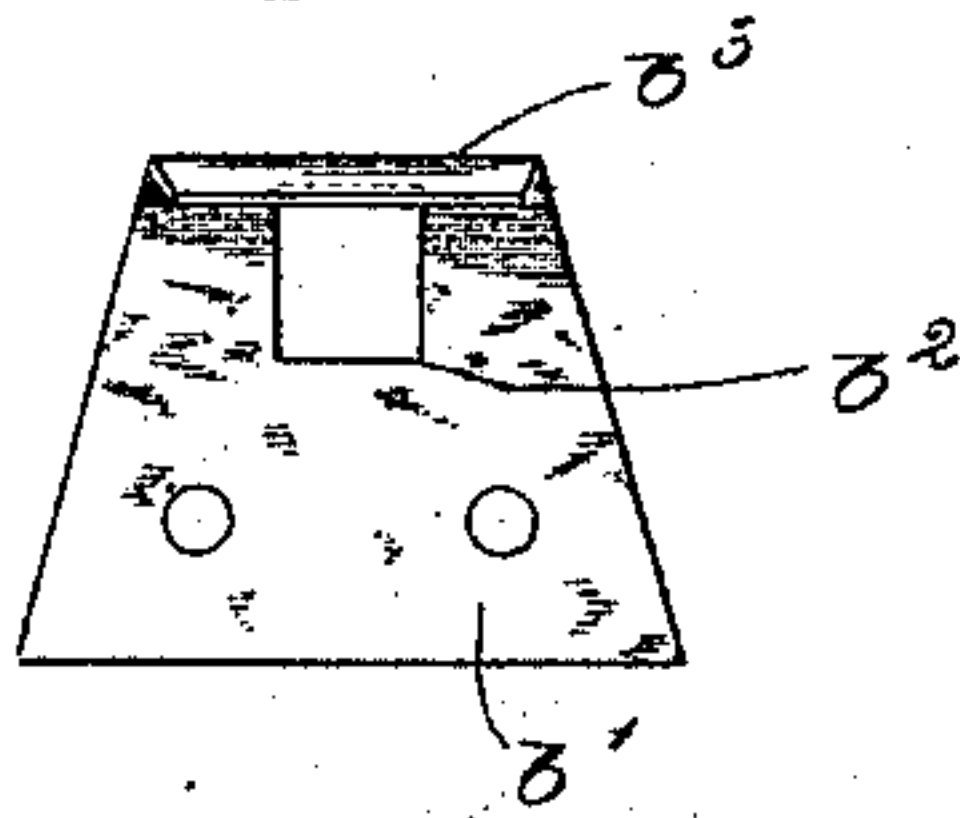


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN C. BICKFORD AND WARREN I. STETSON, OF BERLIN, MASSACHUSETTS;
CLARA T. STETSON ADMINISTRATRIX OF SAID WARREN I. STETSON,
DECEASED.

LAST.

SPECIFICATION forming part of Letters Patent No. 388,618, dated August 28, 1888.

Application filed May 28, 1886. Serial No. 203,515. (No model.)

To all whom it may concern:

Be it known that we, JOHN C. BICKFORD and WARREN I. STETSON, both of Berlin, county of Worcester, and State of Massachusetts, have invented an Improvement in Lasts, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention has for its object to provide improved means for fastening the blocks of lasts formed by a curved cut therein, as represented in United States Letters Patent No. 173,426, dated February 15, 1876, wherein the
15 block is severed from the body of the last by a curved cut, especially at the point where the lower end of the block meets the top of the last, the object of the said curved cut being to avoid a shoulder such as commonly found in
20 lasts prior to the date of the invention described in said patent.

The block of the last herein to be described is provided near its upper end with a shoulder or projection to be engaged by a latch connected with the body of the last, the lower end
25 of the block having a pin or projection to cooperate with a shoulder formed by cutting into the body of the last below the block, the body of the last having a groove with an inclined
30 bottom which leads into the said shoulder, the latter serving as a slot for the pin connected with the block of the last.

The upper end of the block is also provided with a bar or eye, behind or into which may
35 be readily passed the bent end of the last-hook when the latch is to be disengaged from the shoulder or projection of the block in order to remove the block from the last, the last-hook during such operation engaging the bar
40 or eye connected with the block and holding onto the same while the block is being removed, which is a matter of very great convenience and saves time over that required to insert the last-hook into an eye bored through
45 the block from side to side, as usual.

Figure 1 in side elevation partially broken out shows a last embodying our invention. Fig. 2 in full lines shows the last and block in vertical section, the dotted lines showing

the block as being removed, the said figure also
50 showing a part of the last-hook with its end inserted into the eye of the block; and Fig. 3 shows detached from the block the metal plate, which is herein shown as constituting the
55 shoulder or projection and the bar or eye.

The body A of the last is and may be of any usual shape and material. The block B is separated from the body of the last by a curved saw-cut, (represented by a ,) as in the said patent. The particular curvature of the saw-cut and
60 its length are immaterial, so long as an abrupt or square shoulder is not formed at the junction of the lower end of the block with the body of the last. The body of the last, after
65 severing from it the block B, is bored, as at a' , to form a shoulder, a^2 , one side of the hole made by boring the last, as at a' , being thereafter cut
away, as at a^3 , leaving a groove with an inclined bottom leading into the bore a' . The
70 block B is provided with a pin, b , the lower end of which, as the block is being inserted into working position, passes down the inclined
bottom a^3 of the groove and comes to a bearing against the shoulder a^2 . The body of the
75 last is provided with a spring-supported latch, c , located in a bore, c' , thereof, the head of the latch having a beveled upper end and below it a hook-like projection. The upper end of
80 the block B of the last has attached to it a metal plate, b' , shaped to constitute a shoulder or projection, b^2 , and leave a bar, b^3 , the said
hook or projection being engaged by the latch when the block is in working position, the
85 latch at such time occupying the dotted-line position shown for it in Fig. 2, and the full-line position, Fig. 1, it then engaging the said
shoulder or projection b^2 .

Referring to Fig. 3, where the plate b' is shown separately, it will be noticed that the
90 said plate has an eye made in it, leaving a bar, b^3 .

When the last is to be removed from a boot or shoe, the workman will place the end 2 of
the last-hook d into an eye at the upper end
of the block and down behind the bar b^3 , forming part of the said eye, until the end of the
95 last-hook meets the inclined end of the latch, and thereafter pressure of the hook against the last will force the latch back, as shown in

full lines, Fig. 2, thus disengaging it from the shoulder or projection b^2 , and thereafter by a slight further movement of the last-hook its end 2 catches under the bar b^3 , enabling the
 5 last-hook to take firm hold of the block in order that the same may be withdrawn from the boot or shoe, the last-hook holding the block, as shown by dotted lines in Fig. 2.

We have herein shown the projection b^2 and
 10 the bar b^3 as forming part of a metal plate; but it is obvious that the upper end of the block might be partially bored, and then cut out to leave a shoulder or projection, b^2 , and a bar-like portion, b^3 ; but the metal plate is
 15 preferred, because of its greater strength and cheapness. A metal pin driven through the block of the last from side to side, and occupying the position occupied by the bar b^3 would, in our judgment, be an equivalent for
 20 the said bar. After the shoe has been lasted, the last is withdrawn to enable the sole and upper to be united upon a sole-sewing or nail-driving machine, and thereafter the shoe is relasted, and to enable the same last to be used
 25 for relasting we have attached the pin to the block rather than to the body of the last, as has heretofore been done. By providing the block with the pin we are enabled to dispense with a great number of lasts.

30 We claim—

1. The body of the last provided with a shoulder, a^2 , and a latch, combined with the block having a pin or stud at its under side at or near its lower end to co-operate with the
 35 said shoulder, and at its upper end a shoulder or projection, b^2 , to be engaged by the said latch, substantially as described.

2. The body of the last and its attached latch having a beveled upper end, combined
 40 with the block of the last provided at its upper end with a shoulder or projection, b^2 , and a bar, b^3 , substantially as and for the purpose described.

3. The body of the last provided with the spring-latch c , fixed therein, and the block B,
 45 separated from the body of the last by a curved cut, as a , combined with a pin, b , at or near the lower end of the block, and the plate b' at or near the upper end of the block, and the latch c , engaging the said block, substantially as
 50 described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN C. BICKFORD.
 WARREN I. STETSON.

Witnesses:

ERASTUS BURLINGHAM,
 ZOEETH B. WOODBURY.