2. Sheets, Sheet. 1.

# H. Thayer,

## Boot Crimper.

No. 103,104. Patented May 17. 1870.

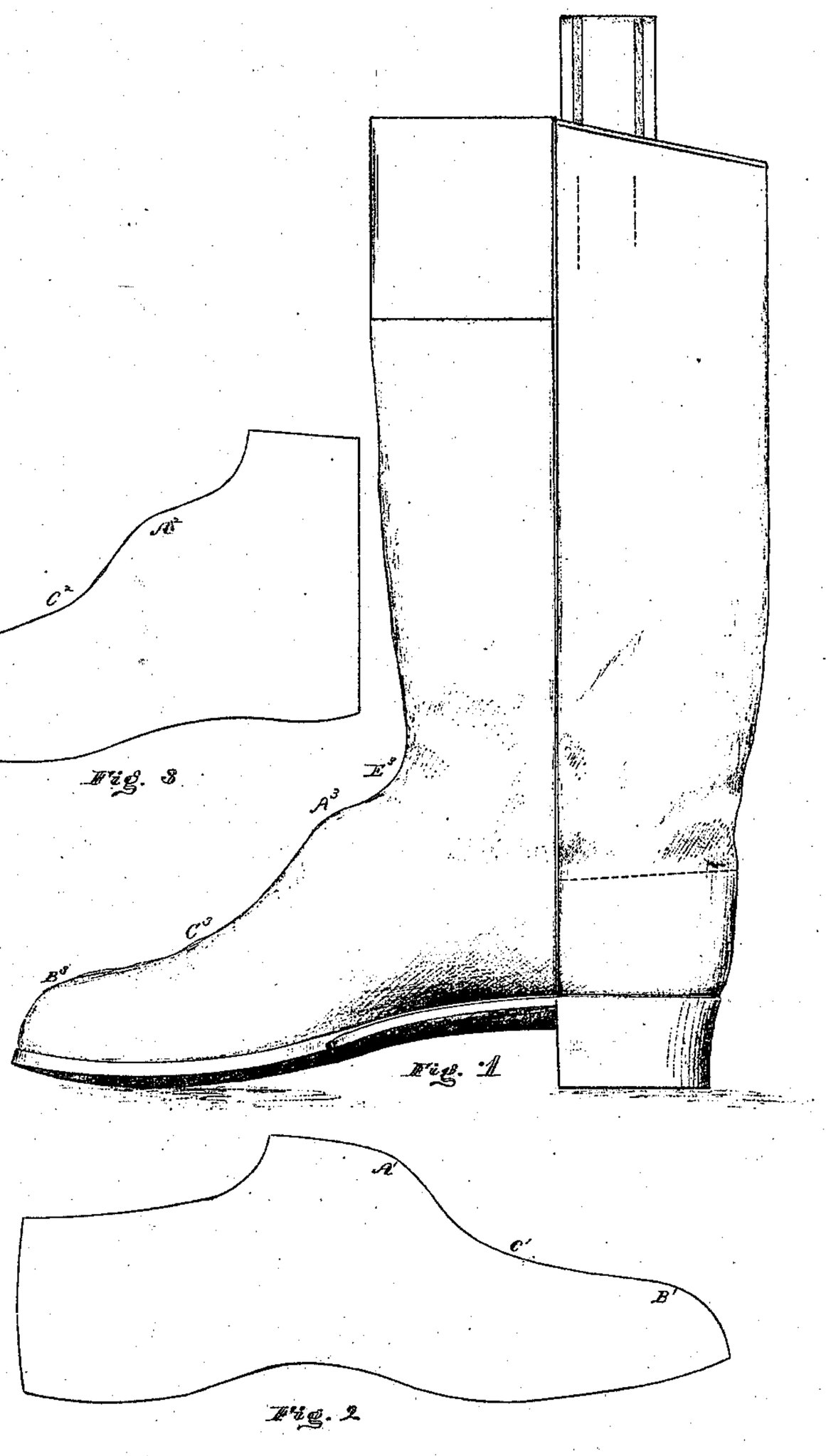


Fig. 3.

Fig. 4.




Fig. 2.

Witnesses

Geo. H. Newton.

Lewis Curtis.

Inventor

Hiram Thayer

2. Sheets. Sheet 2.

# H. Thayer,

## Boot Crimper.

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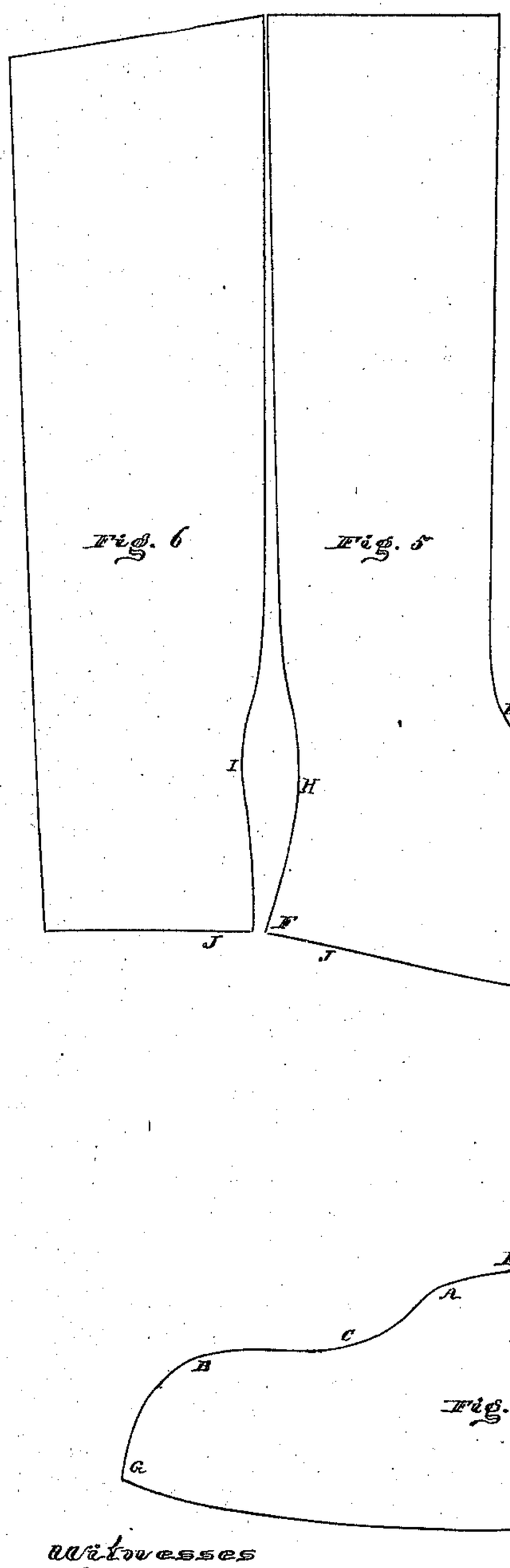


Fig. 6

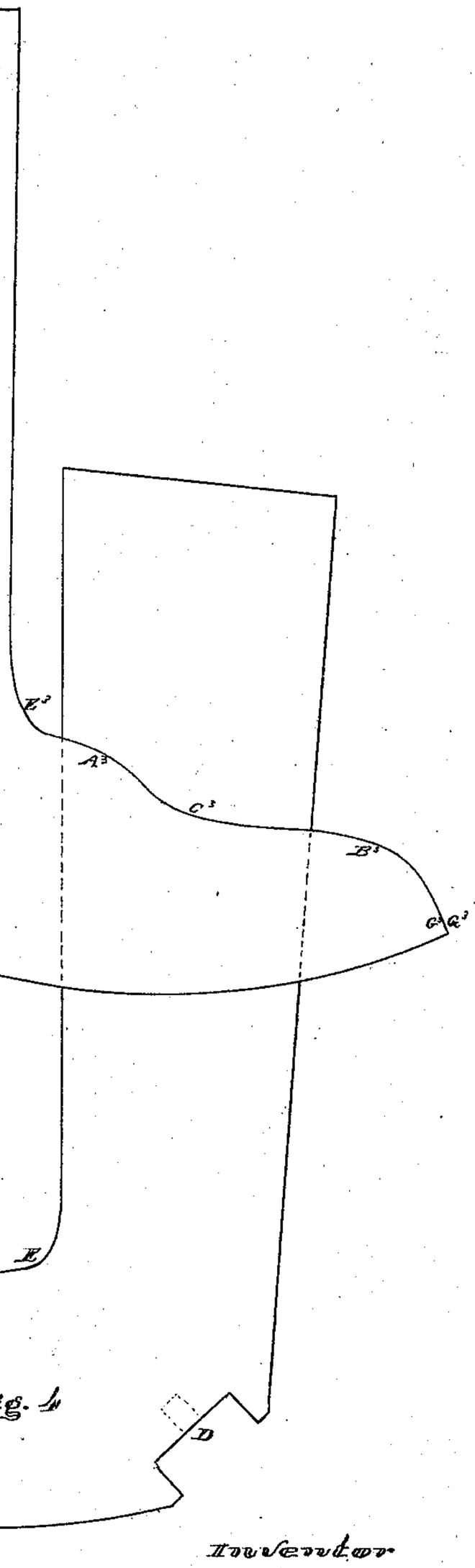


Fig. 5

Fig. 4

witnesses

Geo. H. Newton.

Lewis Curtiss

Inventor

Hiram Thayer

# United States Patent Office.

HIRAM THAYER, OF MONSON, MASSACHUSETTS.

*Letters Patent No.* 103,104, *dated May* 17, 1870.

## IMPROVED MODE OF MAKING BOOTS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, HIRAM THAYER, formerly of Paxton, in the county of Worcester and Commonwealth of Massachusetts, but now of Monson, in the county of Hampden and the Commonwealth of Massachusetts, have invented a new Mode of making Boots; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 represents a side view of a boot, made in accordance with my improved method.

Figure 2 represents a side view of the last employed in the manufacture of the boot, shown in fig. 1.

Figure 3 represents a side view of the treeing-foot, used in the manufacture of the boot.

Figure 4 represents a side view of the crimping-form upon which the boot fronts are crimped.

Figure 5 represents a side view of the boot front after it has been "crimped" and "cut over" preparatory to siding; and

Figure 6 represents a side view of the back, as prepared for siding.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proproceed to describe it more in detail.

The nature of my invention consists in a new mode of making boots, as hereinafter described.

In my improved mode of making boots, I construct the crimping forms of the shape indicated in fig. 4 of the drawings. This form differs from the ordinary form, inasmuch as it is provided with an instep-projection, A, and a toe-projection, B, while a depression, C, is produced between said projections, which greatly facilitates the operation of crimping, as will be hereafter explained.

The hole D, at the heel of the form, for the recep- of the crimping-iron, is also arranged in relation to the curve E of the ankle much further back than in the ordinary forms.

By this arrangement of the crimping-iron, the greater portion of the strain upon the leather is backward instead of downward, thereby producing the desired shape in the foot without drawing the leather of the leg into wrinkles about the curve E of the ankle, which is generally the case when the ordinary crimping-form is used with a downward draft on the crimping-iron.

I make the jaws of my crimping-brake to correspond in shape to the form, said jaws being provided with suitable curves to match the projections A B and depression C.

I also make the last (see fig. 2) with a protuberance A′, on the instep, and also with considerable fullness on the upper part of the toe at B′, while at C′, centrally between the toe and instep the last is no higher than usual.

The treeing-foot (see fig. 3) is made with projections $A^2$ $B^2$, and depressions $C^2$, to conform to the construction of the form (fig. 4) and last (fig. 2.)

The boot fronts, (fig. 5,) after being blocked out, are passed through the crimping-brake, and then placed upon the crimping-form, and the corner F is drawn back by the crimping-iron, the end of which is set into the hole D.

The depression C allows the the leather of the front at $C^3$ to settle downward and backward toward the corner F, while at $A^3$ it is held by the projection A, and at the toe $B^3$ it is held by the projection B, and the extremity $G^3$ is drawn directly backward and rounded over the end G of the crimping-form sufficient to give the required fullness at the toe.

By means of the backward draft on the crimping-iron, the leather is stretched in the foot-part instead of being crimped into wrinkles at the curve $E^3$ of the ankle, as in the ordinary method, and also the corner F is drawn back to a much greater extent, which latter is necessary to enable me to use my improved pattern for cutting over the fronts preparatory to stitching up the sides.

The rear part of the fronts are cut with an inner curve, as shown at H, while the backs (fig. 6) are cut with an inward curve, as shown at I, so that when the boots are stitched at the sides a fullness is produced along the lower edge J, which causes the upper to curl into the hollow of the shank of the last, thereby securing the proper form of the lower part of the shank without undue stretching of the leather or straining the stitching, and at the same time greatly facilitating the operation of lasting the boot.

A boot made in the mode above described possesses many advantages over a boot made in the ordinary way. The stock is not strained as much, and, therefore, the stitching is less liable to give way. The boot will also fit smoother around the ankle as there are no wrinkles pressed or crimped into the curve $E^3$.

The protuberance $A^3$ and $B^3$ allow sufficient space within the boot, so that it will not cramp the toes or draw down upon the instep bone of the wearer, and thereby cause him much annoyance and pain.

The leather being drawn down at $C^3$ causes the boot to fit neatly into the depression at the top of the foot and also prevents the boot from forming into large wrinkles when the foot is bent in walking.

Having described my improved mode of making boots,

What I claim therein as new and of my invention, and desire to secure by Letters Patent as a new article of manufacture, is—

A boot, the parts which are cut, formed, and combined together in the manner shown and described.

HIRAM THAYER.

Witnesses:

GEO. H. NEWTON,

LEWIS CORLISS.