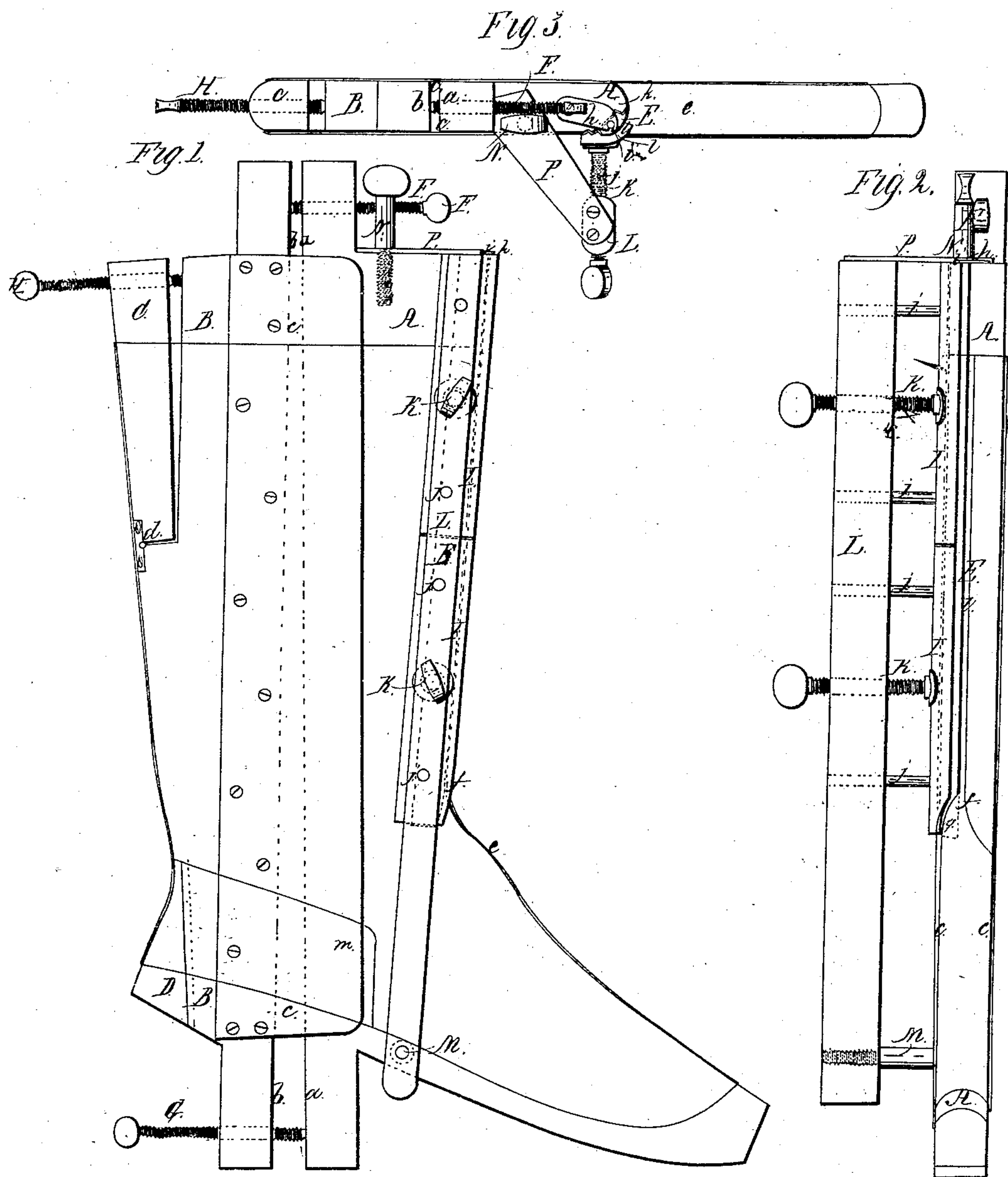


Chilcott & Snell,

Boot Tree.

N^o 12,670.

Patented Apr. 10, 1855.



UNITED STATES PATENT OFFICE.

JOHN CHILCOTT AND ROBERT SNELL, OF BROOKLYN, NEW YORK.

BOOT-FORM.

Specification of Letters Patent No. 12,670, dated April 10, 1855.

To all whom it may concern:

Be it known that we, JOHN CHILCOTT and ROBERT SNELL, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful instrument, which we denominate a "Former," and which is intended to be used as a mold or block on which to fold a piece of leather of suitable shape in a suitable manner to form the whole "upper" of a boot without the usual process of crimping or stretching; and we 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, is a side view of the "former." Fig. 2, is a front view, and Fig. 3, a top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This instrument is intended more particularly to be employed in forming the "uppers" of boots, without crimping of one piece of leather or other material, cut out according to the method for which Letters Patent of the United States were granted to us on the 13th day of September 1853; but, it may also serve to form boots, without crimping, from leather or other material cut by other methods. It constitutes a variable mold or block, which can be adjusted and varied in its size and proportions, so that the whole of the "uppers" of boots of various sizes, to suit feet and legs of different shapes, may be formed by simply lapping the material from which they are to be made, around it, and securing the necessary parts together, and it is applicable to the manufacture of boots of materials which are of a perfectly unyielding nature. It resembles, in some measure, in external appearance, some machines which have been employed for crimping the fronts of boots, but the office of those machines is to stretch the leather or material into the desired form, which operation requires the application of very great force, and can only be performed on leather or other material of a similar yielding nature, and therefore is widely different to the office of the "former," which is not required to stretch the material.

Our invention relates to the means by which the leather or material is secured to

the mold or block during the processes of lapping it thereon, and making the seams.

To enable those skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

The variable mold consists principally of a front piece, A, a back piece, B, a calf piece, C, and a heel piece, D, all made of hard wood of about one inch in thickness. The front piece has its front side or edge, *a*, so formed as to represent the profile of the front of a leg, and top of a foot, and is rounded off, so as to have no sharp corners, but its back edge, *a*, is perfectly straight. The back piece, B, has its front side, *b*, straight like the back side of the front piece; and its back side, which is rounded off, represents, with the addition of the calf piece, C, and heel piece, D, which are attached to it, the profile of the back of the leg and heel. It has thin metal cheek pieces, *c, c*, screwed to it, one on each side, to form a groove or recess to receive the back part of the front piece, A, which is capable of sliding freely between the said cheek pieces. The calf piece, C, which represents the profile of the calf, is hinged to the back piece at *d*, (Fig. 1), and the heel piece, D, which represents the profile of the heel, slides into the bottom part of it, with a tongue and groove, either of parallel or dovetail form.

The back piece and front piece are adjustable nearer to, or farther from each other, both at top and bottom, so as to make a mold for a boot fit for a larger or smaller leg, or for a leg larger or smaller at the upper or lower part, by two screws, F, and G, the former of which works in a female screw in the upper part of the front piece, and bears upon the front of the back piece, and the latter works in a female screw in the lower part of the back piece, and bears upon the back of the front piece. These two screws serve to keep the back piece and front piece at a proper distance apart, while the material lapped around the mold confines the one to the other. The calf piece, C, is adjustable relatively to the back piece according to the required size or degree of protuberance of the calf, by means of the screw, H, which works in a female screw in the calf piece, and bears against the back of the back piece.

Instead of the hinged calf piece shown,

the instrument may be furnished with a number of calf pieces of different sizes, which may slide into the back piece with a dovetail, and either one be inserted according to the size required. A number of heel pieces, of different sizes, will also be required, either of which may be inserted in the back piece, according to the required size or degree of protuberance of the heel. The front and back pieces are adjustable at different relative heights as well as at different distances. That part of the front piece which represents the foot, is intended to be long enough for the longest boot required; and the instep part, *e*, may be made higher as required, by fitting and securing loose pieces to it as is commonly done to the instep parts of "lasts." The front piece, back piece, and calf piece, when all allowed to come close together, are intended to make a mold or block small enough for a small sized leg; but when expanded, to make one large enough for a large sized leg.

When the former is required to be put in shape for a boot of any given size, the measurement of the foot is first ascertained in the usual manner; and the front piece, back piece, and calf piece, are adjusted, and a proper heel piece applied, to make the profile of the mold or block represent the form that would be shown by one half or side of the required "upper" when folded, but to make a proper allowance for the thickness of wood of which the mold or block is made.

The appendages by which the material is secured to the "former," during the processes of lapping it around, and making the seam, consist of a clamp, *E*, and two clamps, *I*, *I*. The former clamp, *E*, consists of a long light strip of hard wood of a length sufficient to reach from what is termed the "nick," at *f*, to the top of the front piece. It is of such sectional form as shown in Fig. 3, as to fit into a recess prepared for it in the front piece on one side the center of the front side, and to present the same form externally that part on the other side the center. It is held in place, at its lower end, by entering a recess made in the nick, of the form shown in dotted lines at *g*, in Fig. 2, which prevents it being pulled out laterally, and is secured at top by a small metal latch, *h*, which turns freely on a pin attaching it at one end to the top of the front piece, and has a notch on one side of the opposite end, which catches a small pin, *i*, on the top of the strip.

The inside of the strip is ridged and furrowed from end, to end and the face of the recess in which it is received, is ridged and furrowed to correspond, for the purpose of holding the material more securely. The clamps, *I*, *I*, consist of heavier strips of wood than *E*, and fit to the outside of the

front piece, and partly cover the clamp, *E*. They extend from the top of the front piece downward to a little below the nick; one forming a continuation of the other. They are attached to the ends of two screws, *K*, *K*, which fit in female screws in an upright wooden rod, *L*, which rod is attached firmly by a screw or otherwise, at its lower end, to a small post, *M*, which stands out from the bottom part of the front piece; the upper end of the said rod being attached to the top of the front piece by a metal plate, *P*, which is secured firmly to it in any suitable way, and is secured to the top of the front piece, by a screw, *N*, which is capable of being taken out to allow the top of the rod to be detached from the front piece. The clamps, *I*, *I*, are kept in their proper position, by pins, *j*, *j*, which are attached to them, and work easily in holes in the rod, *L*; and their faces are ridged and furrowed to take firm hold of the material.

The operation of forming a boot with this instrument, is conducted in the following manner. The several parts of the mold are adjusted in the manner hereinbefore directed. The clamps, *I*, *I*, are drawn away from the front piece, by the screws, *K*, *K*, and the clamp, *E*, is taken out by unfastening the latch, *h*, and lifting the bottom end from the recess, *g*. The piece of leather or other material of which the boot is to be made having been cut as directed in the specification of our Letters Patent, before referred to, is then applied so as to place the edge, *k*, (see Fig. 3, where, as well as in the other figures the boot is represented on the instrument in red color), which forms one side of the front seam, lengthwise in the recess which receives the clamp, *E*. The clamp, *E*, is then put in its place, and secured by its latch, *h*, to hold the edge, *k*, secure, while the piece is lapped, as tightly as possible around the mold, by hand. When the piece is lapped round, the edge, *l*, and the part immediately behind it, which is intended to overlap the edge, *k*, is brought under the clamps, *I*, *I*, which are then screwed up to it to hold it secure.

That part of the material which forms the foot of the boot is drawn tight over the instep of the former by nippers provided for the purpose, or by any suitable means. The part, *m*, which makes the double heel, is then secured to the part over which it laps, either permanently, by cement, or temporarily, by some other adhesive material. The clamps, *I*, *I*, are then slackened off, sufficiently to allow the clamp, *E*, to be withdrawn, longitudinally, from its place, and after that clamp has been withdrawn, it is again inserted; but this time, instead of being outside the edge, *K*, it is inserted inside of it, so as to bring the said edge outward into close contact with the part, *l*,

which is to overlap it. Enough lap may be left at L, to enable the parts to be united by applying cement or adhesive material, while the clamps, I, I, are both made to grasp it, and hold the parts together, or, one clamp may be released at a time while the other is tight, to enable the cement or other material to be applied to unite the parts. When the seams are intended to be formed by stitching, the stitching is not done till the "upper" is taken from the "former", the cement or adhesive material, which is applied when on the "former", serving to hold the parts together until they can be stitched.

The "former" may be slightly expanded by the screws, after the material is folded upon it for the purpose of tightening the "upper" upon it, or drawing out puckers, but is never required to stretch the material.

The "former" is taken from the "upper", after the latter is formed, by first unscrewing the screws, F, and G, to loosen the front and back pieces, taking out the screw, G, and then drawing out the heel piece, after which the back piece may be drawn upward. The clamps, I, I, are then slackened, and the screw, N, taken entirely out, to allow the plate, P, to be detached from the front piece, to allow the front piece to be drawn downward through the "upper". The bottom connection of the rod, L, must be such as will admit of the necessary movement of the top end of the rod to allow the plate, P, to work clear of the front piece. In order to enable the "upper" of the boot to be taken from the "former", it is absolutely necessary that the heel piece should consist of a separate piece, capable of being entirely detached from the back piece, or the back piece could

not be drawn upward from the "upper"; and the only practicable way of detaching the back piece is by drawing it downward, in order to do which, it must be fitted to slide upward and downward in a groove in the back piece as described.

It is not intended absolutely to make one "former" serve for boots of every size, but the same one will serve for sizes which differ very considerably.

What we claim as our invention, and desire to secure by Letters Patent, is:—

1. The inner clamp, E, fitted to a recess in the front piece, A, substantially as described, so that its exterior presents the desired surface for a part of the front piece, whereby after having held the first edge of the front seam of the leg secure to the front piece, A, till the whole piece of material is lapped to the proper form, it may be drawn out lengthwise, and re-inserted in the front piece inside the edge it previously held, and thus throw out the said edge and part of the material immediately behind it, into contact with that part of the material which overlaps, and is to be united to it to make the seam.

2. The exterior clamps, I, I, attached to screws, K, K, working in an upright, L, which is attached to the front piece, A, substantially as described, in a suitable position for the clamps to hold the two parts of the front seam together, and in such a manner that the top part can be easily detached from the front piece, A, to allow the said front piece to be taken from the "upper".

JOHN CHILCOTT.
ROBERT SNELL.

Witnesses:

S. H. WALES,
JNO. W. HAMILTON.