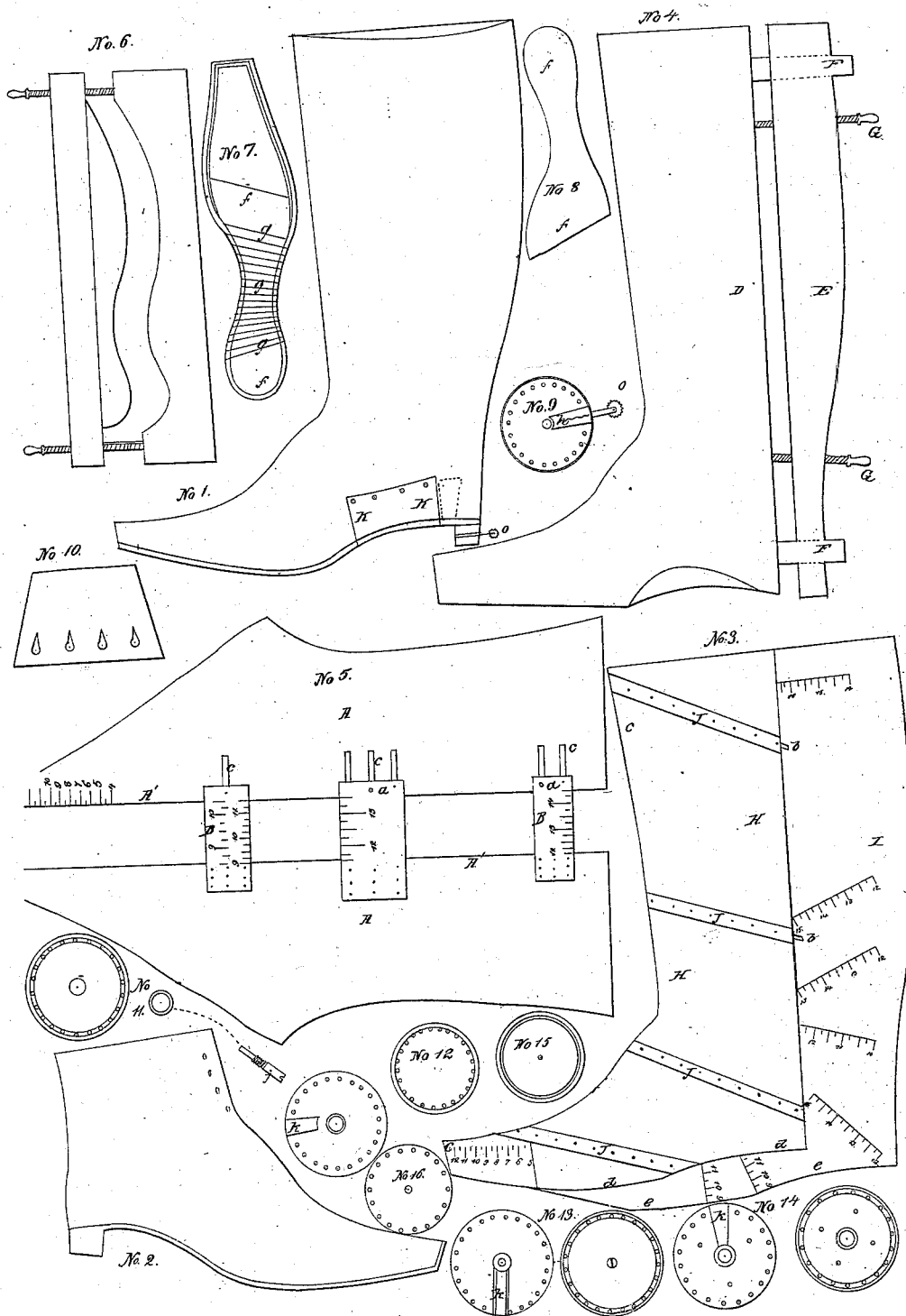


# J. Turnbull Boot Pattern,

No. 3,143.

Patented June 24, 1843.



# UNITED STATES PATENT OFFICE.

JAMES TURNBULL, OF PHILADELPHIA, PENNSYLVANIA.

## MAKING BOOTS.

Specification of Letters Patent No. 3,143, dated June 24, 1843.

*To all whom it may concern:*

Be it known that I, JAMES TURNBULL, of the city of Philadelphia, in the State of Pennsylvania, have invented certain new and useful improvements in the apparatus for and the manner of manufacturing boots of various kinds, the legs and uppers of which boots consist of a single piece of leather, there being but one seam in each, from which circumstance I denominate them the "one-seam boots;" and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawing, No. 1, represents one of my one seam boots of the ordinary kind, and No. 2, a short, or Jackson, boot, with one seam, but cut open a short distance in front for the purpose of lacing.

No. 5, is what I call the blocking out pattern, which, in the man's size, is about twenty one inches long, the other parts being made to the same scale. This pattern I make of two plates of metal A, A, preferring zinc for that purpose. For No. 5, on the size stick, which is the smallest man's size, the two plates of metal will usually be in contact with each other along the line A', A'. B, B, B, are plates of metal riveted to one of the plates A, and furnished with pins that slide in the slots C, C; there being small thumb screws, as at a, a, by which they may be held in any situation required. When drawn from each other to the full extent they are then adapted to the blocking out of size No. 12, the precise distance being regulated by the measuring strap. A second blocking-out pattern may be used for boys' size, and these will suffice for all purposes.

After the blocking out has been effected, the legs and uppers are to be formed on the crimping board in such manner as that the only seam shall be up the back of the boot. No. 4, is the crimping board, of which there must be two; that is to say, one for rights and the other for lefts. The insteps and toes on these boards are to be made as much like the last in form as the nature of the case will admit. This crimping board is made in two parts. The part E is mortised, and slides on two iron strips F, F; it is also furnished with two stretching screws, G, G. When the leather is to be crimped, the foot and shank should be first tacked in place, and then the back, from

top to bottom; all which should be neatly done before stretching it with the screws. It will facilitate the operation if a little tallow is rubbed upon the crimping boards, especially when they are new.

After the crimping has been completed, the leather is to be cut out by what I call the shifting-pattern, No. 3. This, like the blocking-out pattern, consists of two plates of metal, H, and I, one of them superimposed, and sliding upon the other. The piece H, as shown in the drawing, is slid out so as to cut No. 12; b, b, are slots in the plate I, within which slide pins attached to the plate H; J, J, are strips of metal to strengthen the plate H, and sustain the sliding pins and set screws. When the plate H, is slid back as far as it will go on the plate I, it stands in the position for cutting fives. The front line c, c, of the plate H, then coincides with the front line of the plate I. This position of the plate H, is shown in No. 3, viz., which is a view of the reverse side of the cutting-out pattern. In this position, also, the bottom line d, d, of No. 3, coincides with the line e, e, of the plate I, said plate being, in fact, the pattern for fives, supposing the plate H, to be removed from it.

In cutting out to any size the pattern is laid upon the crimped leg, so that the front line c, c, coincides with it, and the knife is run along the pattern at the back and top. The lining for the leg may be cut in the same manner in one piece, and may be joined either at the back, or front. It may be inserted either before or after the backing up. The straps are to be placed as in other boots, that is where the seams are ordinarily made.

I have made an improvement, likewise, in the shanks of boots. I am aware that boots have been made with an inflexible shank of metal, and also with shanks of elastic steel plate, but these are both objectionable; the former on account of their weight and unyielding nature, and the latter frequently break. I have improved this part by the use of shanks of hickory, white-oak, or other tough wood. One of these shanks is shown at f, f, in Fig. 8, and it is shown in place on the insole in Fig. 7. In forming these shanks, I take splints of wood of the proper width, and about a fourth of an inch in thickness, and by means of what I denominate a spring block, I bend them into the

proper form. This spring block is shown at No. 6. One of this pair of blocks has the form of the bottom of a last, and the other is hollowed to correspond thereto.

5 The splint of wood is steamed, or put into boiling water, and is pressed into form while hot, and kept in the mold until dry. It is then to be trimmed at the edges, to bring it to the proper form, and is pared down so

10 as to be quite thin along its sides; when so prepared, it is ready to be applied on to the insole.

In Fig. 7, the lines *g, g, g*, represent a lightly twisted wag-end, which passes across the elastic wooden shank, being carried back and forth through the insole stitching. The end being lightly twisted is readily rubbed down flat. This wooden shank is free from all the objections found against those heretofore used.

My next improvement consists in the providing of pantaloons straps, which are attached to the boots in such manner as not to require them to pass under the foot, by which means such straps are not liable to the inconvenience heretofore experienced.

25 In Fig. 1, *K, K*, is a piece of leather which constitutes the strap, there being one such on each side of the boot. These straps are sewed in at their lower edges with the welts, or otherwise, and the pantaloons are provided with hooks, or with buttons, which are to be inserted into the holes in the top edge of the straps; such a strap is shown

30 separately at No. 10.

My last improvement consists in the employment of a circular revolving heel, by means of which the boot is made to wear much more regularly on the bottom than heretofore. These heels consist of a proper

40 number of lifts of leather to give the required height, and of one or two circular plates of brass, or other metal. These heels I usually fasten by means of a screw, or of a spur, so as to prevent their revolving, on the removing of which screw they may be turned around to the required distance, and again confined in place. They may, however, be made without the addition of a

45 tightening screw. Nos. 11, to 16, represent metallic plates, which are all intended for the same use although they vary somewhat in form. Fig. 17, is a vertical section

through the middle of the heel of a boot, showing two brass plates, with the lifts attached thereto. *L*, is the lower, and *M*, the upper, plate; the lower plate has a neck *i, i*, upon it which is received into a hole in the upper plate. The neck *i, i*, has four holes drilled into it to receive the end of a screw *j*, which is tapped through the stud, or piece, *h*, cast on to the upper plate for that purpose. Instead of the screw *j*, a spur *l*, may be used. The lifts of leather *m, m, m*, are attached to the plates, either by nailing, or by sewing through the holes represented as surrounding the rims of the plates 12, 13, 14, &c. The revolving part of the heel is attached to the foot of the boot in the following manner. *N*, is a common wood screw, the head of which is received in a countersink in the lower plate; and said screw passing through the neck *i*, and being made fast by screwing into the heel of the boot above the upper plate, the attachment is completed; the four holes in the neck *i, i*, which receive the end of the screw *j*, or the spur *o*, will admit of the heel being turned around into four different positions. Sometimes a single plate only is used, to which the lower lifts are attached. The circular metal plates I usually make of brass, and when the wearer objects to the appearance of their edges, they may be bedded in, and covered by, the leather. Into the excavation *n*, made in the lifts to admit the head of the screw *j*, I put a piece of tallow before fastening on the top piece.

Having thus, fully described the nature of my respective improvements in the apparatus for, and in the manner of, manufacturing boots, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The particular manner of forming and arranging the blocking-out pattern, so as to adapt it to the respective sizes required in boots of one seam.

2. I claim the manner of forming the shifting pattern, so as to adapt the same to the cutting of the various sizes of such boots after the leather has been crimped.

JAMES TURNBULL.

Witnesses:

THOS. P. JONES,

EDWIN L. BRUNDAGE.