(No Model.)

J. G. ROSS.

HEEL.

No. 264,963. Patented Sept. 26, 1882.

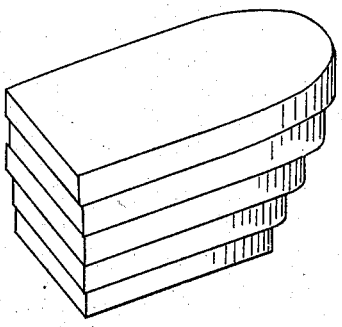

FIG. 1.

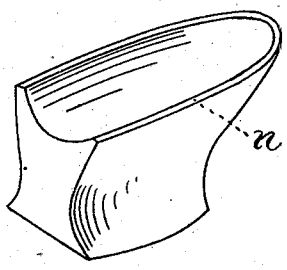

FIG. 2.

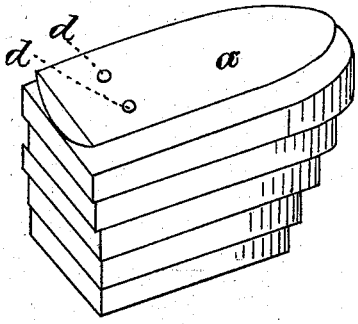

FIG. 3.

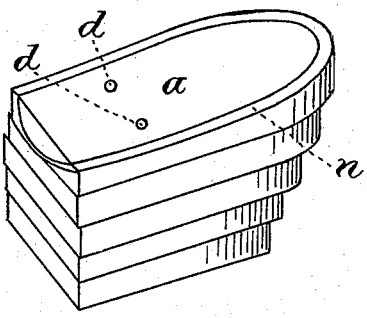

FIG. 4.

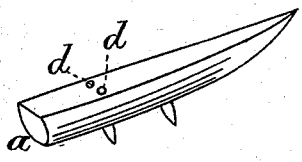

FIG. 5.

WITNESSES:

Chas. H. Kimball.

John P. Kerrigan.

INVENTOR:

J. G. Ross

Per attys

Clifford and Clifford

Wm. H. [illegible] Clifford,

Chas. E. Clifford.

UNITED STATES PATENT OFFICE.

JOHN G. ROSS, OF LYNN, MASSACHUSETTS.

HEEL.

SPECIFICATION forming part of Letters Patent No. 264,963, dated September 26, 1882.

Application filed January 31, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. ROSS, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Heels; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 of reference marked thereon, which form a part of this specification.

Figure 1 shows a heel with the different lifts in position to be cut and shaped. Fig. 2 shows a finished heel. Fig. 3 shows a view of Fig. 1 with the former in its place before the pressure is applied. Fig. 4 shows the heel with the former after the pressure has been put on. Fig. 5 is a view of the former.

Same letters show like parts.

This invention relates to a new method of making boot and shoe heels. Letters Patent of the United States have already been granted me of date November 16, 1880; but the method hereinabout to be explained differs from the one described in said patent.

The first step in my improved process consists in taking the different pieces of leather or lifts of which the heel is to be made and cementing, gluing, or otherwise fastening them together. When the different lifts of the heel have thus been united, I then place on the upper face of the heel the former *a*, as illustrated in Fig. 3. By the upper face of the heel here I mean that face that is fitted to the shoe when completed. The former is of the shape substantially as given in my former patent. It has, however, the two perforations or recesses *d* fitted to receive two studs or pins of a machine in which the rough heel is at last finished or shaped for sale and use. I may here observe that the former *a* is not in my present invention removed from the heel at all from the time it is used to shape the upper face thereof until the heel is finally completed and ready for sale. After the former has been placed on the upper face of the rough heel the heel is placed upon a proper table, or in a recess or holder fitted to receive it, and then, by hydraulic or other force, the former is pressed into the upper face of the heel until the flat face of the former is level, at least, with the edges of the leather of the upper lift of the heel. When this is accomplished the heel with the former still in it is transferred to a machine where the heel is finished, the two holes *d d* acting to receive studs of a heel-holder on the machine, whereby the heel may be turned, as is necessary, in the finishing of it. These holes may, however, be in the machine and the studs be placed upon the former, whichever is the more convenient.

I had formerly supposed it was necessary to apply the pressure to only one or two of the first lifts of the heel before the rest were attached to it, and to fill in where these two top lifts were made convex by the pressure applied to them with skivings in order to obtain a flat surface on which to build the succeeding lifts. In my present invention this is rendered unnecessary, as the pressure accomplishes the necessary concavity in the top surface of the heel.

Thinning down the convex surface of the two first top lifts was also specified in my former patent, already referred to; but my present process obviates this operation also.

The heel thus made is solid and firm, without spring or curl to the leather, and is fastened to the boot or shoe by cementing, gluing, or nailing, and can be repaired.

The former remains in its place on the heel until the heel is polished and fully completed.

I disclaim the process and product of Patent No. 234,430, dated November 16, 1880.

The former serves to hold the heel or the top lifts thereof in proper shape and position while it is being cut and polished in the machine. The edge of the former serves as a guide by which to trim the top edge, *n*, of the heel. The edge of the former, thus acting as a guide, enables me to make this top edge of an uniform thickness all around.

What I claim as my invention, and desire to secure by Letters Patent, is—

That improvement in the art of manufacturing heels for boots and shoes which consists in placing the desired number of lifts to form

the heel together and cementing them to each other with a plano-convex former on the bottom lift, then submitting the whole to pressure until the former is embedded in the upper surface of the heel, and afterward trimming and polishing the heel while the former is still attached to it, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN G. ROSS.

Witnesses:

WILLIAM HENRY CLIFFORD,

CHARLES E. CLIFFORD.