A. A. DANFORTH.

Heels for Boots and Shoes.

No. 166,507. Patented Aug. 10, 1875.

Fig. 1.

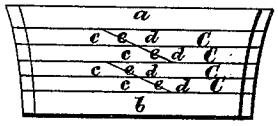



Fig. 2.

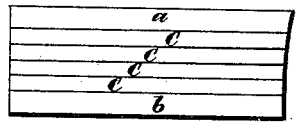


Fig. 3.

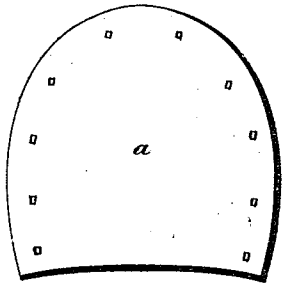


Fig. 4.

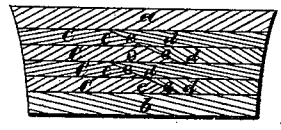
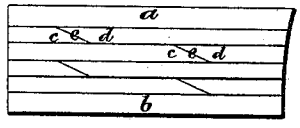


Fig. 5.



Witnesses.
S. N. Piper
J. R. Dawson

Aciel A. Danforth
by his attorney.
R. K. Eddy

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ACIEL A. DANFORTH, OF LYNN, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND MELVILLE C. KIMBALL, OF SAME PLACE.

IMPROVEMENT IN HEELS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **166,507**, dated August 10, 1875; application filed January 27, 1875.

To all whom it may concern:

Be it known that I, ACIEL A. DANFORTH, of Lynn, of the county of Essex and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Heels for Boots or Shoes; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front view, Fig. 2 a side elevation, Fig. 3 a top view, and Fig. 4 a transverse section, of a heel in accordance with my invention, the purpose of which is to utilize in the making of a heel small pieces of leather, and to have those of each layer scarfed and lapped on each other in order that close joints may be between them, such compound layers being used with bed and bottom lifts, in order to complete the heel.

In the drawings, *a* denotes a bed or top lift, and *b* a bottom lift, each being of proper form and in one piece.

Between these lifts are the compound lifts C C C, each being composed of two or more pieces, *c d*, scarfed at their inner edges, and are lapped on each other in manner as shown at *e*, the whole being so that when the parts of the heel are compressed together in a press or by other means, the joints shall be closed, and not open apart as they would were the inner edges of the parts of the heel-lift not to overlap each other.

After the pieces composing the improved lifts have been arranged together, and with the top and bottom lifts *a b*, in manner as described, the whole is to be put in a press, and by means of it a powerful pressure is to be brought upon the lifts, so as to thoroughly force into very close or intimate contact the lapped parts at each joint. This will crowd the grains of the leather together at the laps in such manner as to prevent subsequent opening of the joint. The employment of a press, as described, is very essential to the production of a heel made in part of compound lifts, as set forth.

Fig. 5 is a side view of a heel with the scarf-joints going through it transversely. This joint may run transversely or longitudinally or obliquely of the heel, and they may be arranged so that one of one lift shall cross that of the next.

When the pieces of the compound lift are scarfed and lapped on one another, as set forth, they can be held together by nails of the heel going through both in their lapping portions; and thus the joints will be made stronger, and be prevented from opening, so as to admit water or earth into them while they may be in use.

I do not claim in a heel either of its inner lifts composed of two or more pieces butted together without lapping on each other; nor do I claim a heel having either of its lifts composed of two or more pieces dovetailed and cemented together.

I claim—

1. As an improved manufacture, a boot or shoe heel having each of its inner lifts composed of two or more pieces, *c d*, scarfed and lapped on each other, and next, or while applied to the outer lift or lifts *a b*, subjected to powerful pressure, so as to firmly and closely set together the scarfed edges, all as set forth.

2. The described mode or process of making a heel—viz, by scarfing and lapping pieces of material together to form each inner lift, and subsequently, or while applied to the outer lift or lifts, subjecting the whole to powerful pressure, so as to force the lapped parts into close or intimate contact, all as set forth.

ACIEL A. DANFORTH.

Witnesses:
R. H. EDDY,
J. R. SNOW.