

(No Model.)

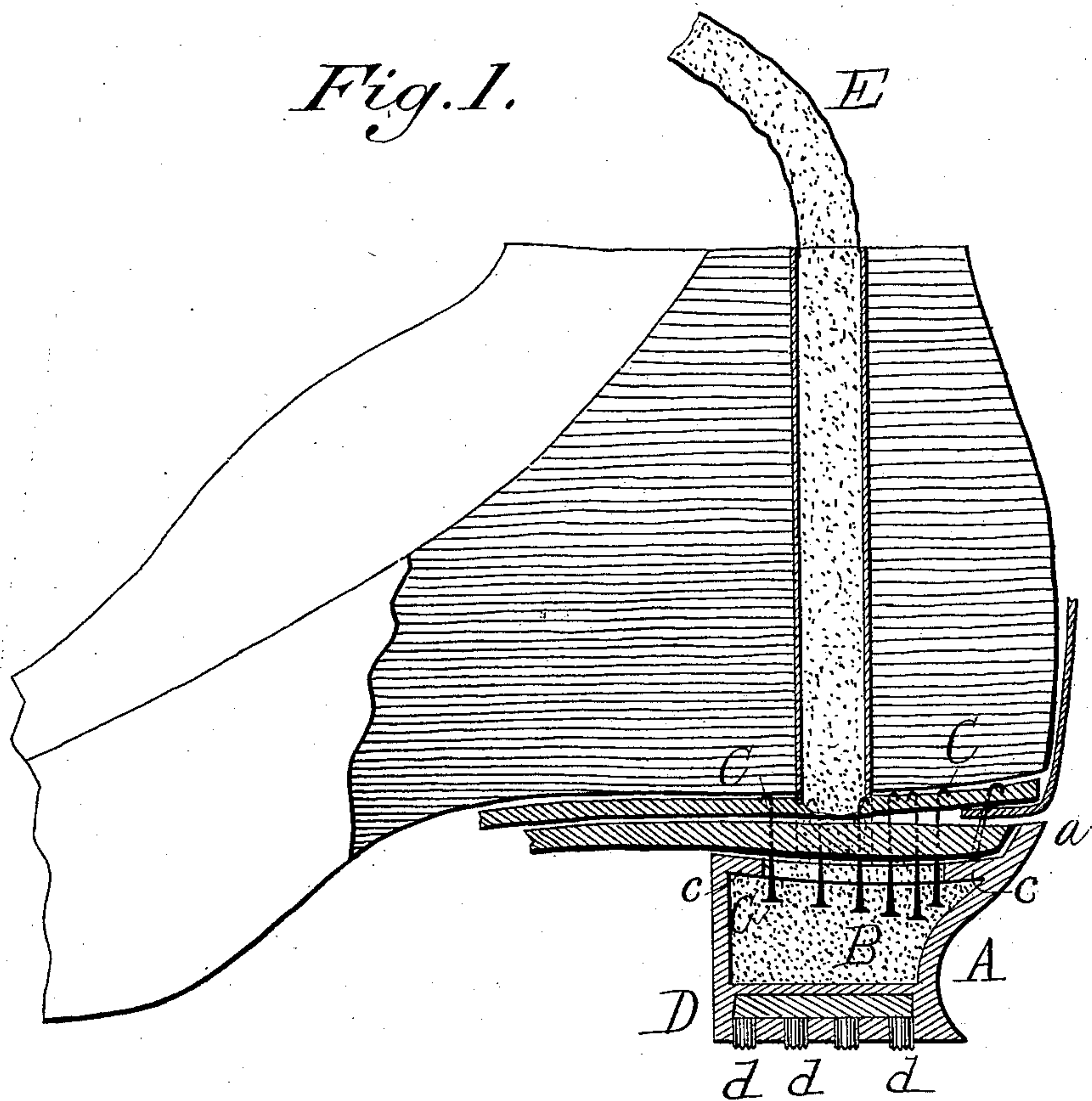
M. V. B. ETHRIDGE.

METHOD OF ATTACHING HEELS TO BOOTS OR SHOES.

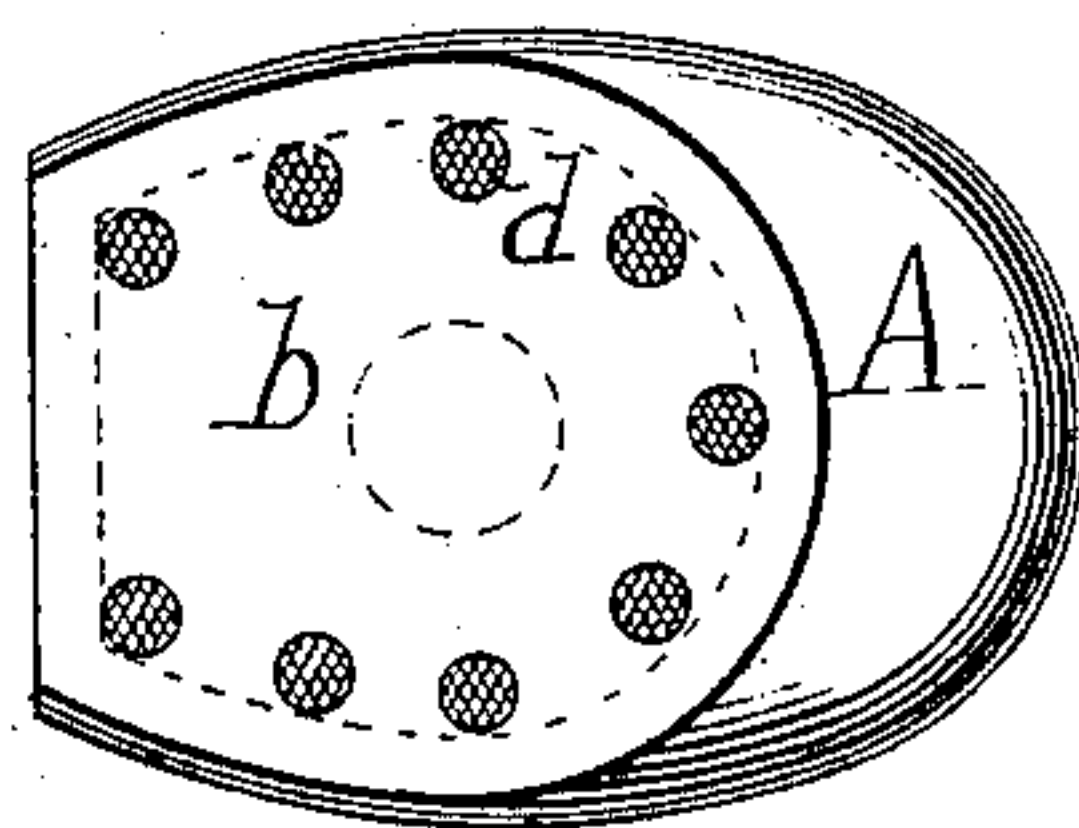
No. 364,755.

Patented June 14, 1887.

*Fig. 1.*



*Fig. 2.*



Witnesses

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Inventor

*Martin V. B. Ethridge*  
By *his* Attorney *John C. Foster*



# UNITED STATES PATENT OFFICE.

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## METHOD OF ATTACHING HEELS TO BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 364,755, dated June 14, 1887.

Application filed October 18, 1886. Serial No. 216,557. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN V. B. ETHRIDGE, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Methods of Attaching Heels to Boots, Shoes, &c.; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to a process for attaching heels to boots or shoes or the like; and it consists, essentially, in providing a heel formed with an internal cavity or receptacle, and preferably having a peripheral flange around the mouth or opening of said cavity, locating the heel in proper position on the boot or shoe, and then introducing into the heel-cavity a semi-fluid, plastic, or viscous substance, which is calculated to harden within the cavity and around and about projections on the shoe extending into said cavity, and thereby firmly bind the heel to the shoe.

In order to illustrate one way of carrying out my improved process, I have hereunto annexed drawings, in which—

Figure 1 is a longitudinal sectional elevation of a shoe, the heel of which is attached thereto by my improved process. Fig. 2 is a bottom plan of a heel constructed and adapted to be secured in place by my improved process.

The details of my method of attaching heels to boots or shoes or the like are as follows: I first provide heels formed with a cavity or receptacle. These heels may be prepared in any convenient and suitable manner. They may consist simply of a hollow shell, or they may be solid blocks of suitable material, formed by any means, with a cavity of greater or less size. They may be molded, cast, or wrought, made in a single or several pieces, and of any desirable form and configuration.

The mode of forming the heel does not enter particularly into this invention, except in so

far as it may be necessary to provide the heel with a cavity, for the invention consists in a method of attaching heels to boots or shoes; and one, and in fact the only, essential prerequisite of the heel which is to be attached is that it should be more or less hollow.

In the drawings, A represents one form of heel, having a cavity or receptacle, B, whose mouth or opening is on that side of the heel which is designed to rest against the shoe-sole, as shown. The heel A is externally flanged at *a*, so as to adapt it to fit snugly against the outsole and come close up against the upper, the rear line of the outsole being pared off for the purpose; and, further, the heel is flanged at *c* peripherally around the opening of the interior cavity, so that when the substance introduced into said cavity shall have caked and hardened firmly therein it cannot be withdrawn, but will then be, as it were, integral with the heel itself.

D represents a metallic plate having lugs *d*. This plate may be molded into the bottom portion of the shell A, when said shell is formed by molding, with the lugs *d* projecting through the bottom surface of the shell, and serving to keep the shell from being quickly worn away, and thus make the heel more durable. The next step after providing heels that have cavities is to furnish the rear portion of the shoe-sole with a greater or less number of downwardly-extending projections, which will extend into the heel-cavity when the heel is in position. In the drawings these projections are depicted in the form of headed tacks, C, which are driven through the sole and clinched on the inside, said headed nails being clustered about one point on the sole. The heel is now to be placed in position over the projections and a plastic or semi-fluid substance introduced into the interior of the heel-cavity in such a manner that said substance may harden around the projections and bind tightly against the inner wall of the heel-cavity, the mouth of the cavity being preferably peripherally flanged, as above explained, to prevent any possible withdrawal of the solidified material. Obviously, therefore, the heel, the hardened material within it, and the projections on the shoe-sole will be bound inseparably together and



the heel united with the shoe. This substance may be introduced in any convenient manner. It may be passed through the bottom of the heel or through an opening in the shoe sole.

5 In Fig. 1, E represents a tube extending through the shoe and passed through the sole, so that it may act as a conveyer to carry the hardening substance to the heel. One kind of substance which may be employed consists in a mixture of glue and sawdust mingled in suitable proportions. This substance is to be conveyed into the heel under pressure, and the conveying tube is preferably kept hot during the operation. While glue and sawdust form a convenient substance to be used, I do not intend to confine myself to a glutinous or viscous compound, but reserve the liberty of using any substance that has the quality of changing quickly from a semi-fluid to a solid state, so that the resulting solid will be exceedingly firm and compact; nor do I intend to limit myself to the passing of the substance into the heel through the sole; but the side of

the heel (preferably the bottom side) may be provided with an aperture or opening, as *b*, 25 Fig. 2, through which the solidifying material may be carried to the spot where it is needed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

30 That improvement in the art of attaching heels to boots or shoes which consists in providing the heel end of the sole with depending fastenings, locating a hollow heel in position thereon, inclosing said fastenings, and filling 35 the hollow portion with a plastic composition, which will afterward harden and secure the heel to the boot or shoe, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN V. B. ETHRIDGE.

Witnesses:

CHAS. HALL ADAMS,

MARTIN McDONOUGH.