

(No Model.)

F. F. RAYMOND, 2d.  
METHOD OF ATTACHING HEELS.

No. 335,241.

Patented Feb. 2, 1886.

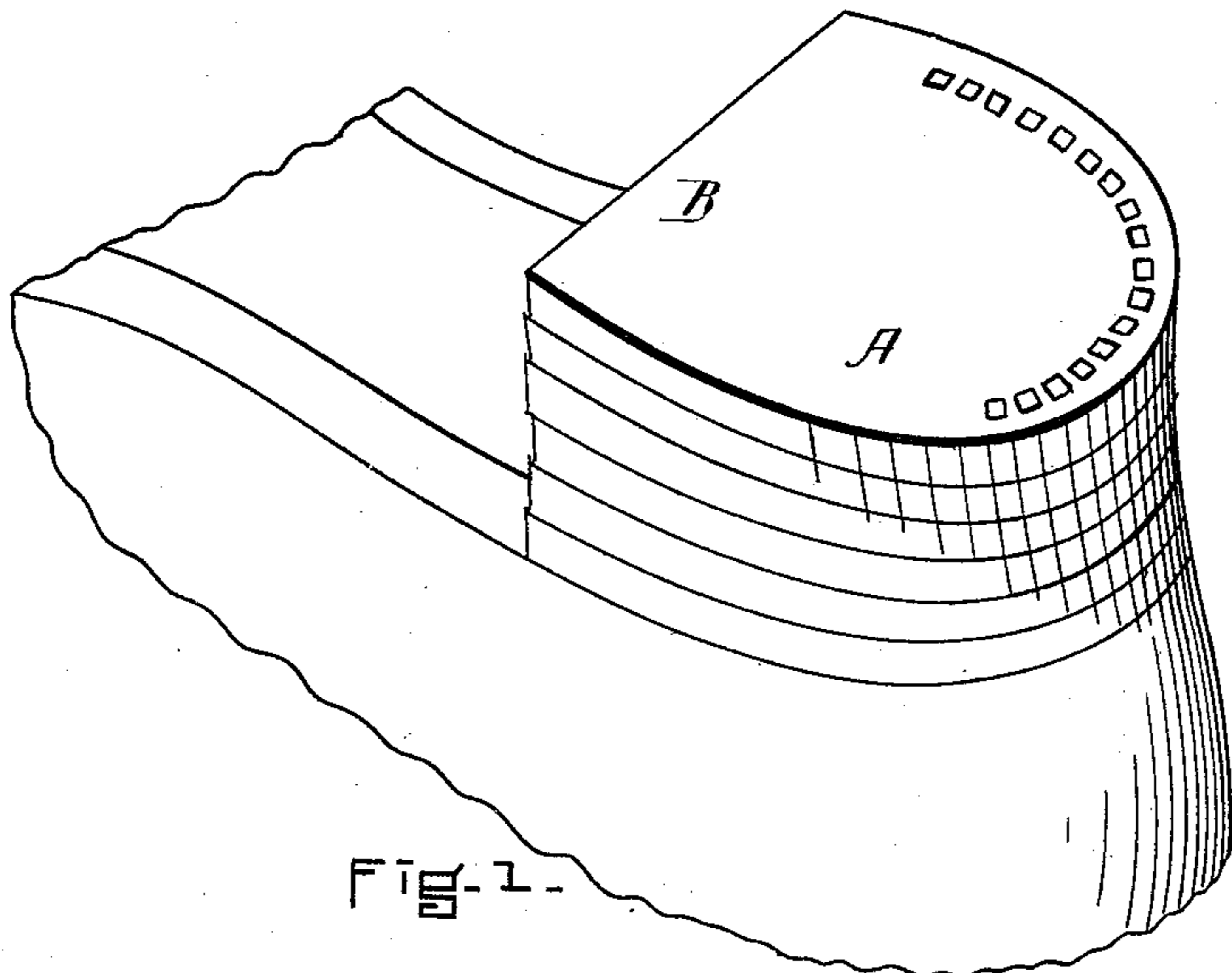


Fig-1-

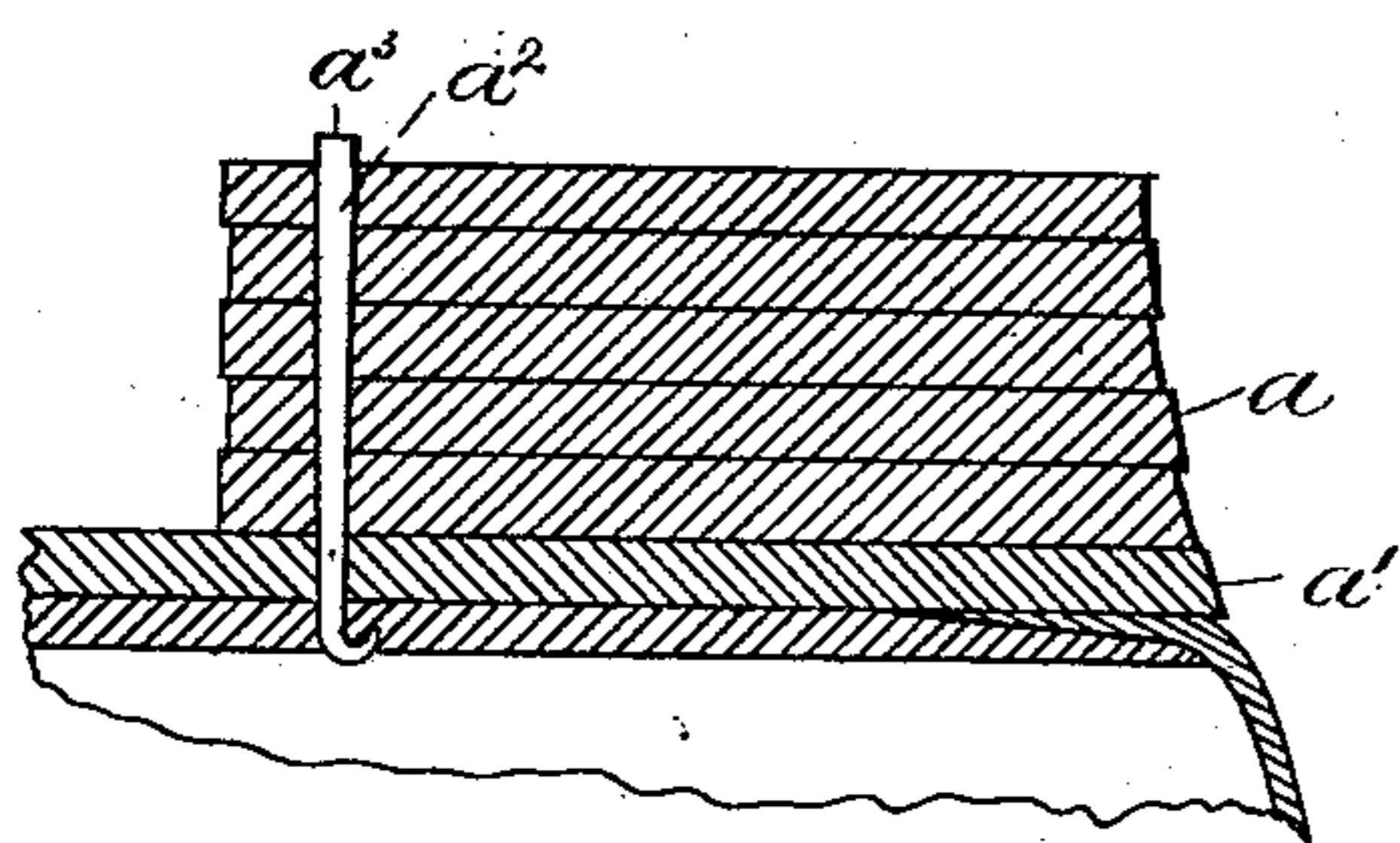


Fig-2-

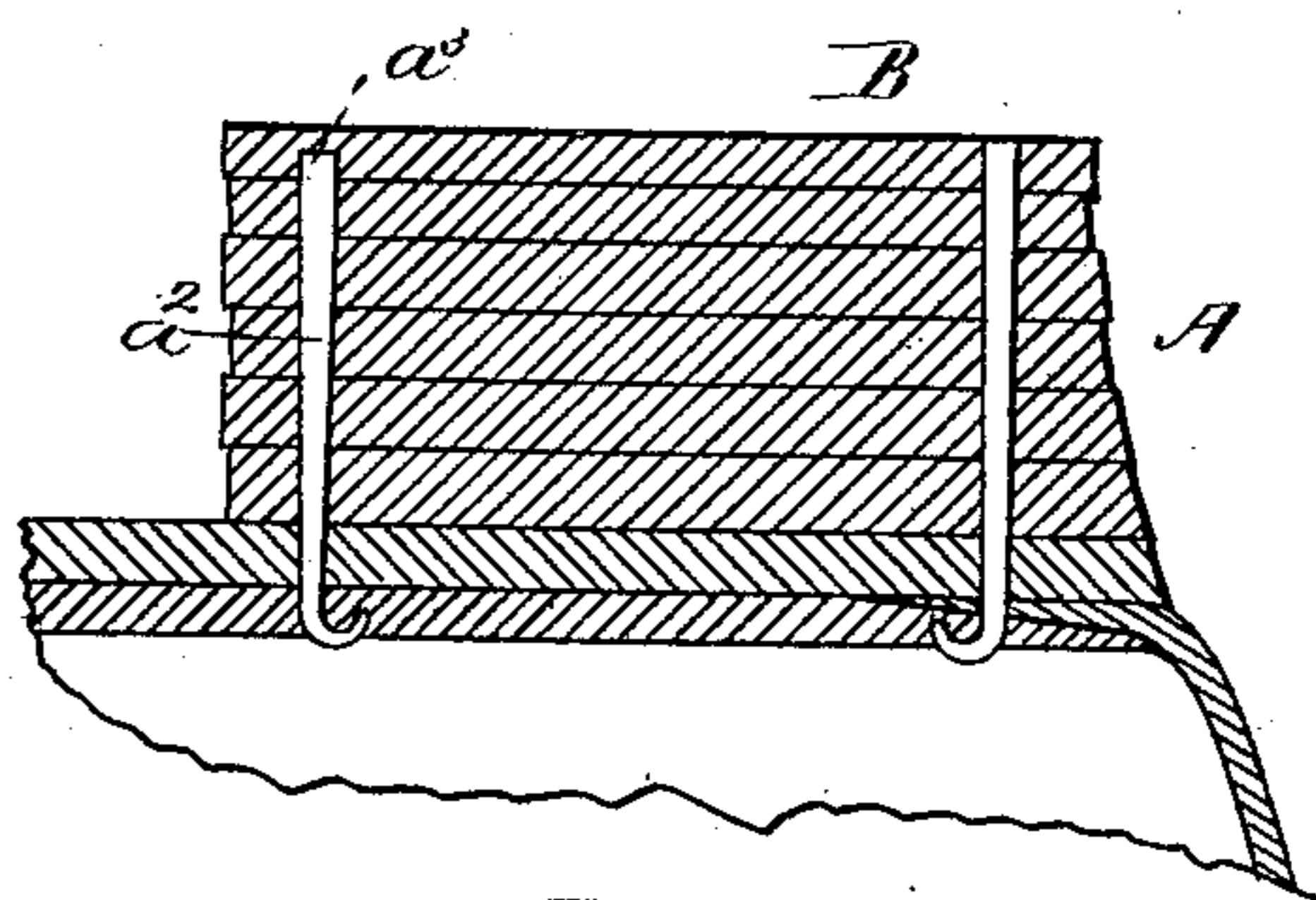


Fig-3-

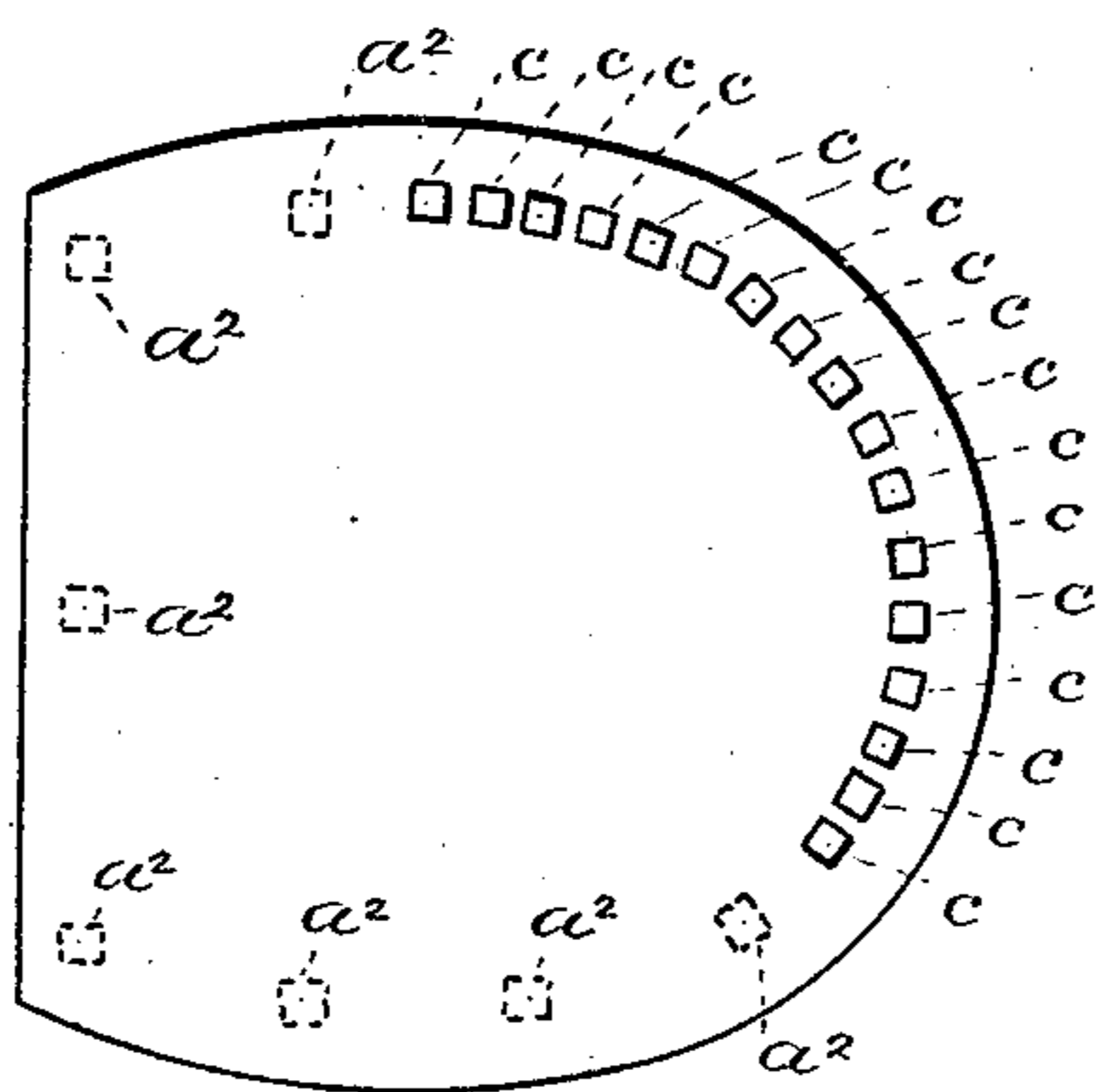


Fig-4-

WITNESSES

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## METHOD OF ATTACHING HEELS.

SPECIFICATION forming part of Letters Patent No. 335,241, dated February 2, 1886.

Application filed August 14, 1885. Serial No. 174,361. (No model.)

*To all whom it may concern:*

Be it known that I, FREEBORN F. RAYMOND, 2d, of Newton, in the county of Middlesex, in the State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Methods of Attaching Heels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

It is desirable in attaching heels to certain kinds of boots and shoes to first attach the heel-blank, and then to attach or spank on the top lift, and then to drive through the top lift a series of slugs or other nails to form a wearing-surface or an ornamental finish. Heretofore this has been done by first driving a line of attaching-nails entirely around the heel-blank and then spanning the top lift thereon, and in then driving by hand the additional line of slugs or nails; and this necessitates that the line of additional nails be placed either inside or outside of the line of attaching-nails previously driven.

By my method the heel-blank is attached to the soles of the boot or shoe by a small number of attaching-nails so placed that they shall not interfere with the slugs or nails which are subsequently driven through the top lift; and as these nails are almost always driven into the back end of the heel and the side sections immediately adjacent it will be seen that the first group of heel-blank-attaching nails which I use is driven through the front section of the heel and sides immediately adjacent, so that only the front portion of the heel-blank is attached by these nails. The top lift is then applied, and the slugs or ornamental nails are then driven through the top lift and heel-blank, and all of them, or as many of them as may be desired, used as attaching-nails. By this method the slugs or nails which are driven through the top lift may be simultaneously driven by a machine, instead of by hand, and upon any desired line, as there will be no nails previously driven to interfere with the driving thereof.

Referring to the drawings, Figure 1 is a view in perspective representing a heel attached by my process. Fig. 2 is a vertical section to illustrate one stage therein, hereinafter

referred to. Fig. 3 is a vertical section which shows the heel at the completion of the process. Fig. 4 is a plan view of a finished heel, showing in dotted outline the nails first driven, upon which the top lift is spanked, and in full lines the supplemental wearing or ornamental nails driven through the top lift.

A is the complete heel. (Shown in Figs. 1, 3, and 4.)

*a* represents a heel-blank—that is, the heel without the top lift. In practicing my invention this heel-blank is placed upon the outsole *a'*, and is attached thereto and to the insole by the nails *a''*, which fasten the forward part of the heel to the sole. Preferably the ends or butts *a'''* of these nails are left projecting above the upper surface of the heel-blank, as shown in Fig. 2, to receive the top lift, B, which is spanked thereon. These nails *a''* preferably are driven simultaneously by any suitable heel-nailing machine. The top lift, B, is then applied to the upper surface of the blank *a*, as represented in Figs. 1, 3, and 4, and there is then driven through the top lift into the heel-blank and soles the nails *c*, the upper ends of which are exposed, or are flush with the surface of the top lift. It is not necessary that all these nails be attaching-nails. I mean by that nails which extend through the heel-blank and soles and are clinched upon the heel-support, as for ordinary work it will be sufficient if every other nail be an attaching-nail of this character, while the other nails may be shorter and driven only into the heel-blank. These nails also may be driven automatically and simultaneously by any heel-attaching machine; and I would here state that while the process may be practiced upon various of the heel-attaching machines of the market, I consider that the "National Heeling-Machine," so called, is better adapted to carry it into effect. I would also state that the holes for the reception of the nails *c* may be pricked in the heel-blank *a* at the same time that the holes for the reception of the nails *a''* are formed.

The advantages which arise from this process or method are these: First, the entire heel can be attached by the machine, or, in other words, the two series of nails can be driven in successive groups; second, fewer nails are necessary for obtaining the same effect now

obtained by hand; third, the line of wearing or ornamental nails can be placed in any position in relation to the nails first driven, and this would not be the case if the nails  $\alpha^2$  had previously been driven entirely around the heel. This is a very considerable advantage in doing the work upon a machine, as it renders unnecessary the nice adjustment and fitting of parts—an operation essential when the second gang or group of nails is driven close to a concealed gang or group, and it also enables the templet and nail-holder used in the driving of the nails  $\alpha^2$  to also be used in the driving of the nails  $c$ .

15 Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The method or process of attaching heels to the soles of boots or shoes, consisting, first, 20 in fastening or securing the heel-blank to the soles of boots or shoes by a series of nails driven in the front portions thereof, leaving

the heads or butts projecting; second, in applying the top lift to said projecting heads or butts; and, third, in finishing the attachment 25 of the heel by driving into and through the top lift and heel-blank an additional gang or group of nails, all substantially as described.

2. That improvement in the method of fastening heels consisting in attaching the front 30 portion of the heel to the soles of boots or shoes by a gang or group of nails simultaneously driven, leaving their heads or butts projecting, applying the top lift on the projecting heads or butts, and attaching the rear portions 35 of the heel to the soles of the boot or shoe and the top lift to the heel-blank by an additional gang or group of fastenings, all substantially as described.

FREEBORN F. RAYMOND, 2D.

In presence of—

FRED. B. DOLAN,  
E. A. PHALEN.