

(No Model.)

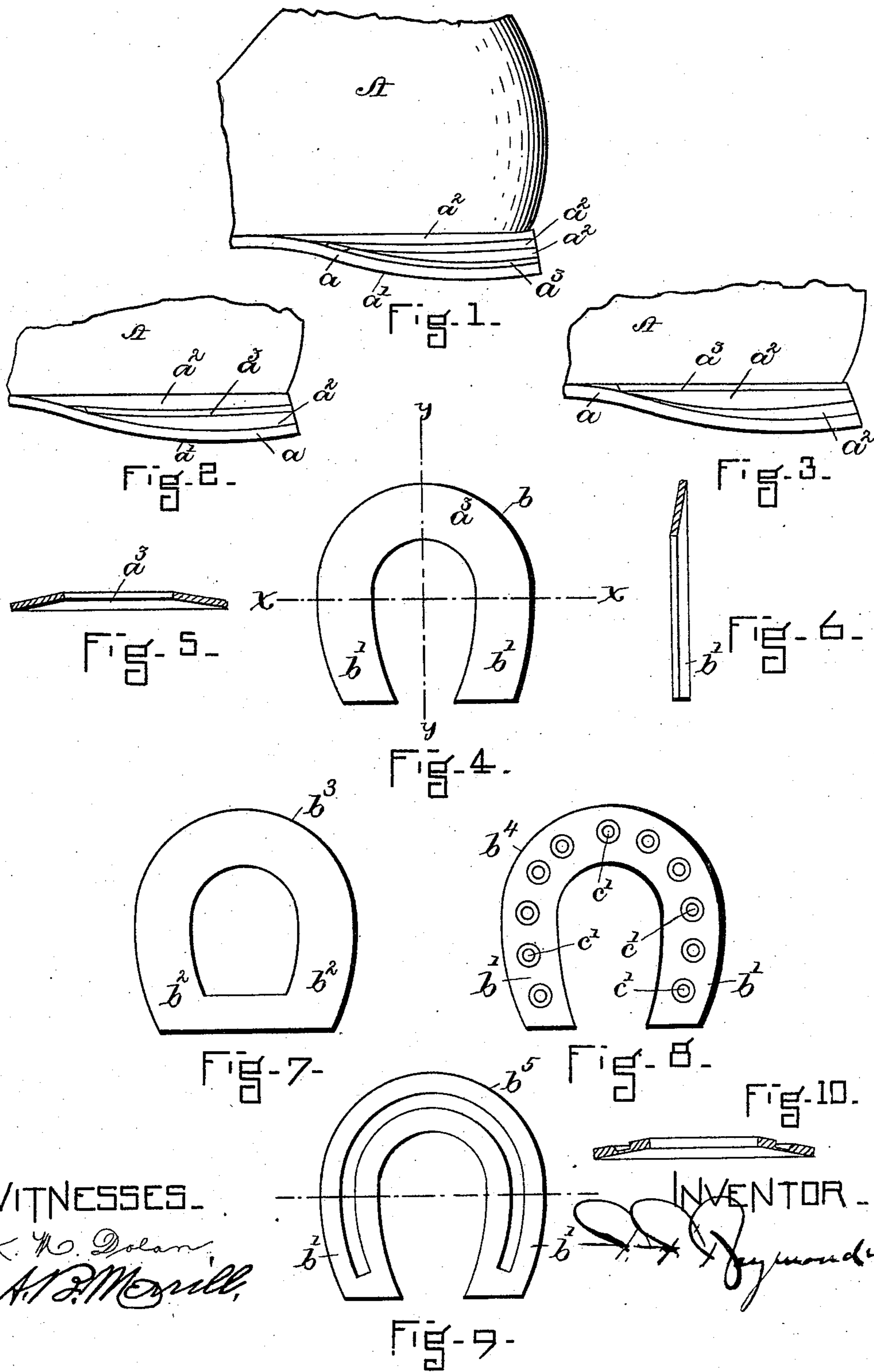
2 Sheets—Sheet 1.

F. F. RAYMOND, 2d.

SPRING HEEL BOOT OR SHOE AND METAL PLATE OR LIFT THEREFOR.

No. 575,534.

Patented Jan. 19, 1897.



WITNESSES.

J. W. Dolan,
A. J. Merrill,

INVENTOR.

F. F. Raymond

(No Model.)

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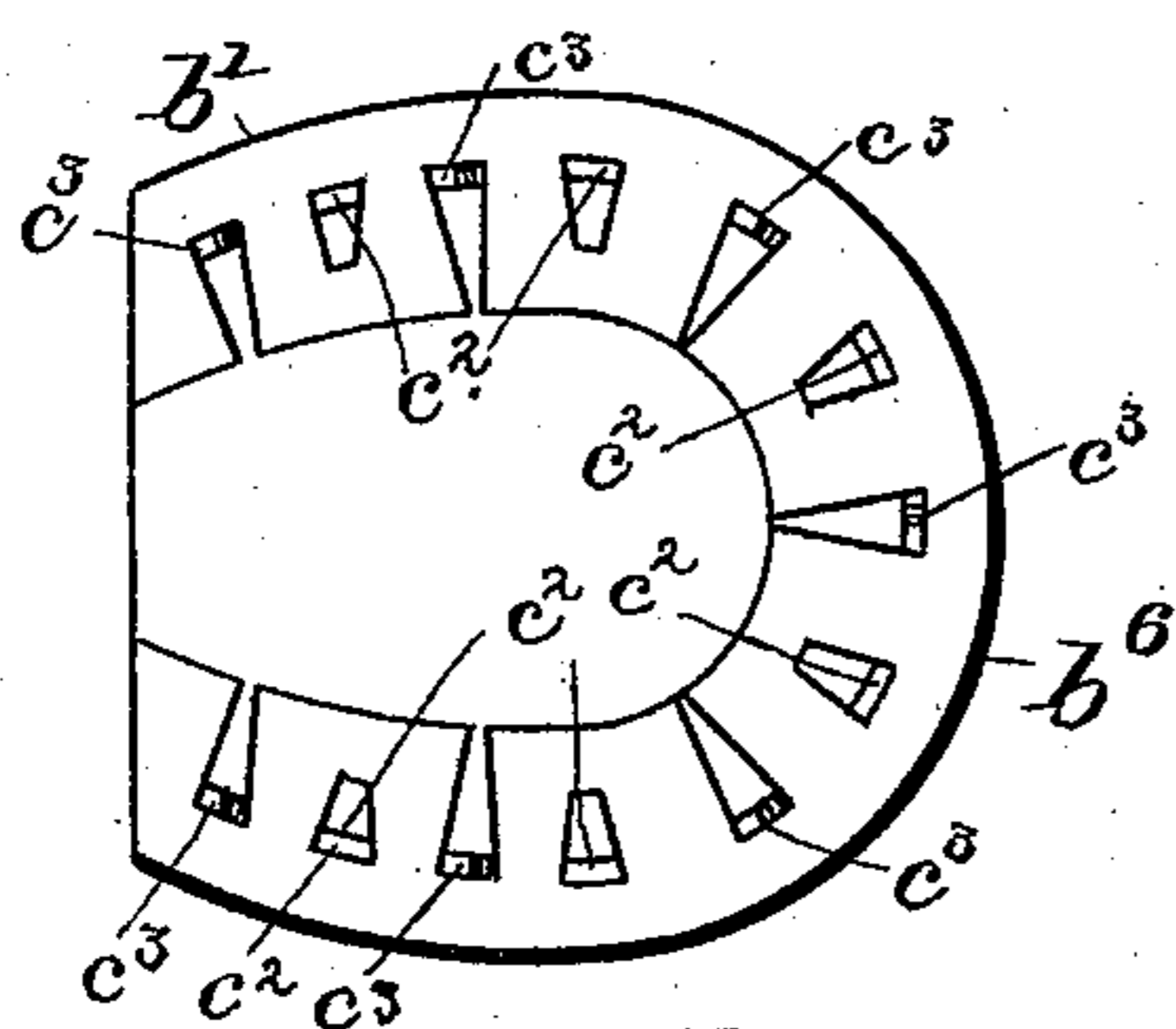


Fig. 11.

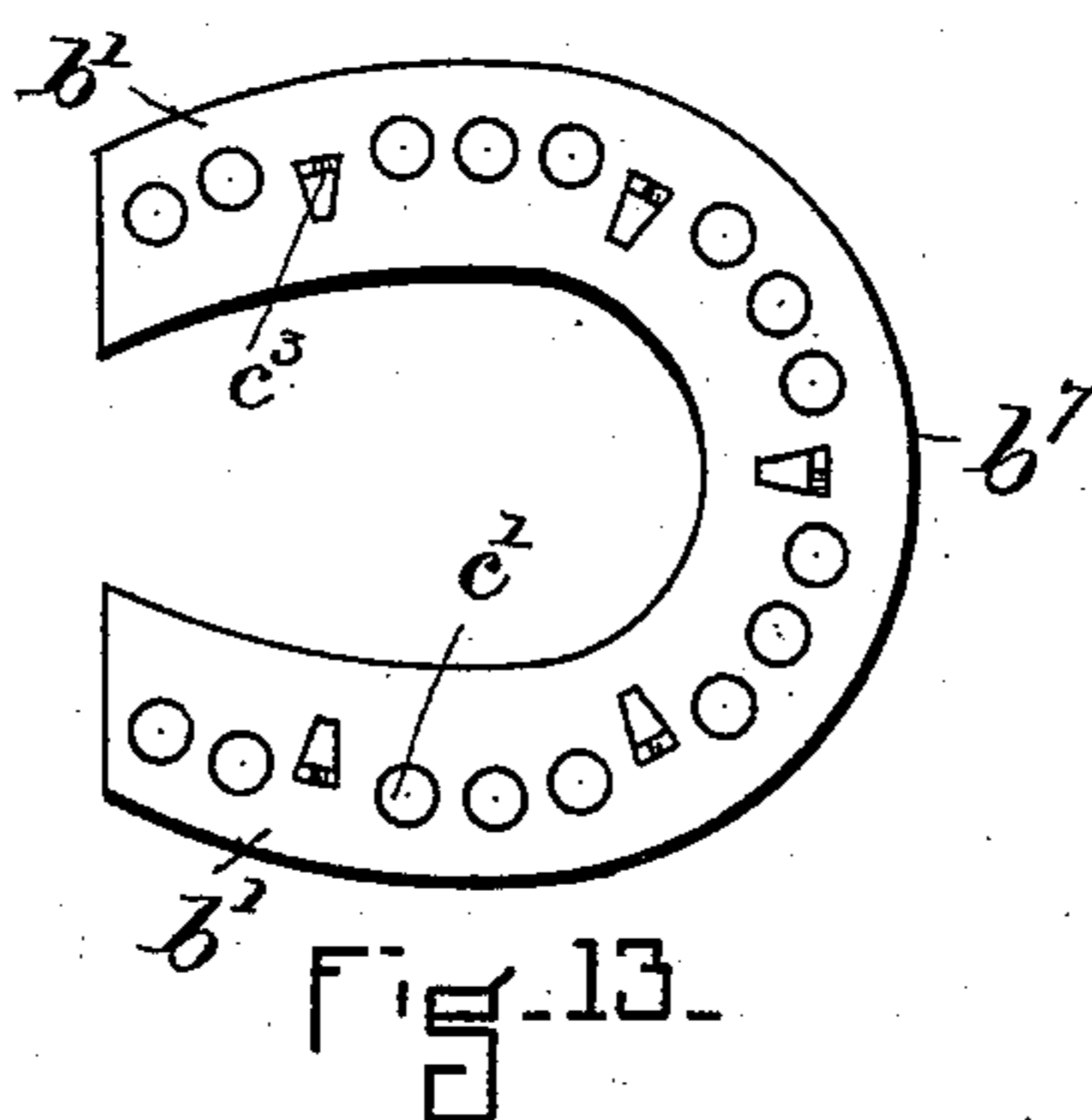


Fig. 13.

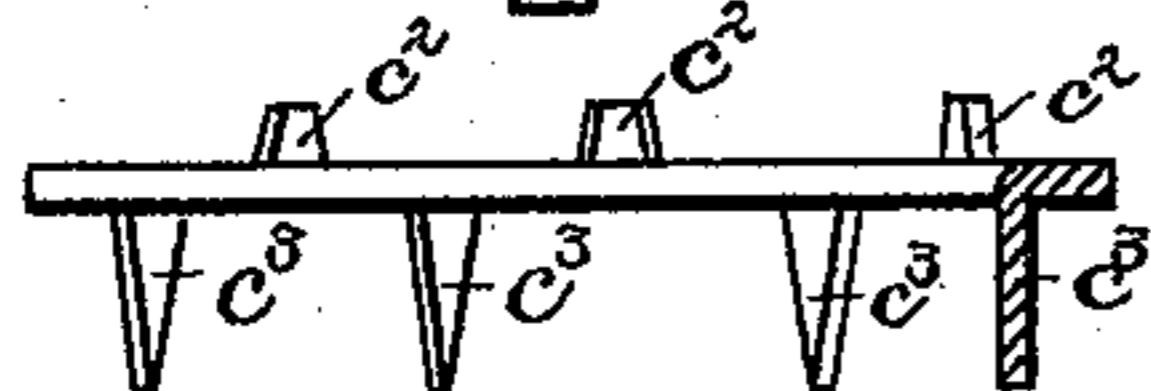


Fig. 12.

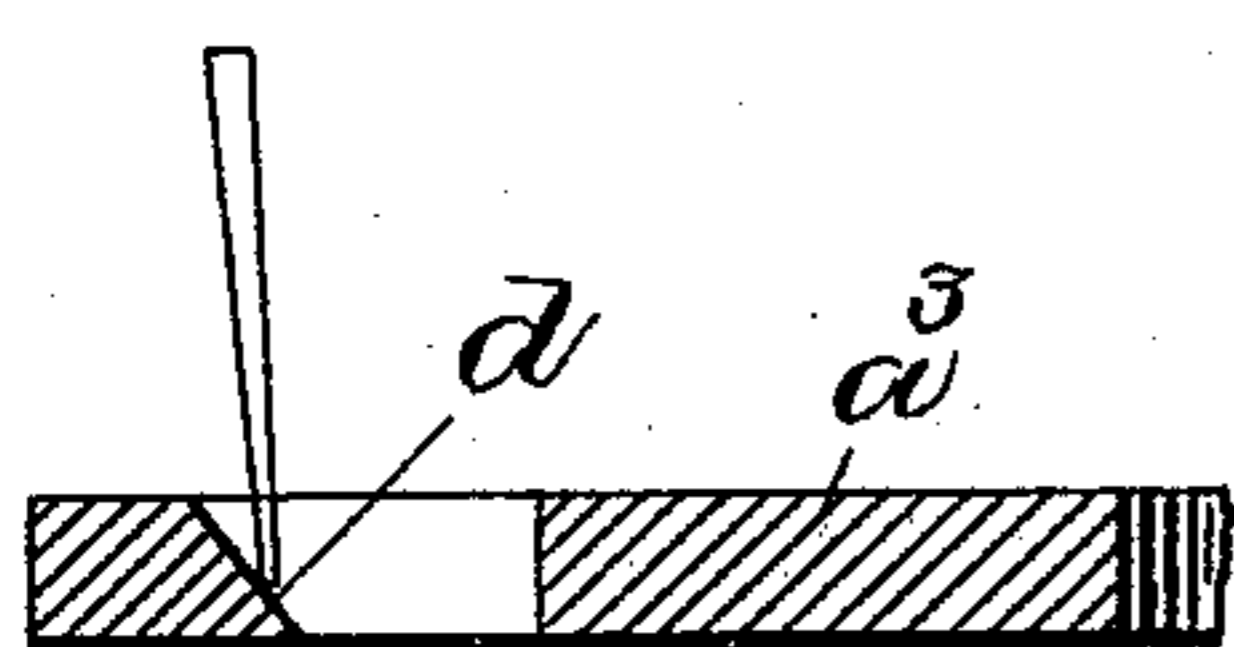


Fig. 14.

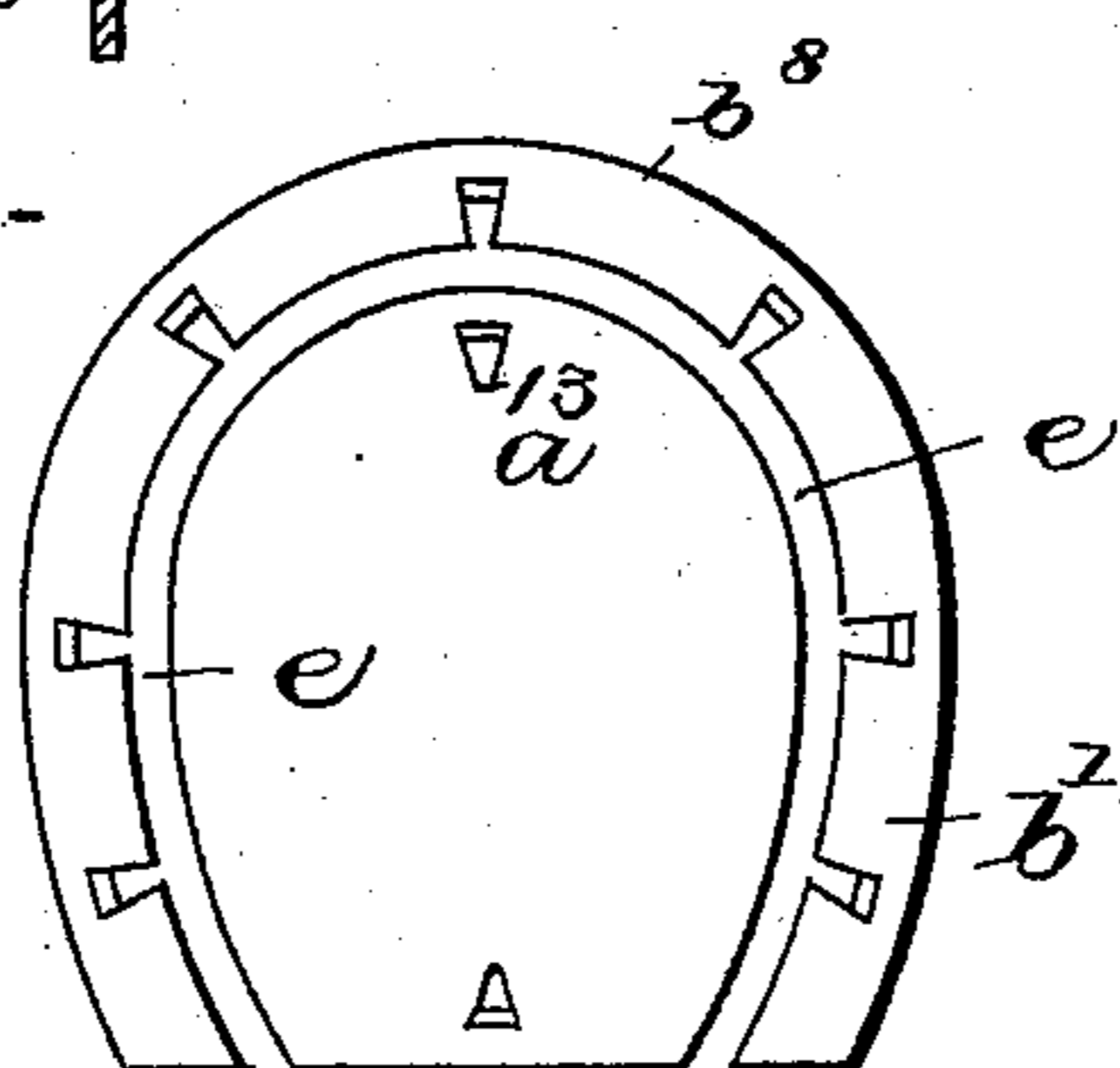


Fig. 15.

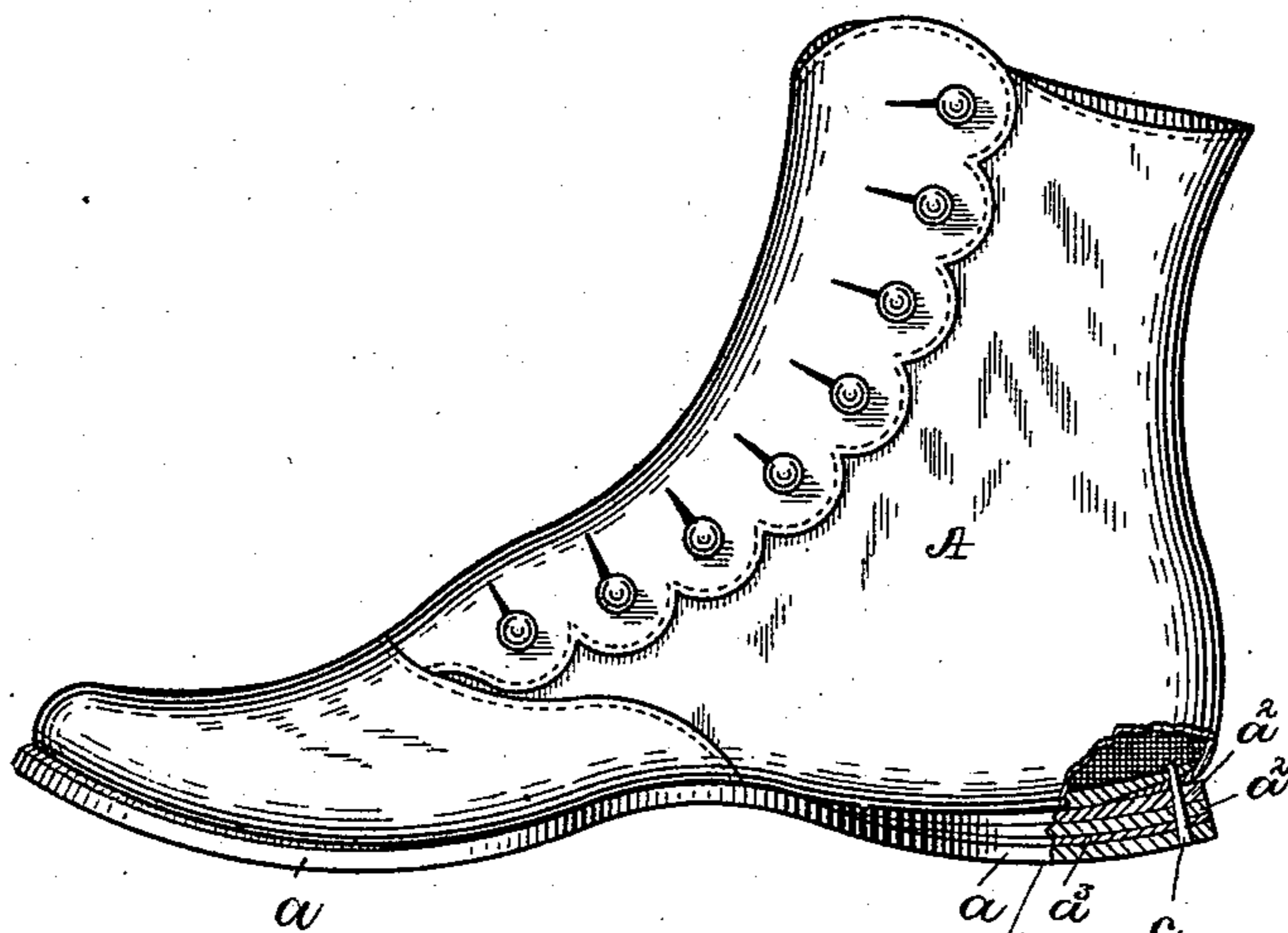


Fig. 16.

WITNESSES.

J. W. Dolan.

A. D. Merrill.

INVENTOR.

F. F. Raymond

UNITED STATES PATENT OFFICE.

FREEBORN F. RAYMOND, 2D, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO
JAMES W. BROOKS, OF PETERSHAM, AND JOHN BROOKS, OF CAMBRIDGE,
MASSACHUSETTS, TRUSTEES.

SPRING-HEEL BOOT OR SHOE AND METAL PLATE OR LIFT THEREFOR.

SPECIFICATION forming part of Letters Patent No. 575,534, dated January 19, 1897.

Application filed June 15, 1889. Serial No. 314,481. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Spring-Heel Boots or Shoes and Metal Plates or Lifts Therefor, 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.

The invention relates to a spring-heel boot or shoe, and particularly to the manner of the construction of the heel. Spring-heel boots and shoes have a heel which is formed generally by interposing between the heel end of the outsole and the edge of the upper and insole one or more wedge-shaped lifts. These lifts are generally made of soft stock. From the peculiar shape of the heel the sole at the heel end is very liable to become much worn before the rest of the sole, while the remainder of the boot or shoe remains in fair condition. Moreover, there is no way of repairing the heel of a spring-heel boot or shoe that restores it to its original condition. It is therefore desirable that the heel of such boots and shoes be protected from undue wear, but without changing its shape. This I have accomplished by interposing between the inner surface of the outsole, at the heel end, and the heel end of the insole and the upper thereon a lift or plate of metal, the edge of which extends substantially to the edge of the outsole, about the heel end thereof, and which lift is also of a shape to conform to the shape of the heel. This metal lift or plate preferably is fastened in place by the same fastenings which are used in uniting the heel end of the outsole to the other lifts and to the insole.

In the drawings, Figure 1 is a view in side elevation of the heel end of a spring-heel shoe, representing my wearing-plate as applied next the inner surface of the outsole. Fig. 2 is a view of said wearing-plate applied between two of the wedge-lifts of the heel, and Fig. 3 as applied between the upper wedge-lift and the insole. Fig. 4 is a view of one form of the plate. Fig. 5 is a section upon the line

xx of Fig. 4. Fig. 6 is a section upon the line yy of Fig. 4. Fig. 7 represents a slightly different form of the plate. Fig. 8 represents the plate or lift as provided with holes through which the fastenings are driven. Figs. 9 and 10 illustrate the plate as provided with the thinner or weakened section through which the nails may be driven without first forming holes. Figs. 11, 12, 13, 14, and 15 illustrate modifications to which reference is hereinafter made. Fig. 16 is a view of a complete shoe, a portion of the heel and upper being removed to illustrate the construction.

A represents the upper, a the outsole, and a' the spring-heel. a^2 represents the lifts interposed between the inner surface of the outsole and the outer surface of the insole, and a^3 is the metal lift or plate. It is represented in Fig. 1 as applied next the inner surface of the outsole, in Fig. 2 as between two of the lifts, and in Fig. 3 between the inner lift and the outer surface of the insole. The metal lift or plate is represented in Figs. 4, 5, and 6, and it may have the general shape illustrated in Figs. 7 and 8, in which latter figures b^3 and b^4 denote the spring-plate, that is, having the rounded or curved rear edge b , which is the shape it is desired the finished heel shall have, or at least shall approximate such shape, and the side extensions b' , or it may be shaped as represented in Fig. 7, that is, having the curved edge b and the arm b^2 , connected by an integral section of the plate uniting them. The plate is curved from side edge to side edge and from rear to back to conform to the shape of the finished heel, and this may be done in suitable dies before the plate is applied, or if the plate is plain or straight it may be molded to the proper shape with the heel end of the outsole between a suitable pressure-plate and the last or work-support. The plate, when made of soft composition or of thin iron or steel, may have the holes through which the fastenings c (which unite the outsole to the insole) extend formed by the awl or awls employed in forming holes in the stock before the fastenings are inserted, or the metal of the plates b^5 , Figs. 9 and 10, may be made thin upon the line upon which these fastenings are inserted

or driven, as represented in Figs. 9 and 10, or the plate may be provided with holes or apertures c' upon the line in which said fastenings are driven or inserted, in which case the fastenings are driven or inserted through said holes; or the plate b^6 (see Figs. 11 and 12) may be formed with prongs c^2 , extending outwardly therefrom, and be first fastened to the wedge-lifts by prongs c^3 , integral with the plate, or by independent fastenings, the said prongs or fastenings being of a sufficient length to extend through the wedge-lifts and to enter the insole and be clenched upon the inner surface thereof, if desired. When this form of construction is employed, the plate is preferably first secured or fastened to the lifts and the lifts and plate fastened to the insole and the outsole then spanked on to the outwardly-extending prongs, the prongs being of a length to extend entirely through the outsole to the outer surface thereof, if desired, but preferably not so doing. Where a plate provided with holes or perforations is used, the holes of the outsole, wedge-lifts, and insole in which the fastenings are to be driven may first be formed, the plate then inserted between the inner surface of the outsole and the insole, and its holes brought in register with the holes formed in the outsole, and the permanent fastenings then driven through the holes of the outsole and holes of the plate. The plate may have, in addition to the holes for the reception of the fastenings, one or more independent prongs, as represented in Fig. 13, by which the plate b^7 is either attachable to the wedge-lifts or to the inner surface of the outsole.

In some instances the holes in the plate may be inclined from the upper edge of the plate inward or the plate may have an inclined wall d , extending from the upper surface thereof downward and inward, the object of the inclined holes or wall being to direct the fastening-nails inwardly as they are driven, so that their points shall be guided toward the insole. This is especially desirable where it is required to place the heads of the fastening-nails quite closely to the edge of the sole.

If desired, the plate can be made in two parts, as represented in Fig. 15, an inner part a^{13} and an outer part b^8 , in which case they are attached by independent fastenings to the inner surface of the outsole or to the wedge-lifts, or by prongs formed thereon, but they are placed to form a channel or space e , through which the fastenings attaching the outsole to the insole pass. The advantage of the plate in shoes of this kind is not confined to the increased durability which it imparts to the shoe, as it also serves to keep the fastening-nails from spreading outwardly, and also acts to support the heel end of the outsole and to act as a reinforce in maintaining its shape.

I prefer that the forward ends of the plate be made somewhat drawn in or narrower than

the outsole where it is in line with said ends, in order that the outsole may serve to protect, cover, or shield said ends or the outer corners thereof.

While I have referred to the interposed plate as being of metal, I do not wish to be understood as limiting the invention to plates made of metal so long as the substantial advantage which is derived by the use of a metal plate is obtained. I would mention as an equivalent any material harder or possessing greater wearing property than leather, as it is to improve the wear of the boot or shoe that the invention in part is made, and it not only does this in the manner above specified, but when inserted between the outsole and the ordinary spring-heel lift it performs another function which is of considerable value, in that it serves to hold or maintain the shape and firmness of these lifts as well as the shape of the outsole, and it also permits lifts of an inferior quality than those now used to be employed, and thus in this respect effects a saving in the cost of the manufacturing as well as an improvement in the wearing property of the shoe.

It will be understood, of course, that the spring-heel lifts heretofore used have been of a relatively soft and easily-destructible nature, like common sole-leather, and from their shape they are very easily worn down or off after the back end of the outsole has been worn away, and the use of the plate also keeps the shoe in shape or in form by preventing it from sagging at the heel end, and therefore while I have spoken of the plate as a "lift," it is, perhaps, not a suitable designation, because it does not perform so much the service of a lift as the other purposes which I have above mentioned. In this connection I would say that a plate of this character may be interposed between the outsole and the insole at the toe end of the shoe as well as at the heel end and for some of the same purposes.

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

1. As an improved article of manufacture, a spring-heel boot or shoe having a continuous outer sole from the heel end to the toe end of the shoe, the heel end of which is held from the insole by one or more thicknesses of leather or similar material, and a metallic or similar maintaining-plate inserted between the heel end of the outsole and the said thickness, the outer edge of which is flush or very nearly flush with the outer edge of the sole, and which acts to maintain the shape of the heel and distribute the wear upon the sole as indicated.

2. The combination in a spring-heel boot or shoe of the outsole extending from the heel end to the toe end of the shoe, and separated from the heel end, one or more thicknesses of leather or suitable material a inserted between the heel end of the outsole and the insole, and a thin conformable metallic plate

interposed between the inner surface of the outsole and the said leather thickness, the outer edge of which is flush or very nearly flush with the edge of the outsole, all as and 5 for the purposes specified.

3. As an improved article of manufacture a spring-heel sole, the heel end of which provides the outer or wearing section of the heel of the shoe with one or more lifts of the character specified and a maintaining-plate inserted between the lift or lifts and the under surface of the outsole, and provided with means for temporarily securing the lift or lifts and outsole together before the sole and lifts 10 are permanently attached to the insole of the shoe. 15

4. The combination in a spring-heel shoe of an outsole extending from the heel end to the toe end of the shoe and forming a continuous wearing-surface separated from the 20

insole at the heel end, one or more leather or like lifts inserted between the inner surface of said outsole and insole at the heel end of the shoe, a metallic maintaining-plate placed between the inner surface of the outsole and 25 said leather lift or lifts, and fasteners extending through the outsole, maintaining-plate, lift or lifts and insole for permanently securing them together and clamping the maintaining-plate between the outsole and 30 the lifts, as and for the purposes described.

5. A maintaining-plate of the character specified, having inclined sections for directing the course of the attaching-nails employed in securing the outsole to the insole. 35

FREEBORN F. RAYMOND, 2D.

Witnesses:

J. M. DOLAN,

A. B. MERRILL.