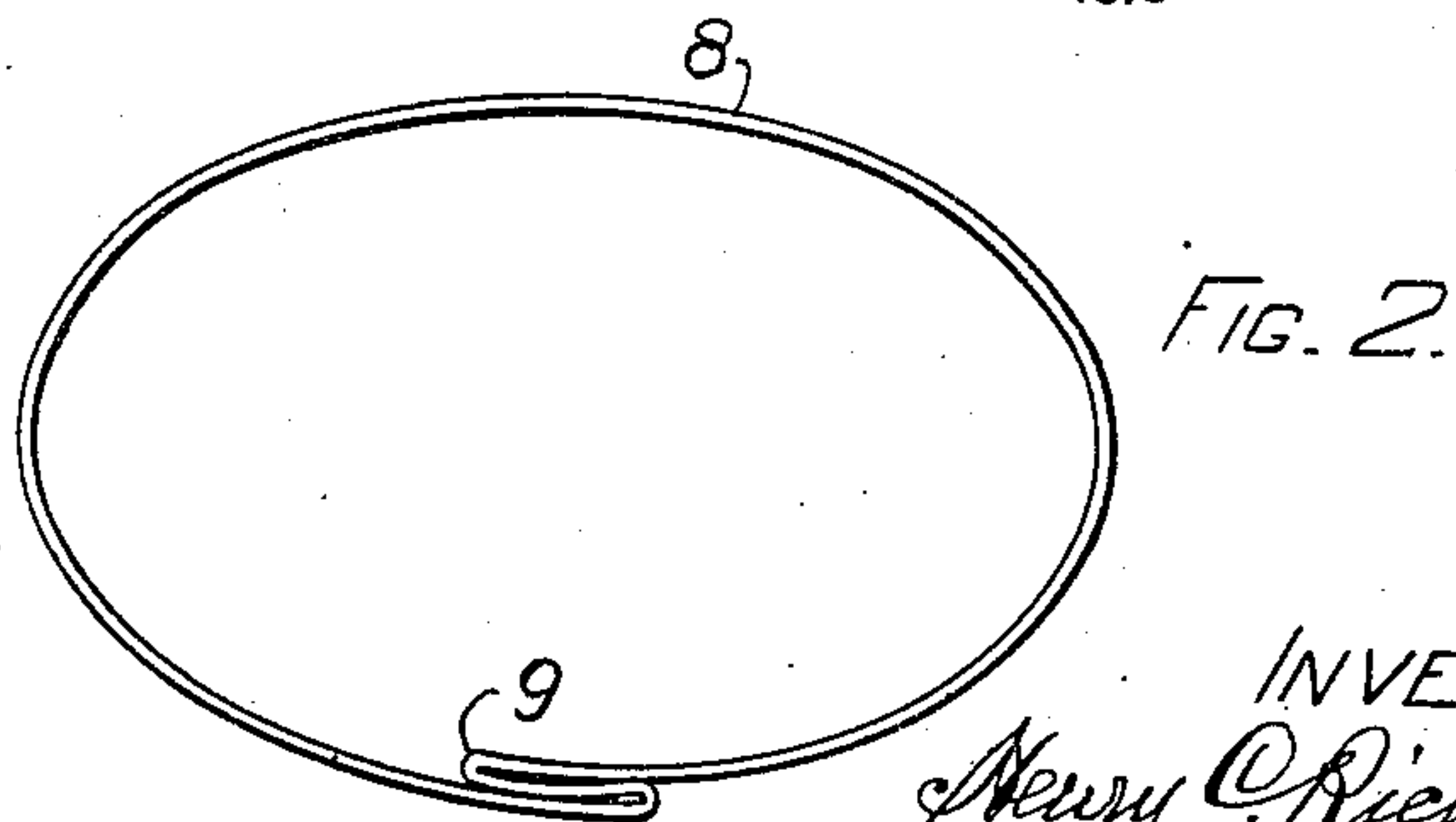
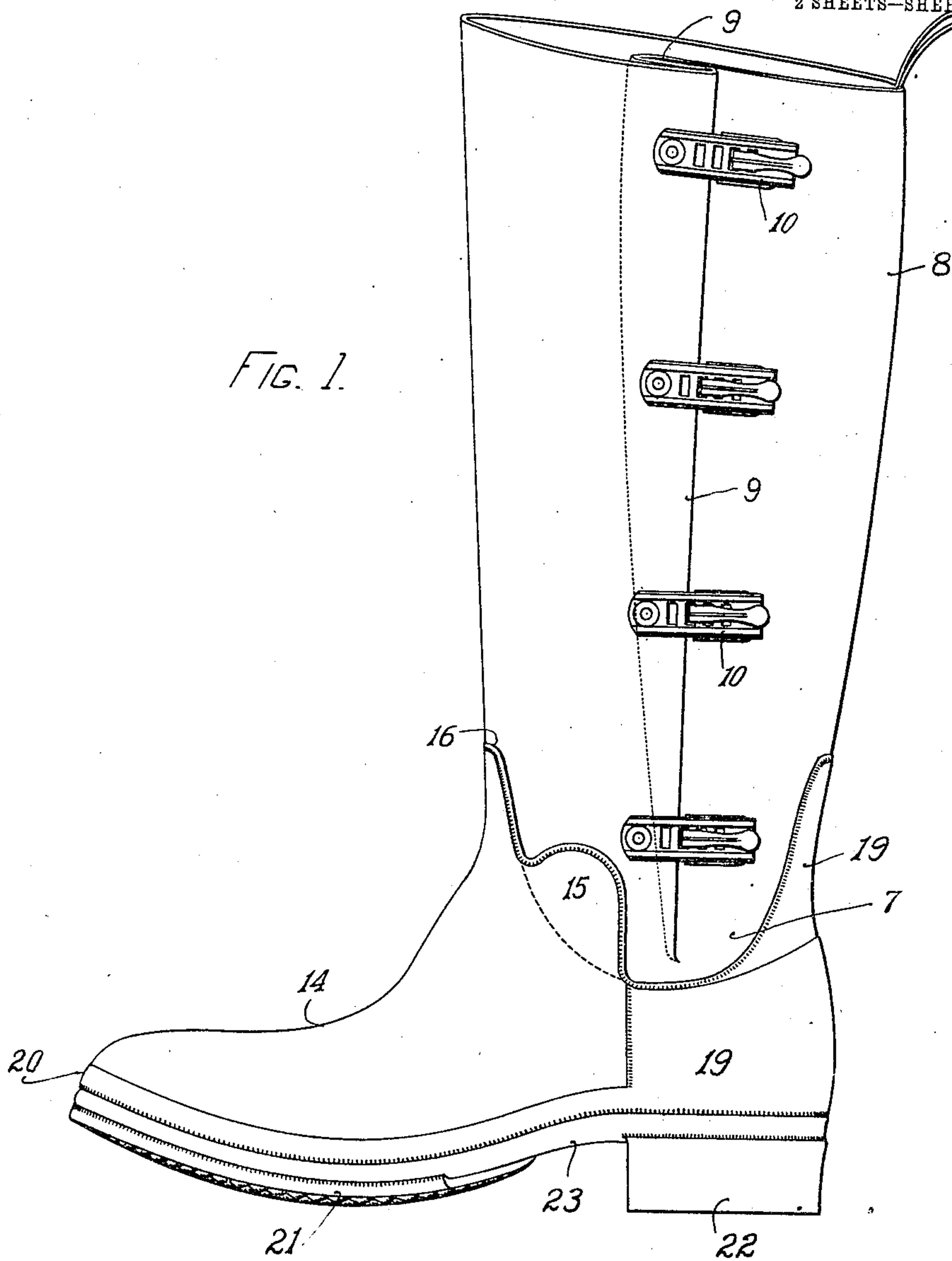


No. 868,484

PATENTED OCT. 15, 1907.

H. C. RICHARDSON.
COMPOSITE BOOT AND SHOE.
APPLICATION FILED MAY 3, 1906.

2 SHEETS—SHEET 1.



WITNESSES
A. T. Palmer
H. A. Rich

INVENTOR
Henry C. Richardson
by A. H. Jones, Atty

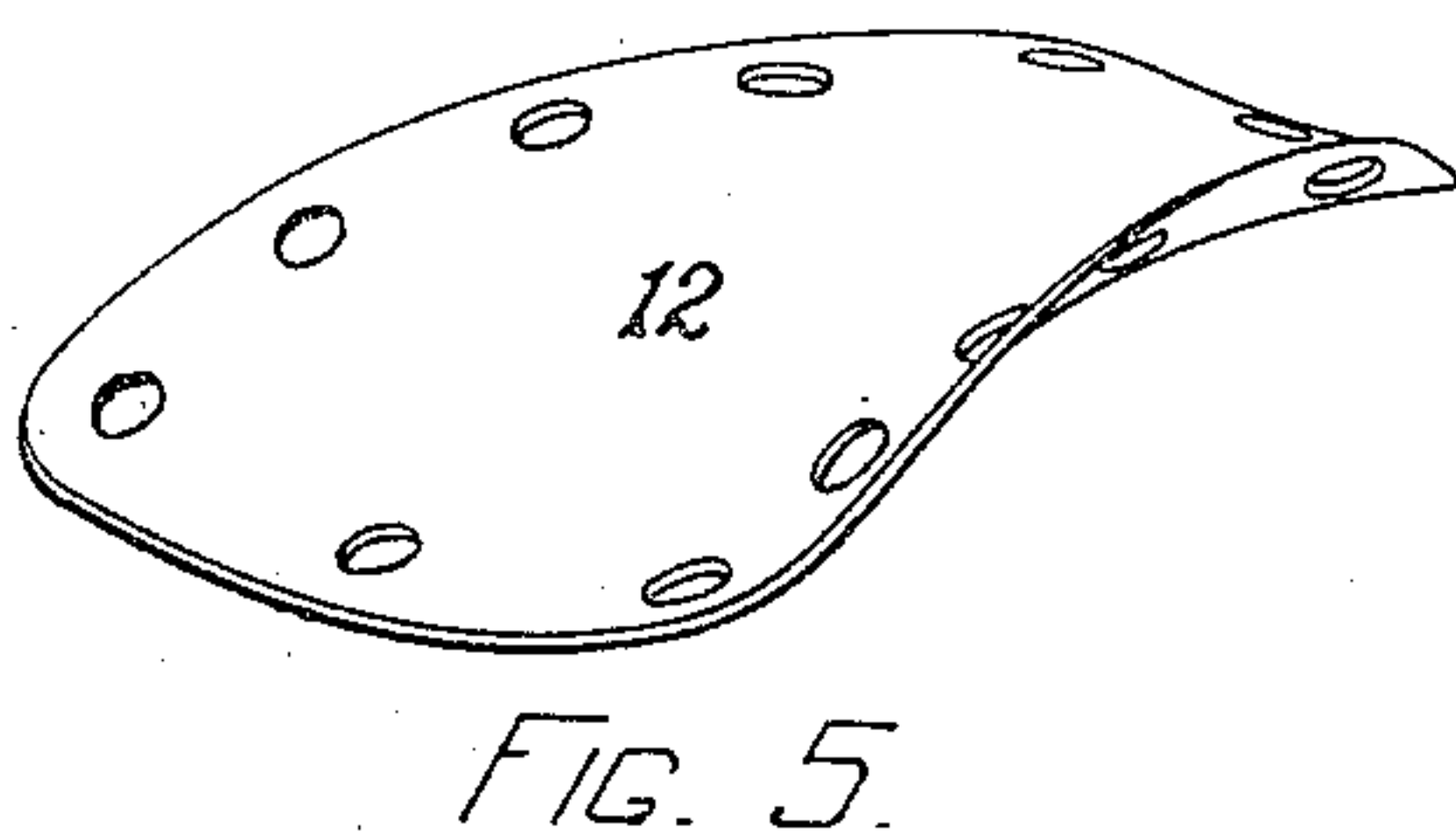
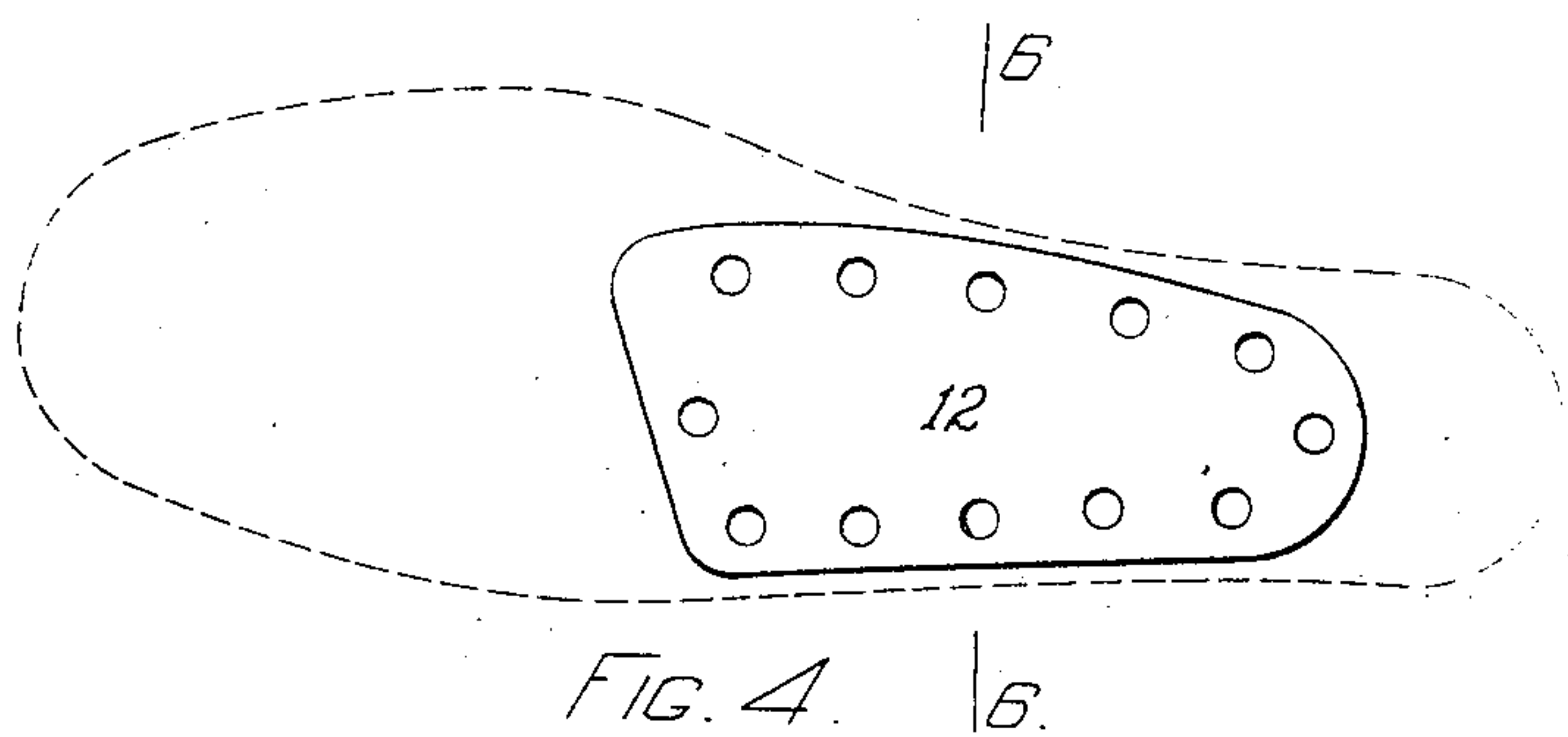
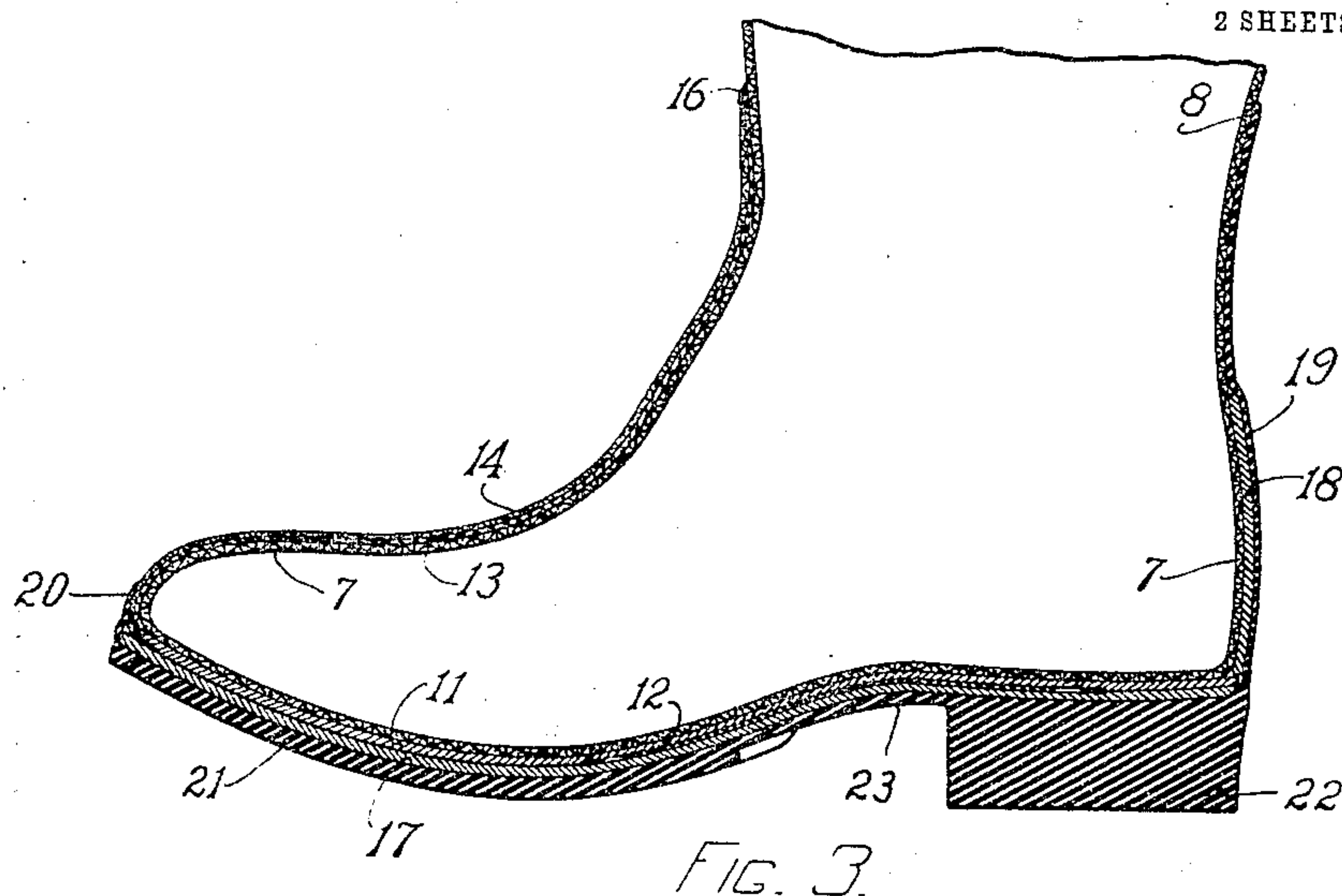
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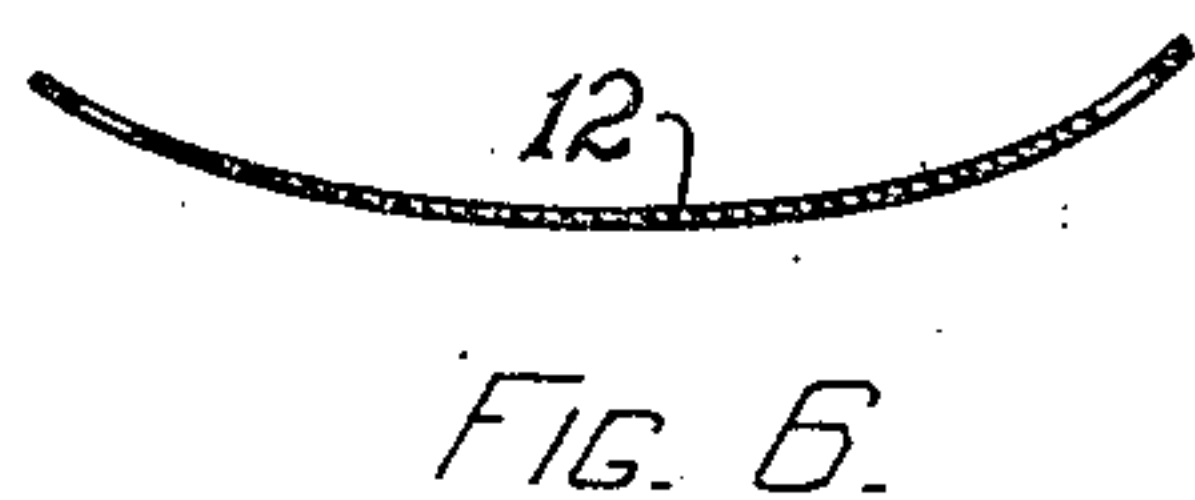
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2 SHEETS—SHEET 2.



WITNESSES
A. J. Palmer
W. A. Rich



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Atty

UNITED STATES PATENT OFFICE.

HENRY C. RICHARDSON, OF HAVERHILL, MASSACHUSETTS.

COMPOSITE BOOT AND SHOE.

No. 868,484.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed May 3, 1906. Serial No. 314,959.

To all whom it may concern:

Be it known that I, HENRY C. RICHARDSON, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Composite Boots and Shoes, of which the following is a specification.

This invention is an improved composite boot, made up of felt, cotton and woolen fabrics, and vulcanized rubber. The felted body is formed entire to fit the foot and leg, the leg portion thereof being preferably adjustable in size by means of a vertical overlap and provided with suitable fastenings, the foot portion being hand coated externally with rubber cement, then furnished with a rag sole similarly coated and a perforated shank support of peculiar shape applied thereto. The felted upper of the boot is next reinforced by two separately applied fabric layers, one of cotton rubber coated on both sides and the other an outer woolen fabric coated on the inner side only, the lower edges of these layers being turned inwardly to partially cover the rag sole and shank support, a narrow edge foxing of rubber being applied around the lower portion of the fore part of the boot and running back to the heel counter. This counter or heel stiffener is shaped as usual and applied to the heel portion of the boot and is subsequently covered by the external layer of rubber. A narrow filling of rag stock is now applied along the shoe bottom to level it up between the inward turned edges of the fabric layers, and covering the shank support. Over this is the outer rubber sole and heel applied as heretofore, and when the parts have been suitably varnished the boot is sent to the heater and vulcanized.

I materially strengthen the felt body near the ankle joint by extending reinforcing portions of the woolen fabric, cemented to the felt body direct,—the intermediate layer of cotton not thus extending. The upper edges of the outer fabric will be furnished with a narrow adhesive binding of rubber tape, giving a better finish.

In the drawing, Figure 1 is a side elevation of the boot complete. Fig. 2 a top view of the felted leg, showing overlap and Fig. 3 a lengthwise section through the foot portion of the boot. Figs. 4, 5 and 6 are, respectively, a bottom plan, a perspective top view and a transverse section of the shank supporting plate, the dotted outline in Fig. 4 showing the relation of the foot thereto, and the section, Fig. 6, being taken about on line 6—6 of Fig. 4.

7 represents the foot portion and 8 the leg of the boot, formed integral by a felting process, and 9 is a tapering seamless fold or overlap, along the leg, provided with clasps or buckles 10 for closing and opening the same. This peculiar boot body with its overlap portion is shaped upon the improved last or tree set forth in my Patent No. 829,487, dated August 28,

1906, and is held on such a tree during most of the subsequent operations in completing the boot.

The foot portion of the boot body is heavily coated externally with vulcanizable rubber cement, and a cement coated sole layer 11 of rag-stock is applied to the bottom thereof, see Fig. 3. I then apply, along the shank portion, the peculiar shank supporting plate 12, having a convex longitudinal and a concave transverse curve, to exactly fit the arch of the wearer's foot, and turned upwardly along part of its inner edge as indicated in Figs. 5 and 6. This plate, being embedded in the rubber compounds of the sole, is perforated at intervals to permit their vulcanization therein.

Over the felted upper is a strengthening layer of cotton fabric 13, heavily friction-coated with rubber on both surfaces and extending well up over the instep. Covering this is a finishing layer 14 of jersey or like woolen fabric which, at its upper edge, extends beyond layer 13 toward each ankle, as a wing or special reinforce 15. The upper edges of layer 14 are bound with a narrow rubber tape 16, see Fig. 1, where the short dotted line denotes the limit of the intermediate cotton layer. The lower edges of both these layers are turned inwardly to somewhat overlap sole layer 11 and reach to plate 12, and a filling 17 of rag stock levels up between such edges, covering said plate, see Fig. 3.

The upright heel portion has a counter or heel stiffener 18 of rag-stock or the like, cemented to the felt body 7, this stiffener and adjacent portion of the body being covered by a finishing layer of rubber 19, a tongue of which extends well up the rear line of the boot, as a tongue of the textile fabric 13 and 14 extends up the front, see Figs. 1 and 3.

A marginal foxing of rubber 20 runs from the toe rearwardly to the ankle-portion, where it is covered by the upright heel layer 19. The boot bottom is covered and completed by a compounded rubber sole 21 and heel 22, and the thinner shank portion 23.

The especial need of a shank stiffener in a felt and rubber boot, and particularly of a plate of considerable breadth and conforming throughout to the arch of the human foot, results from the fact that the materials named lack the strength and stiffness of the usual leather construction and should be supplemented by a supporting device self held by the rubber adjacent to it as herein described. I do not however claim the said shank as an essential element of my invention, as I am aware that a similar device has heretofore been used in connection with rubber boots.

I claim as my invention:—

1. In a composite boot, the foundation or inner body comprising a shaped foot and leg portion formed entire of a felted fabric, the foot portion being cement-coated and reinforced on the front upper with two distinct textile layers extending from the sole up over the instep, portions of the outer layer extending beyond the inner

layer, towards the ankle, in combination with a compound rubber sole and upright heel portion, the parts being vulcanized together, substantially as set forth.

- 5 2. In a composite boot, the foundation or inner body comprising a shaped foot and an adjustable leg portion formed entire of a felted fabric, the leg portion having on one side a seamless vertical fold or overlap formed integral with the leg and foot, and extending from the top downwardly nearly to the ankle and provided with
10 suitable fastenings, and the foot portion being cement-coated and reinforced on the front upper with two distinct textile layers extending from the sole up over the

instep, the upper edge of the outer layer having a narrow binding and portions of such outer material extending beyond the inner layer, towards the ankle, in combination 15 with a compounded rubber sole and upright heel portion and a marginal foxing, the parts being vulcanized together, substantially as set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses.

HENRY C. RICHARDSON.

Witnesses:

A. H. SPENCER,

A. T. PALMER.