

No. 859,538.

PATENTED JULY 9, 1907.

C. C. BEEBE.
RUBBER HEEL.

APPLICATION FILED NOV. 30, 1906.

Fig. 1

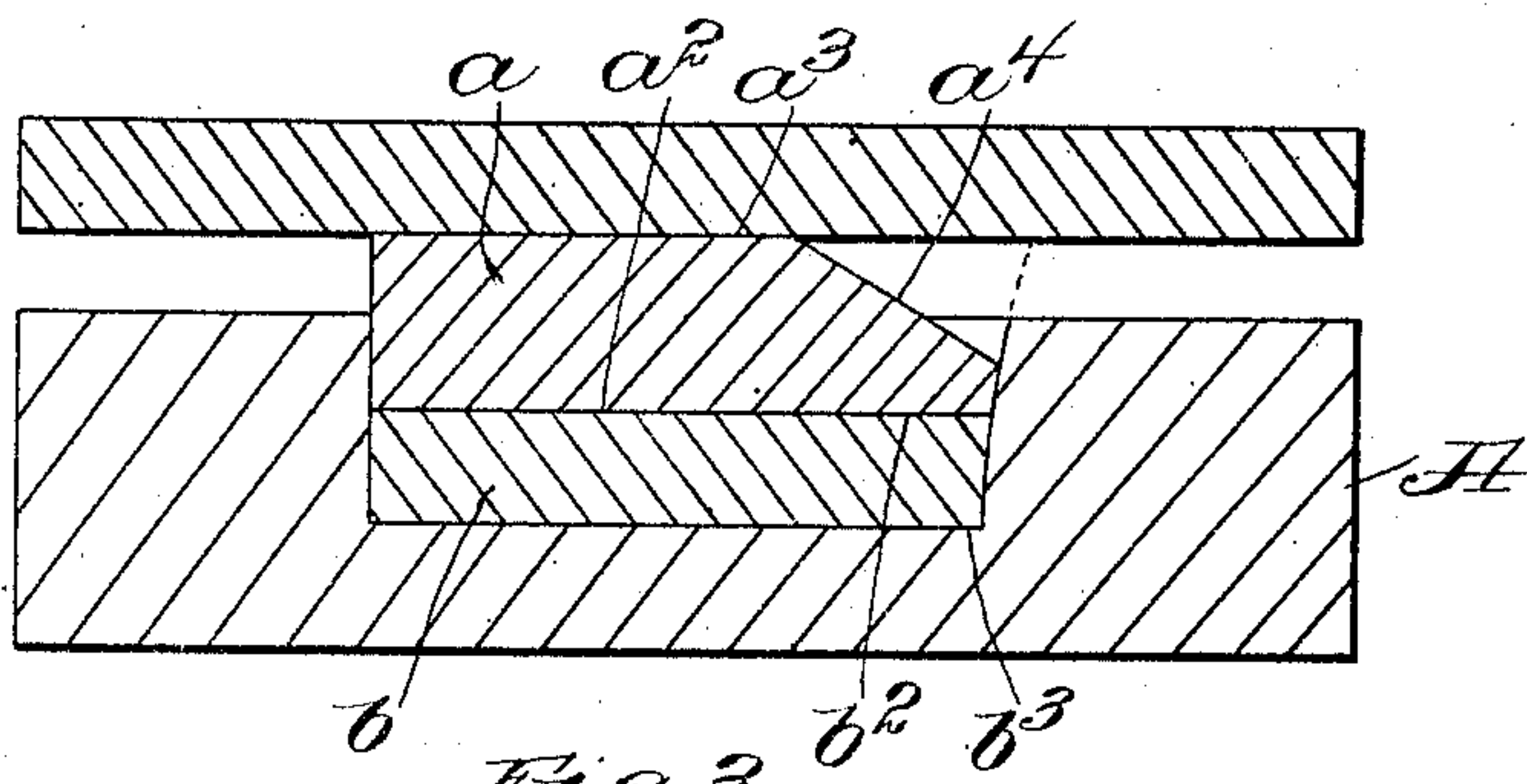


Fig. 3

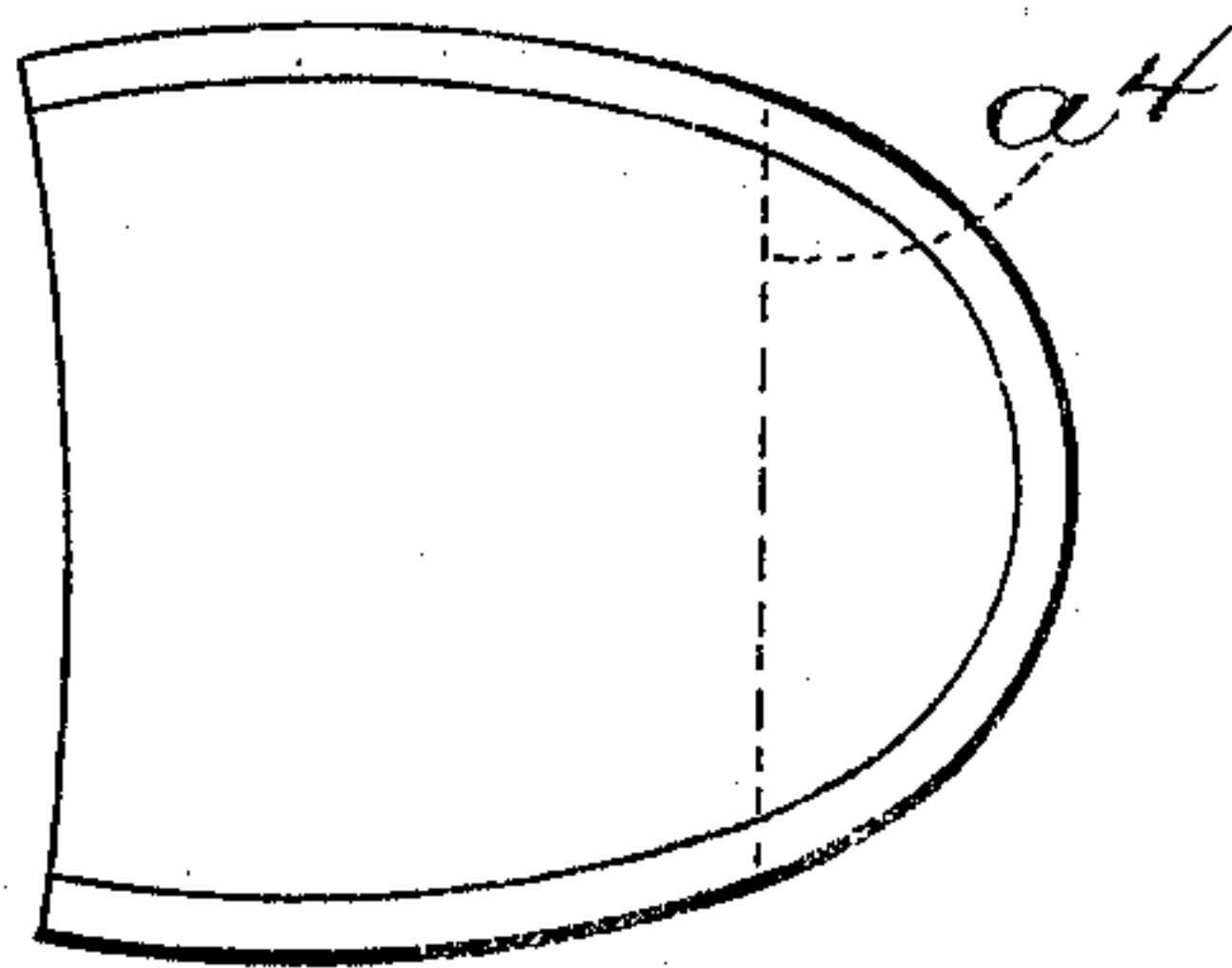
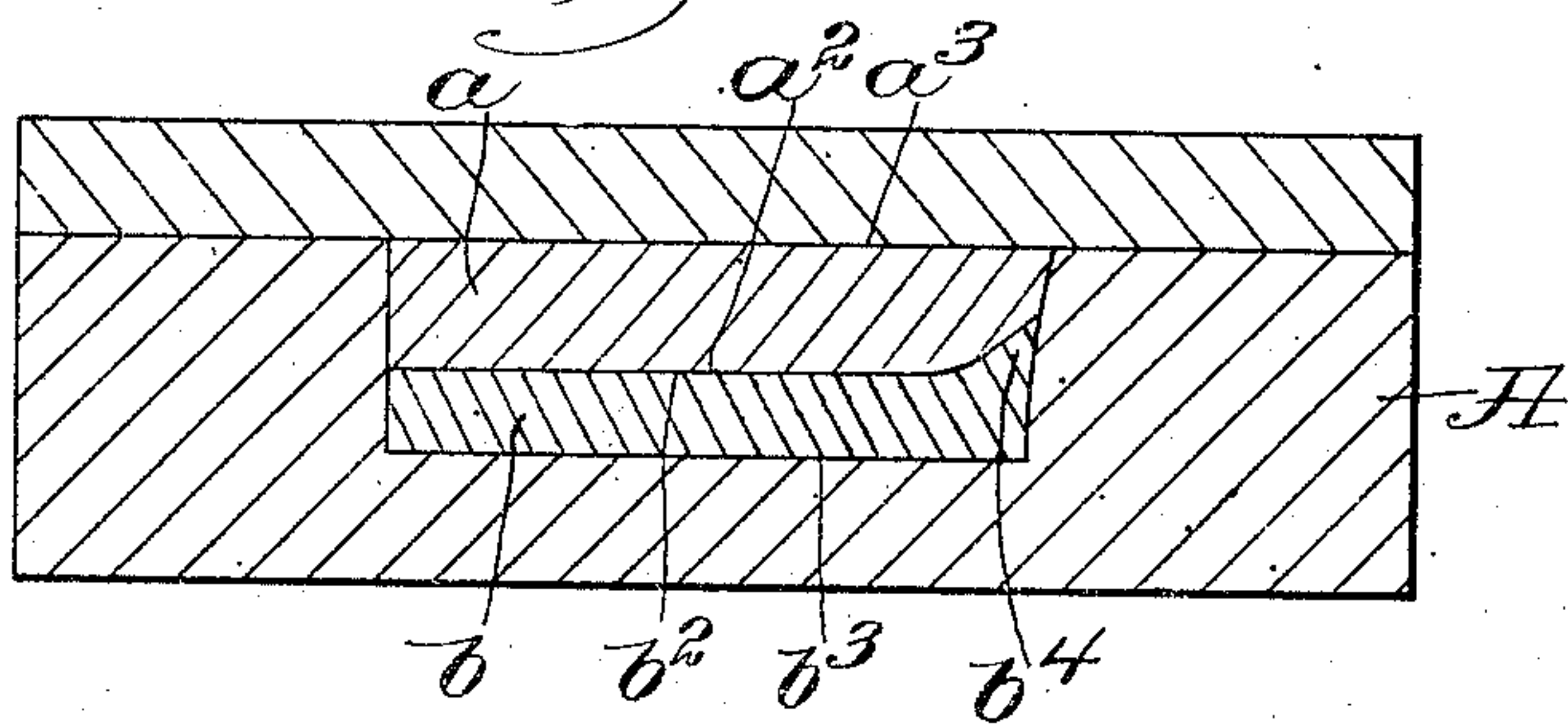


Fig. 2



Witnesses:
Jas. J. Maloney
Margaret E. Loney

Inventor,
Charles C. Beebe
by J. P. and H. J. Swanson
Attys.

UNITED STATES PATENT OFFICE.

CHARLES C. BEEBE, OF NORTH BROOKFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO THOMAS G. RICHARDS, OF NORTH BROOKFIELD, MASSACHUSETTS.

RUBBER HEEL.

No. 859,538.

Specification of Letters Patent.

Patented July 9, 1907.

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To all whom it may concern:

Be it known that I, CHARLES C. BEEBE, a citizen of the United States, residing in North Brookfield, in the county of Worcester and State of Massachusetts, have
5 invented an Improvement in Rubber Heels, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a rubber heel, the
10 purpose of the invention being to decrease the cost of the heel without impairing the quality thereof.

In accordance with the invention the heel is composite, being made of two grades of rubber, the better grade being at the tread surface and increased in quantity where the greatest wear is encountered.

One method of building up the rubber for heels or similar articles consists in uniting by a calendering or milling process a number of these layers of the rubber, and it is practicable in accordance with this method to
20 unite layers of rubber of different grades.

In order to obtain the excess of better material along one portion of the wearing surface of the finished article after the material has been prepared, as above described, the said material prior to the final molding process, is so
25 arranged as to provide for a redistribution or expansion of the better material, this being accomplished by removing a part of the inferior material in such a manner as to admit of such redistribution or expansion during the final shaping of the article. In the case of a rubber
30 heel, a portion of the inferior material which is to form the top of the heel is removed along that part of the top which is opposite to the part of the bottom where the preponderance of the better material is desired, thus weakening the top portion, so that in the final molding
35 process the said top portion will yield and conform to the mold, while the corresponding portion of the better material will flow into the space thus afforded and become distributed or expanded in the manner desired.

Figure 1 is a longitudinal section through the heel
40 placed in the mold ready to be subjected to pressure; Fig. 2 is a similar view after the heel has been compressed into the mold; Fig. 3 is an underneath plan view of the heel indicating by a dotted line, the disposal of the better grade material when the heels are made for
45 rights and lefts.

Referring to Fig. 1, the part *a*, which is of an inferior grade of rubber and provided with a plane under surface a^2 , is shown as having been connected with the portion *b* of superior material provided with a corresponding plane surface b^2 , as indicated by the full line and the
50 section lines in the drawing. In this condition the upper surface a^3 of the part *a*, and the lower surface b^3 of the part *b* are plane throughout, as is necessary in the previous process of uniting the two parts under pressure. After the heel blank has been prepared as above de-
55 scribed, the part opposite to that portion of the heel where the superior material is to be in excess, is beveled or skived off as indicated at a^4 , and the heel is then placed in the mold A for final shaping and vulcanizing under pressure. It will be seen that, as the two parts
60 of the mold are forced together to compress the heel, as indicated in Fig. 2, the rear portion of the heel will bend upward so that the skived surface a^4 comes into alinement with the original upper surface a^3 , while the portion *b*, which is of better rubber, and, therefore,
65 flows quite readily, will distribute itself along the bottom of the mold, building up at the rear, as indicated at b^4 , Fig. 2, this distribution or expansion taking place, however, without materially effecting the cohesion between the previously united parts along the surfaces a^2
70 and b^2 . In cases where the heels are to be made rights and lefts, the skived portion, instead of being transverse to the length of the heel, may be diagonal thereto, so that the greater portion of the superior material will extend partly along the side as well as along the rear of
75 the heel.

Claims.

As an article of manufacture, a rubber heel composed of layers of rubber of different grades permanently united, the layer of better grade rubber forming the tread of the
80 heel and being expanded at the rear of the heel to constitute a thickened portion where the greatest wear is encountered.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses. 85

CHARLES C. BEEBE.

Witnesses:

H. J. LIVERMORE,
M. E. COVENEY.