

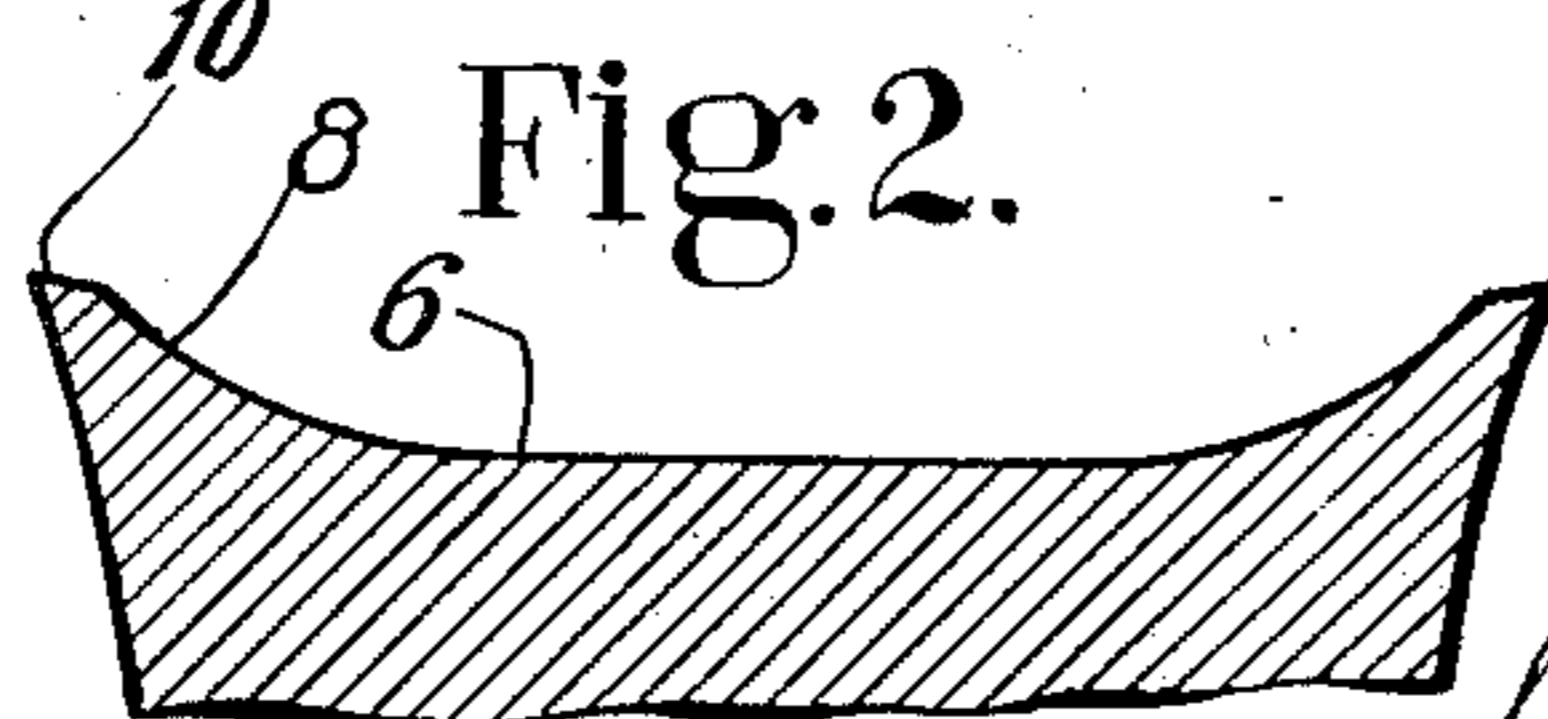
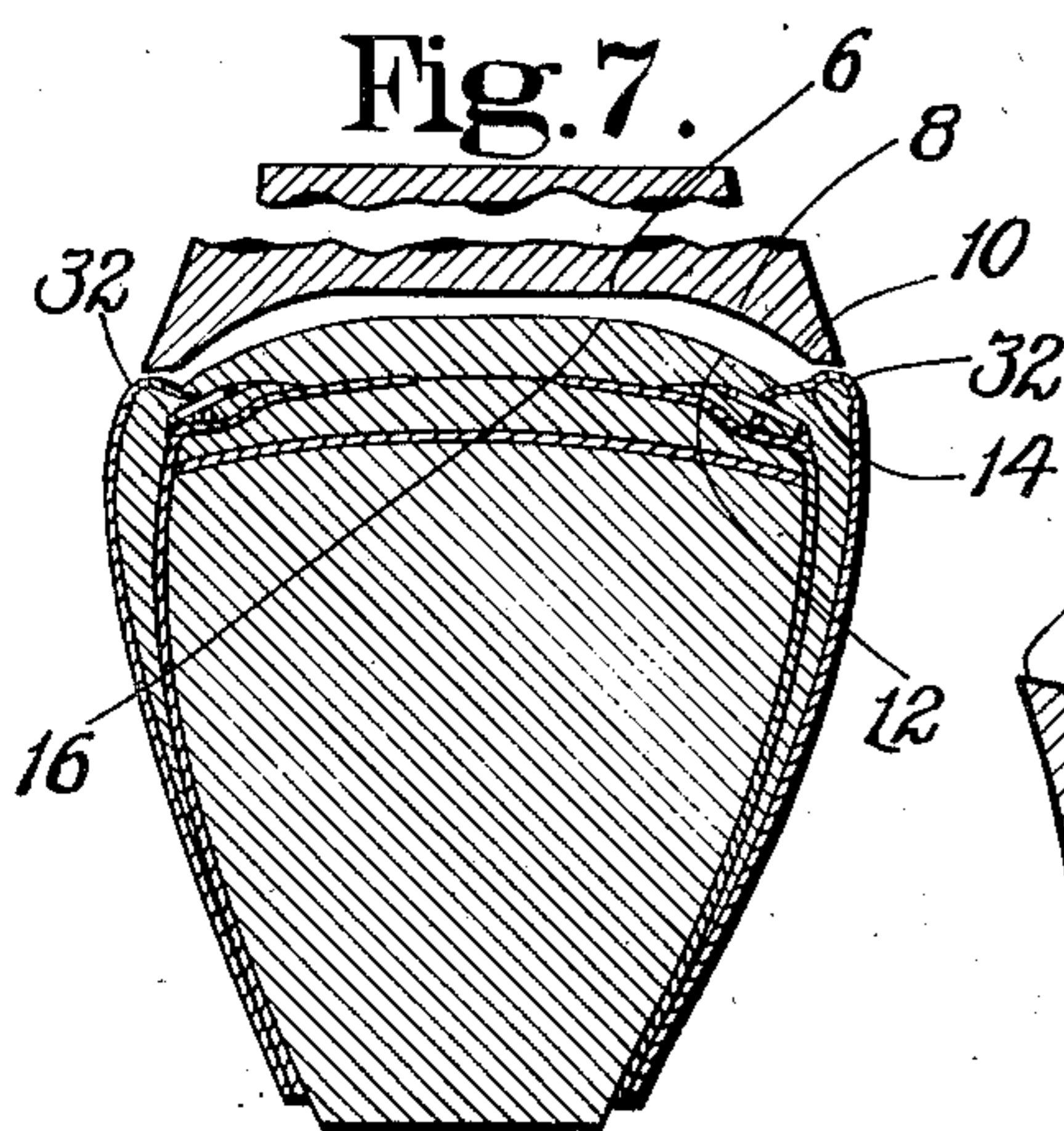
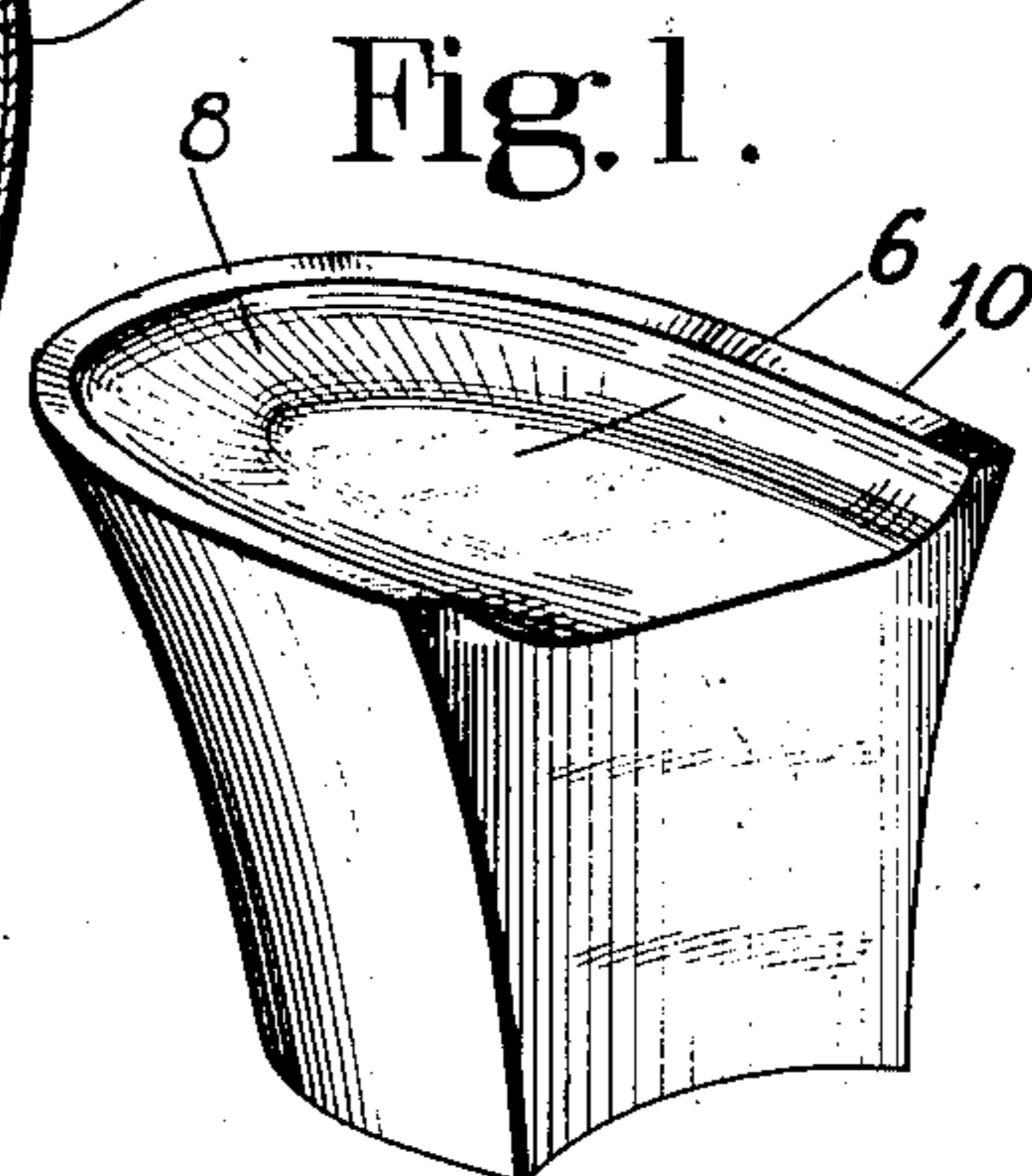
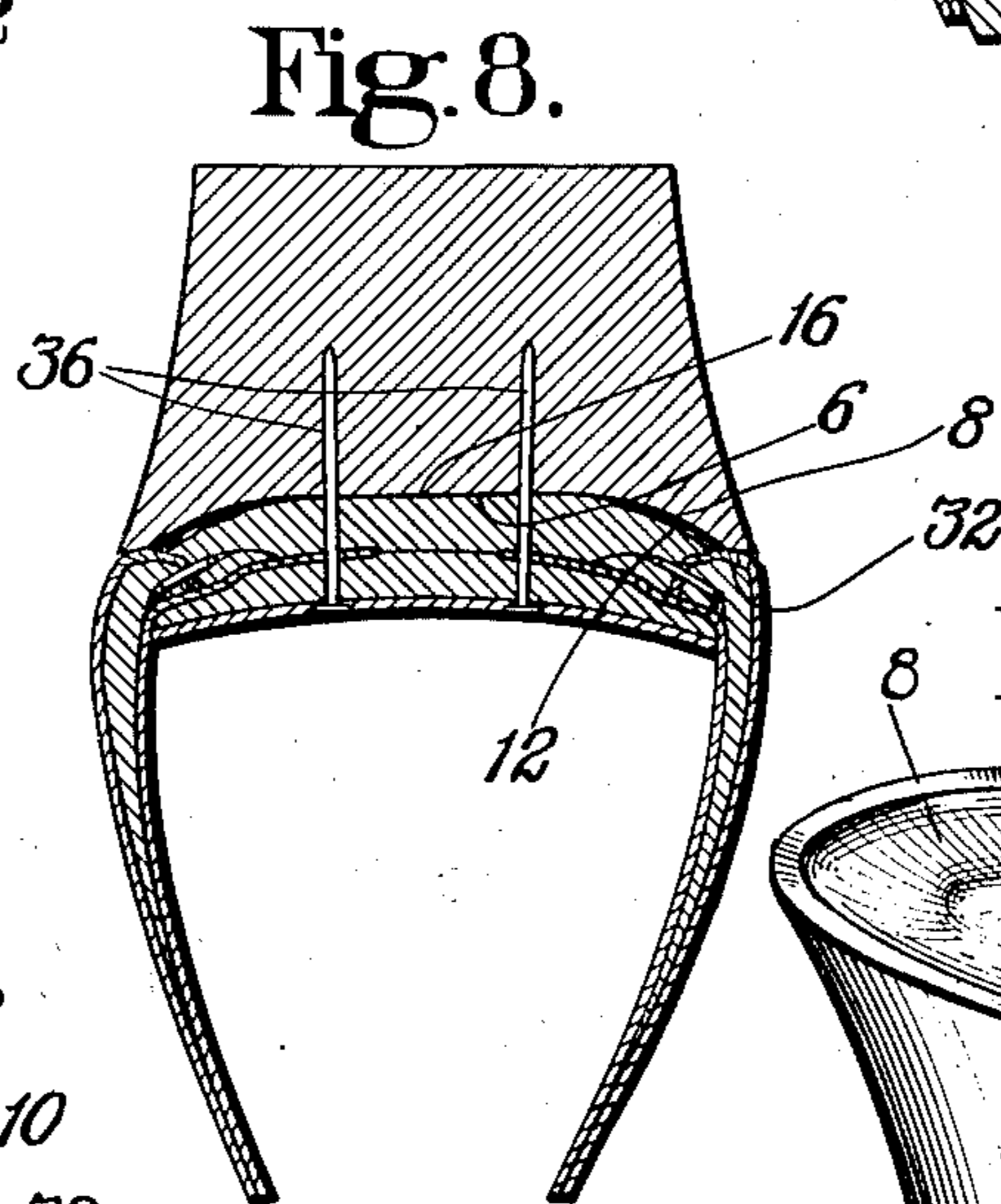
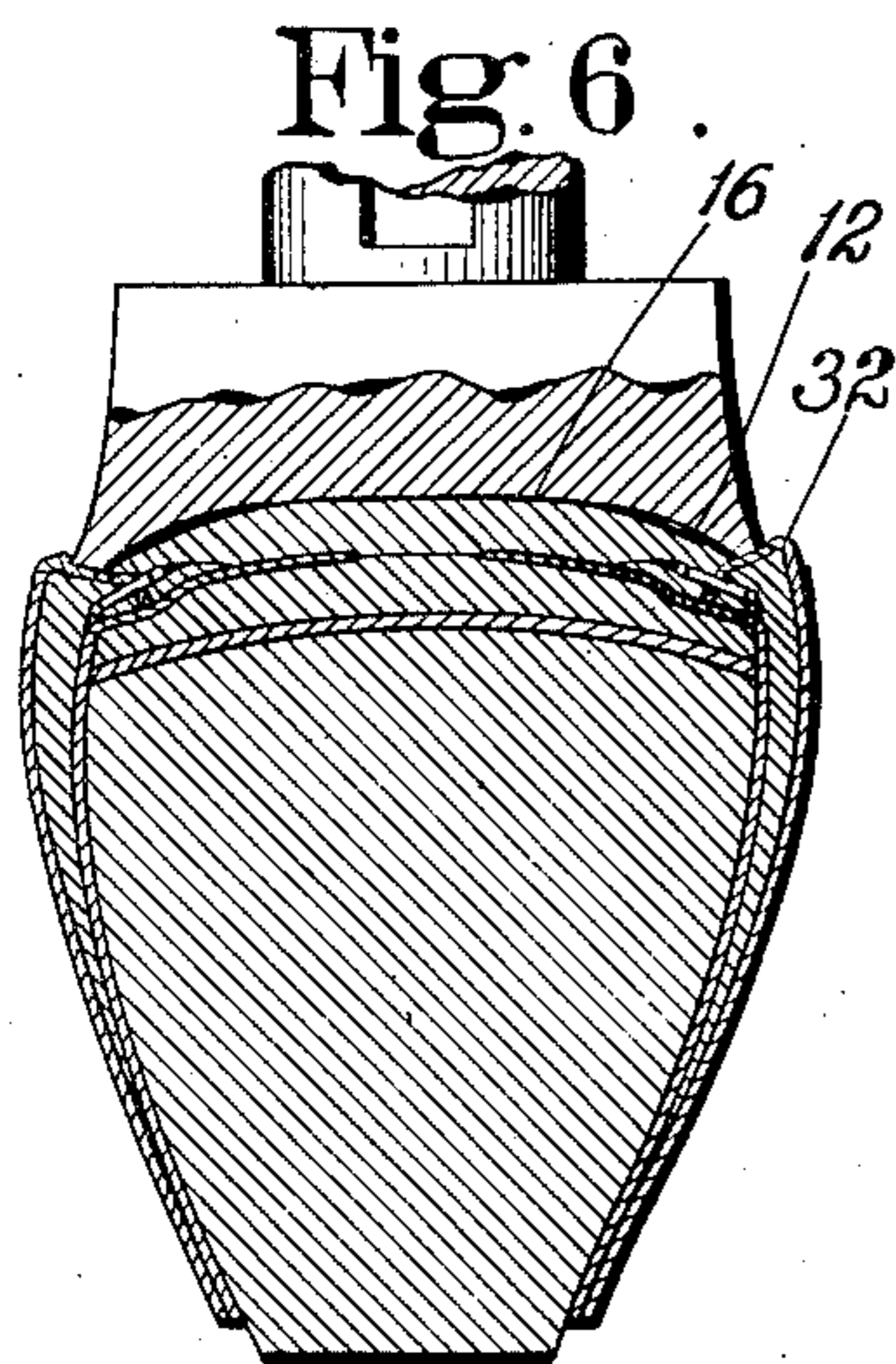
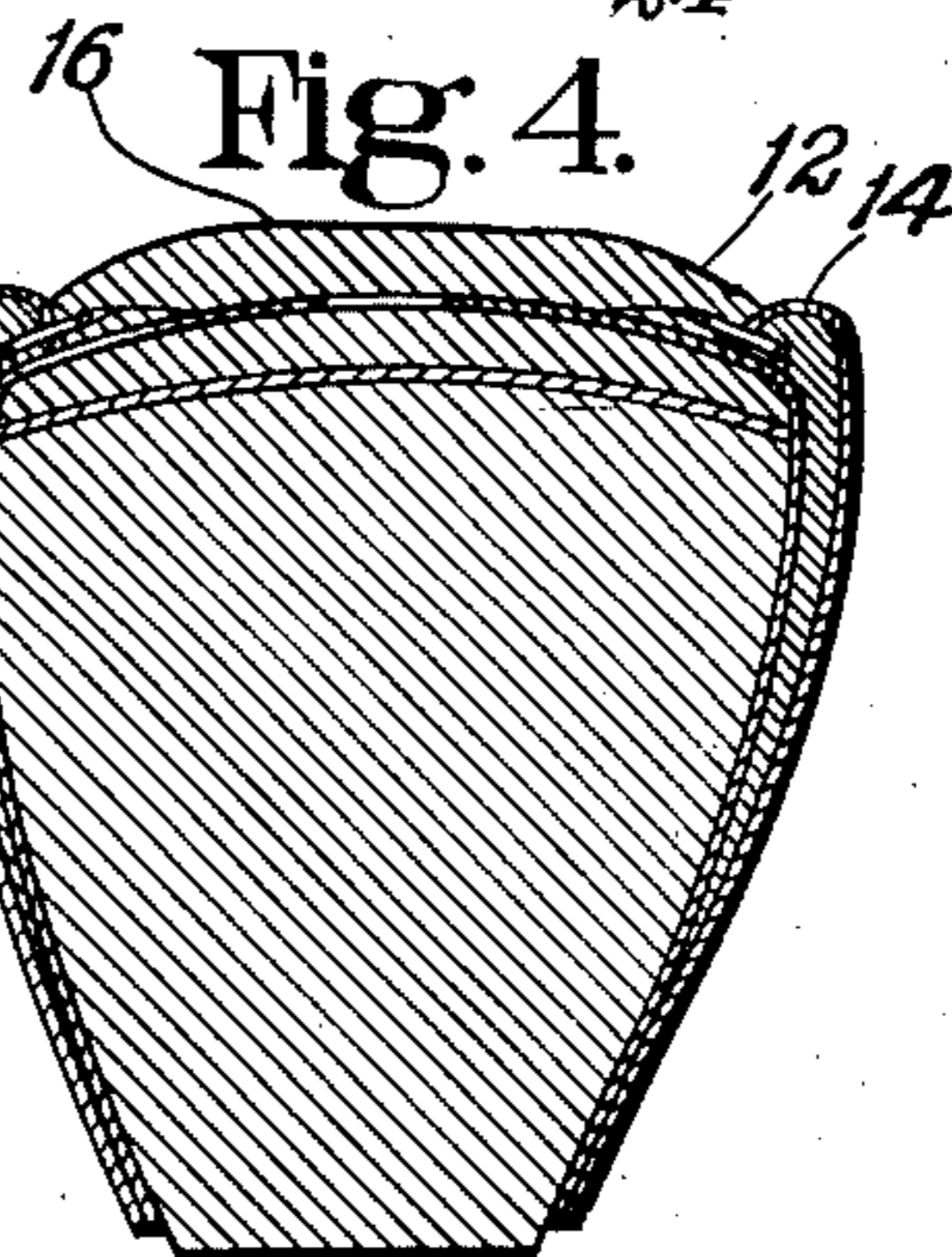
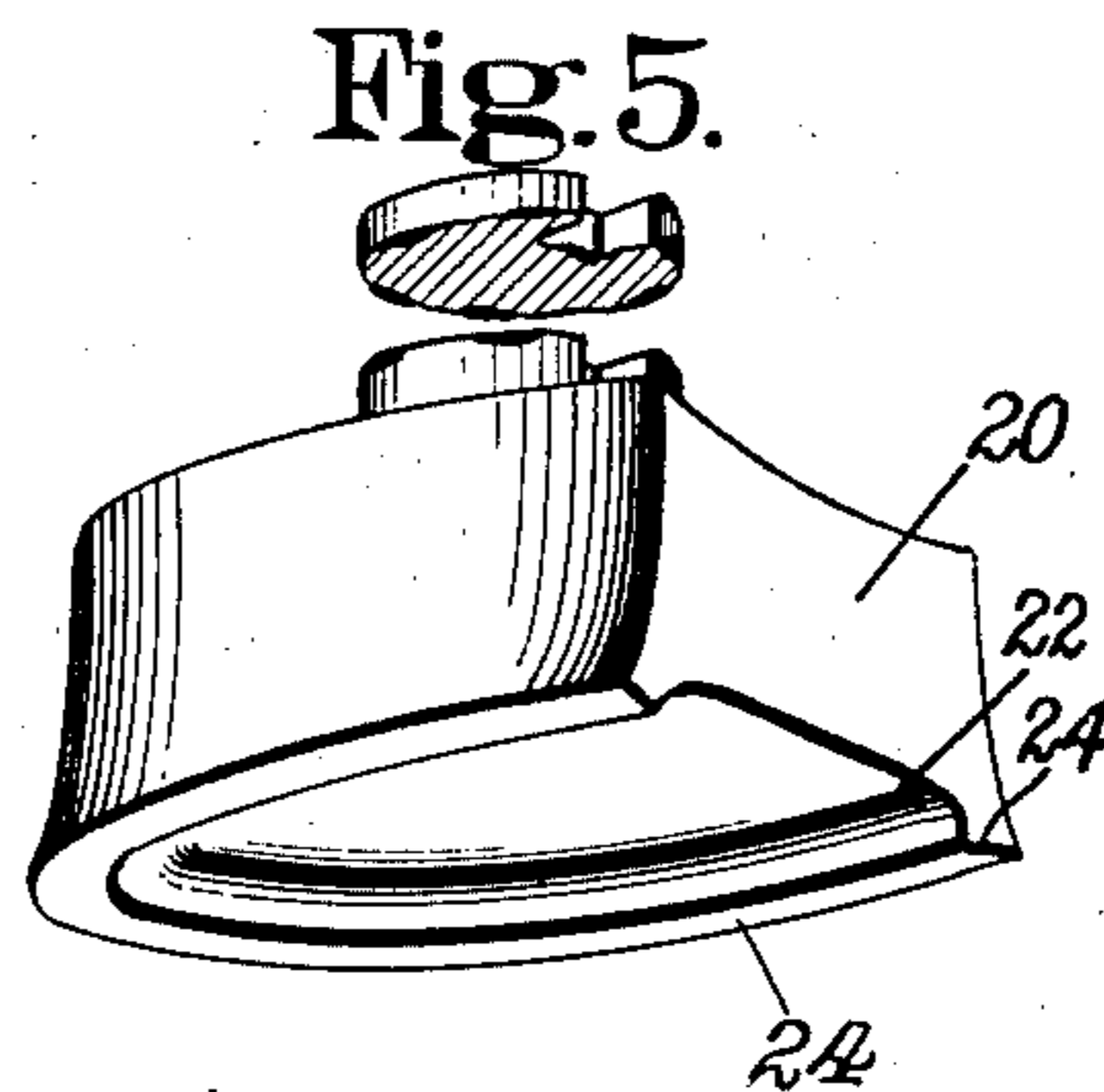
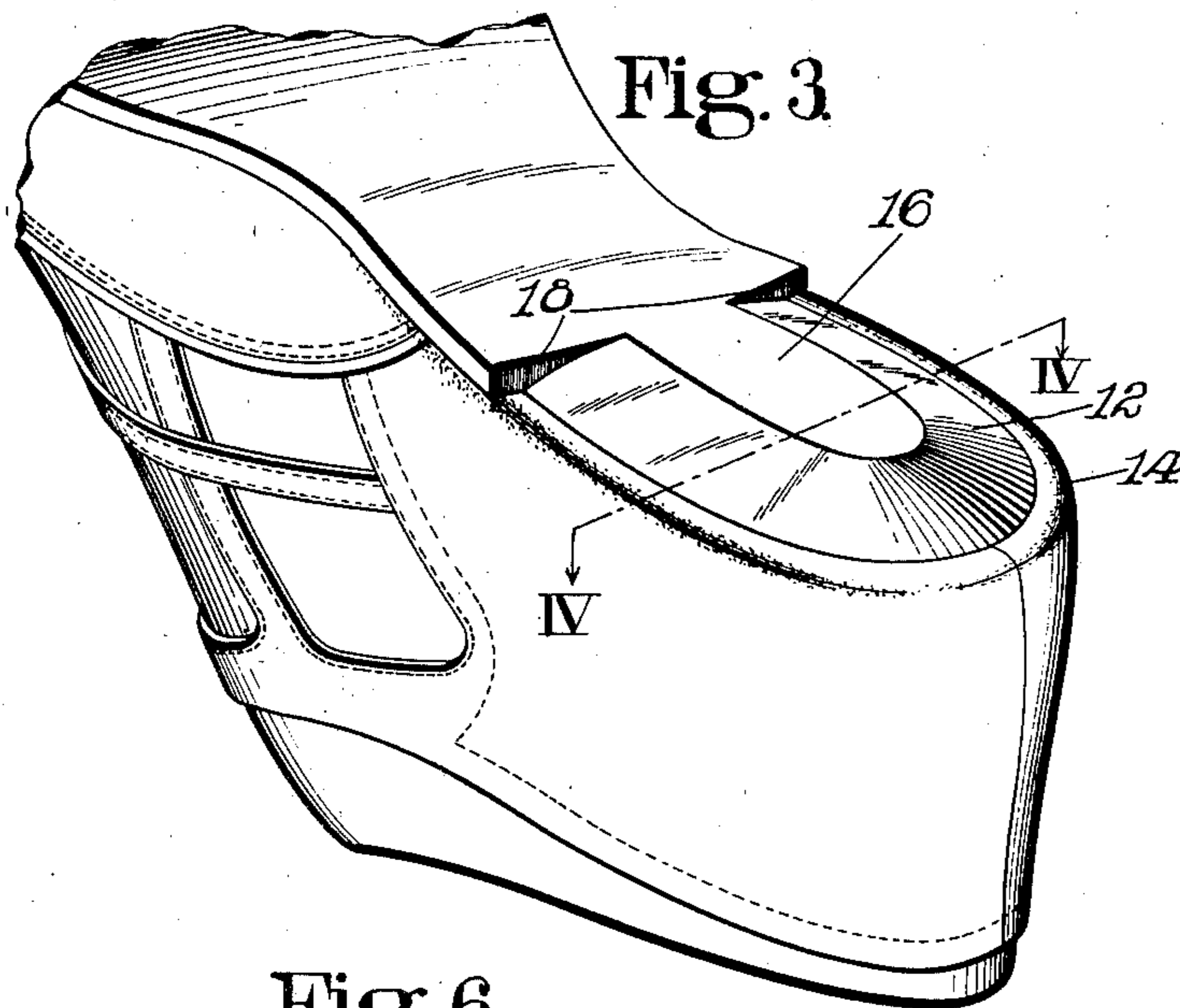
Oct. 7, 1930.

R. S. MEGATHLIN

1,777,471

HEEL

Filed Jan. 27, 1927



INVENTOR.
Ralph S. Megathlin
By his Attorney,
Nelson W. Howard

UNITED STATES PATENT OFFICE

RALPH S. MEGATHLIN, OF QUINCY, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY

HEEL

Application filed January 27, 1927. Serial No. 163,995.

This invention relates to heels, of the type exemplified by wood heels, which are attached to shoes with their peripheral portions in direct engagement and contacting with the counter portions of the uppers of the shoes to which they are attached.

In the manufacture of shoes to which wood heels are to be attached, it is usual to trim the surplus material from the heel portion of the sole of each shoe, at the same time beveling the sole, so that when the heel is attached its peripheral portion engages directly against the shoe upper and conceals the edge of the sole. This trimming and beveling of the heel-seat portion of the sole is commonly spoken of as heel-seat fitting. It is desirable that the heel-seat fitting operation should be performed in such a manner as to insure that the heel-seat portion of the shoe shall engage as large a portion as is practicable of the attaching face of the heel, at the same time permitting the edge of the heel to come into close engagement with the material of the counter portion of the shoe upper so that a tight edge joint results. Of recent years there has been a great deal of study and investigation in attempts to improve the attachment of wood heels to shoes so as to obtain a more solid construction with an edge joint which will not only be tight when the shoe is new but will remain tight after the shoe has been worn. As an aid in obtaining such a solid construction and tight edge joint, I have invented the novel heel of this application.

Wood heels as heretofore made have had an attaching surface of approximately uniform curvature in transverse section from one edge of the heel to the other, the edge between the attaching surface and the peripheral or contour surface of the heel being rather sharp. I have found that a much more solid construction of the heel-seat of a shoe having a wood heel can be obtained if the attaching surface of the heel is provided with a flat central portion corresponding in area and form approximately to the portion of the tread surface of the sole which remains at the heel-seat inside the bevel after the heel-seat fitting operation, this flat surface being surrounded at both sides and the rear of the heel

by a surface curving upwardly relatively abruptly to the rim of the heel.

The rim of my improved heel, instead of being sharp as in the wood heels of the prior art, is preferably of substantial width, about one-tenth of an inch being satisfactory. This strengthens the edge of the heel, substantially reducing the number of heels ruined by the breaking of their edges during their manufacture. It also provides a larger bearing surface between the edge of the heel and the shoe upper, thus strengthening the shoe, and in no way interferes with the obtaining or retaining of a tight edge joint which is preferably insured by upwardly and outwardly inclining, relatively to the heel, the wide upper engaging surface of the rim.

With the above and other objects and features in view the invention will now be described with reference to the accompanying drawings and pointed out in the claims.

In the drawings,

Fig. 1 is a perspective view of a wood heel embodying my invention;

Fig. 2 is a transverse section, on an enlarged scale, of the portion of this heel adjacent to the attaching surface;

Fig. 3 is a perspective view of a shoe, to which a wood heel is to be attached, after the performance of the heel-seat fitting operation;

Fig. 4 is a transverse section on the line IV—IV of Fig. 3;

Fig. 5 is a perspective view of a die for molding or forming the heel-seat of a shoe after the heel-seat fitting operation and preparatory to the attachment of a wood heel;

Fig. 6 is a transverse section through the shoe of Figs. 3 and 4 and the die of Fig. 5 during the heel-seat molding operation;

Fig. 7 is a transverse section through the same shoe after the performance of the heel-seat fitting operation and with a wood heel such as that of Fig. 1 placed lightly on the heel-seat of the shoe but not attached thereto; and

Fig. 8 is a transverse section through the heel-seat portion of the shoe with a wood heel such as that of Fig. 1 attached thereto.

Wood heels embodying the present inven-

tion may be of whatever style is preferred, Fig. 1 illustrating a Cuban heel. The attaching surface of the heel is provided with a flat central portion 6 extending rearwardly from the breast of the heel, surrounded by (at both sides and the rear) and merging into a curved peripheral portion 8 rising abruptly toward the rim 10 of the heel. As illustrated, the rim 10 is about one tenth (.1) of an inch wide and is slightly inclined upwardly from the edge of the concave portion toward the edge of the heel.

Fig. 3 illustrates a shoe to which a wood heel is to be attached. As a result of the heel-seat fitting operation, the periphery of the heel-seat portion of the sole of the shoe has been beveled as indicated at 12, the bevel extending outwardly only to such a distance as will permit it to be completely covered by the wood heel which is to be attached. Beyond the sole the heel-seat portion of the shoe comprises the inturned edge of the counter portion of a shoe upper indicated at 14. A portion 16 of the tread surface of the sole extends rearwardly of the heel-breast line 18, being surrounded, except at its forward end, by the beveled surface 12. Before attaching a wood heel to a shoe having its heel-seat portion fitted as illustrated in Fig. 3, it is desirable to mold the heel-seat so as to compress it and shape it more nearly to conform to the attaching surface of a wood heel. This may be done by a die, that of Fig. 5, being shaped to conform to the attaching face of the heel of Fig. 1 but somewhat exaggerated so as to over-mold the material and compensate for the tendency of the heel-seat of the shoe to return part way toward its original condition after the pressure is removed. The die of Fig. 5 is provided with a flat central portion 20 curving, as indicated at 22, toward the rim of the die which recedes slightly, as shown at 24, from its intersection with the curved portion 22. Such a die should be of a size to cause the intersection of its curved surface 22 with its rim or marginal portion 24 to engage the heel-seat of the shoe in line with the extreme outer edge of the beveled portion of the heel-seat of the sole. Thus, when pressure is applied, the heel-seat of the shoe will be compressed and shaped in accordance with the die. The shoe upper, however, beyond the edge of the heel-seat portion of the sole, will be engaged over a very narrow area, if at all, and will be left to form an uncompressed cushion 32.

When a heel such as that of Fig. 1 is applied to a shoe after this molding operation, its edge will, as shown in Fig. 7, engage with the cushion portion 32 of the shoe upper. Since considerable pressure is applied as an incident to the heel-attaching operation, the rim 10 of the heel is seated firmly upon and may even be embedded to a certain extent in the cushion 32.

With a heel having an attaching surface of the character here illustrated, the attaching surface of the heel will contact with the heel-seat surface of the sole over substantially its entire area, so that the adhesive used in the heel-attaching operation will have the maximum holding power and will be of maximum assistance to the nails 36 in holding the heel to the shoe. The slight inclination of the rim 10 is helpful in providing a tight edge joint, and the width of that rim tends to prevent damage to the shoe upper by the edge of the heel as the shoe is worn. It should be noted, moreover, that the rim 10 of the heel is positioned beneath the upwardly extending portion of the counter of the shoe, and, because of its width, provides a good support for the counter. The large area of contact of the heel-seat portion of the sole and the attaching surface of the heel also is of assistance in producing a construction which can be relied upon to hold together firmly and maintain a tight joint throughout the life of the shoe.

While the invention has been described herein with reference to wood heels, it should be understood that its utility is not limited thereto since it may be embodied in heels of other material.

Having described the invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A wood heel for shoes having a concave attaching face comprising a substantially flat central portion to correspond to the flat portion of the area of the rear end of a sole left after the heel-seat fitting operation has been performed upon it and a portion rising in an abrupt curve from the flat central portion to correspond to the shape given the beveled periphery of the rear end of the sole by operation thereon of a heel-seat forming die, said attaching face having a horseshoe-shaped peripheral rim of substantial and uniform width adapted to rest upon and substantially to cover the portion of the overlaid upper exposed by the heel-seat fitting operation upon the rear end of the sole.

2. An integral heel for shoes having a concave attaching face comprising a substantially flat central portion to correspond to the flat portion of the area of the rear end of a sole left after the heel-seat fitting operation has been performed upon it and a portion rising in an abrupt curve from the flat central portion to correspond to the shape given the beveled periphery of the rear end of the sole by operation thereon of a heel-seat forming die, said attaching face having a horseshoe-shaped peripheral rim of substantial and uniform width, said rim being inclined upwardly and outwardly from the edge of the abruptly curved portion to its outer periphery and being adapted substan-

tially to cover the portion of the overlapped upper exposed by the heel-seat fitting operation performed upon the rear end of sole and to form a tight joint with said upper at the outer periphery of said rim.

5 In testimony whereof I have signed my name to this specification.

RALPH S. MEGATHLIN.