

No. 880,583.

PATENTED MAR. 3, 1908.

L. H. SHAW.

HEEL.

APPLICATION FILED MAY 29, 1906.

Fig. 1

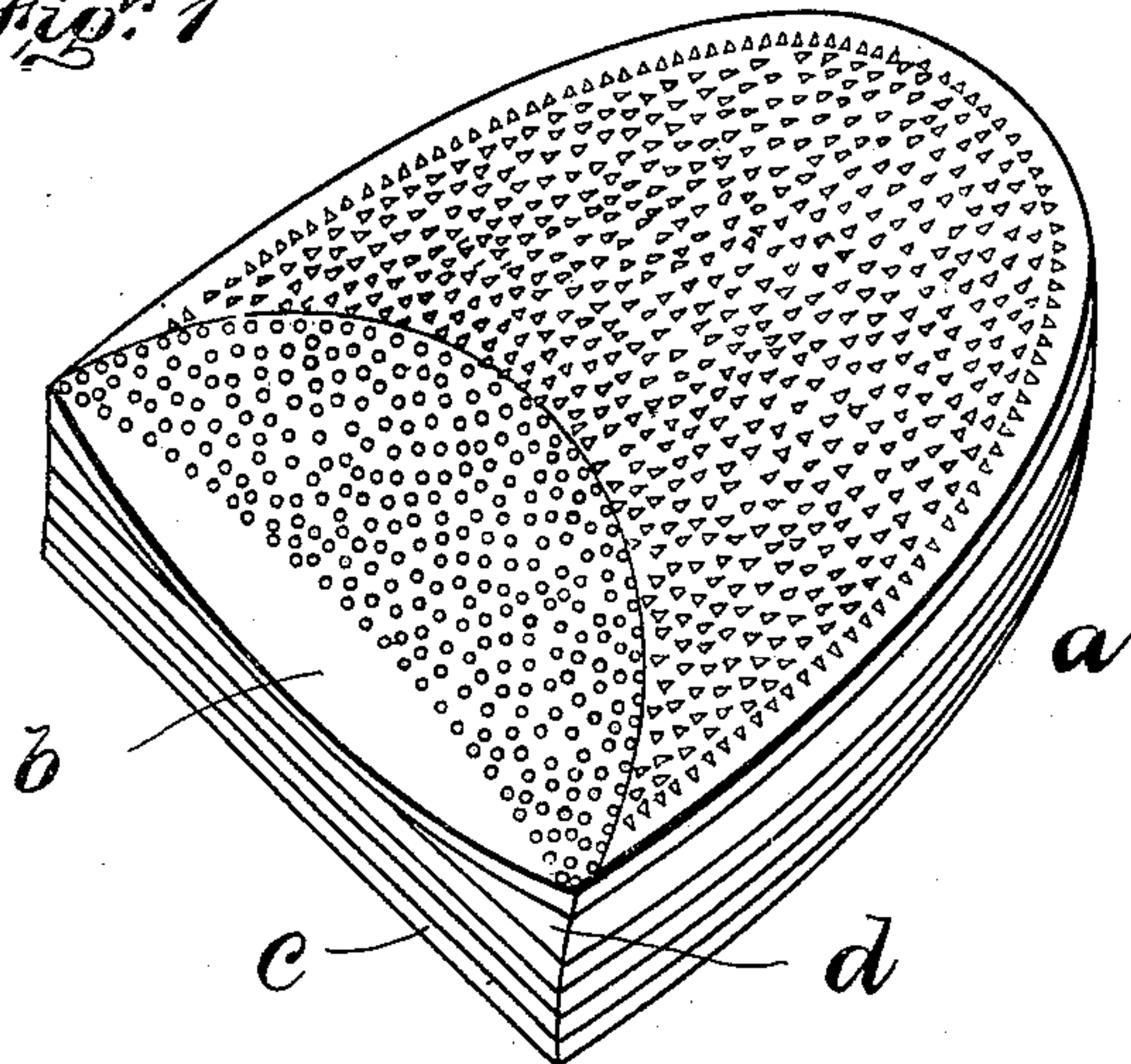


Fig. 2

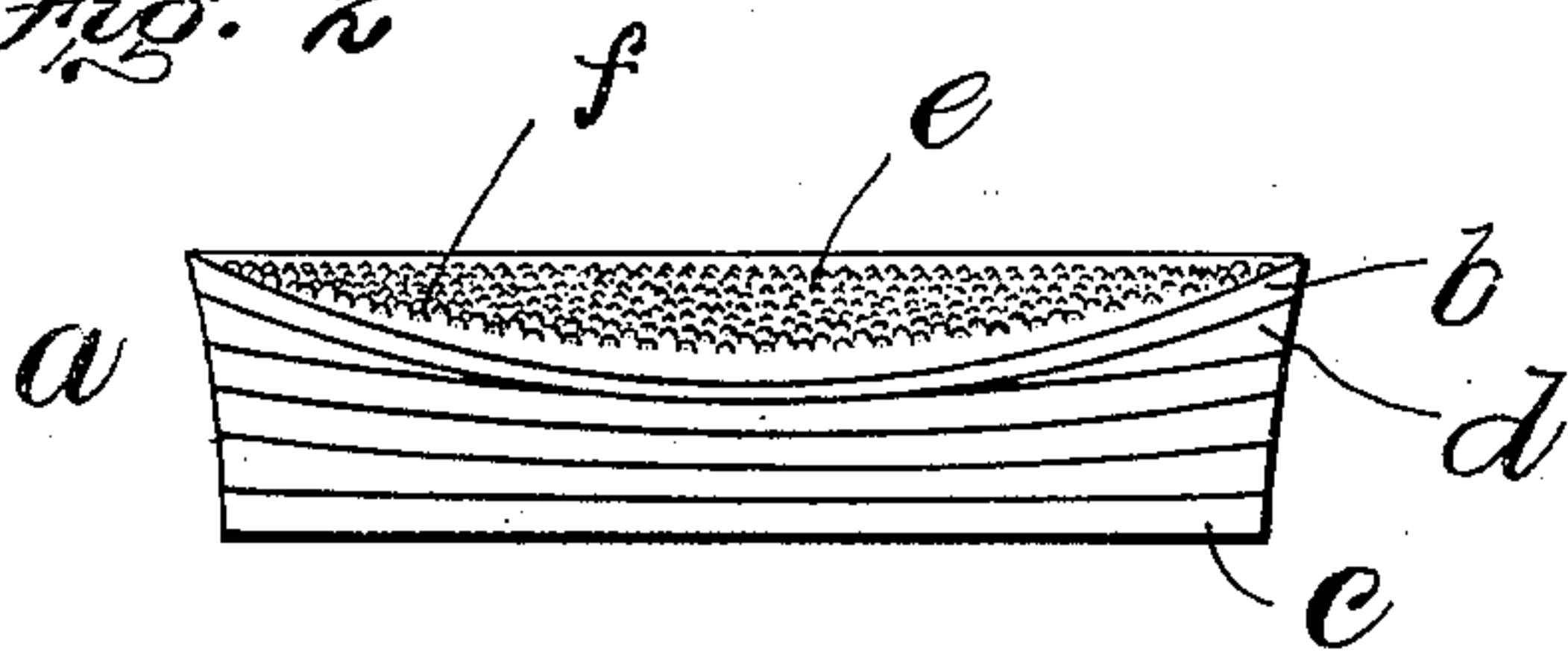


Fig. 3.

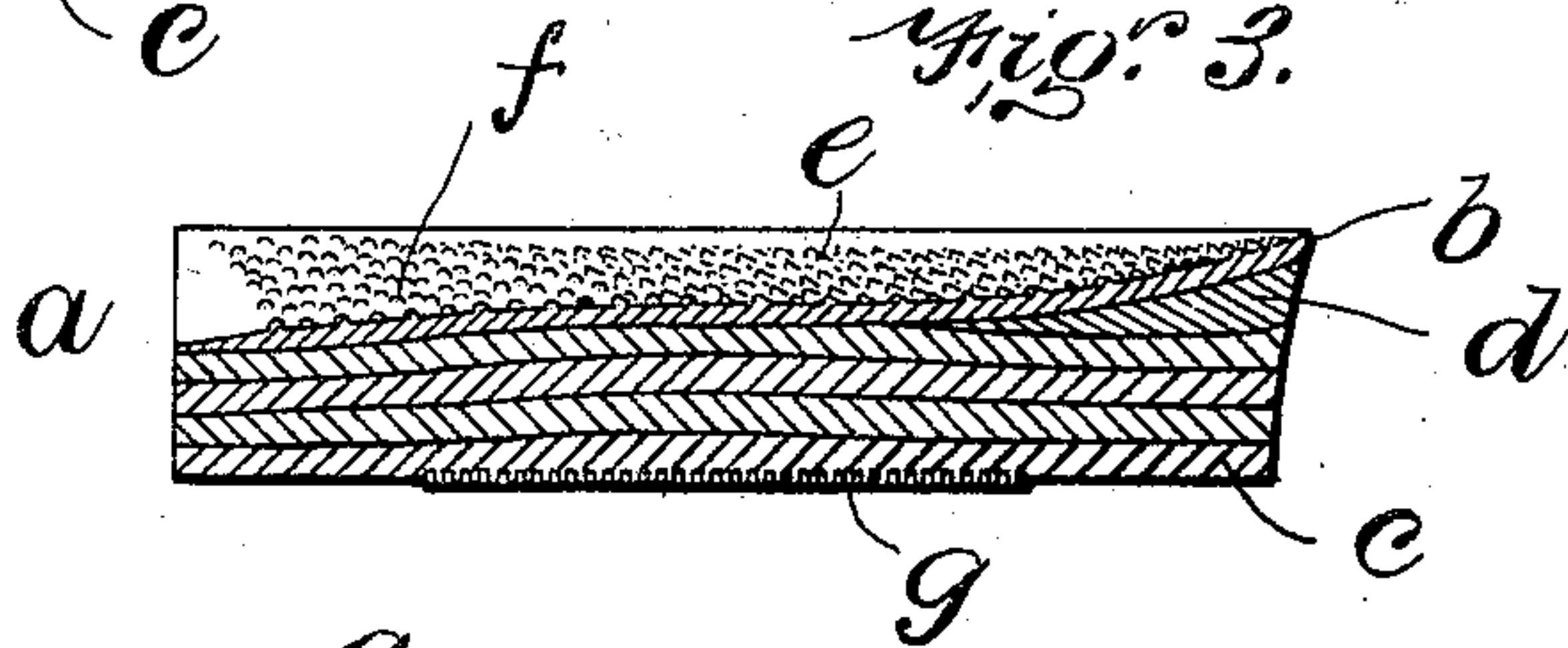
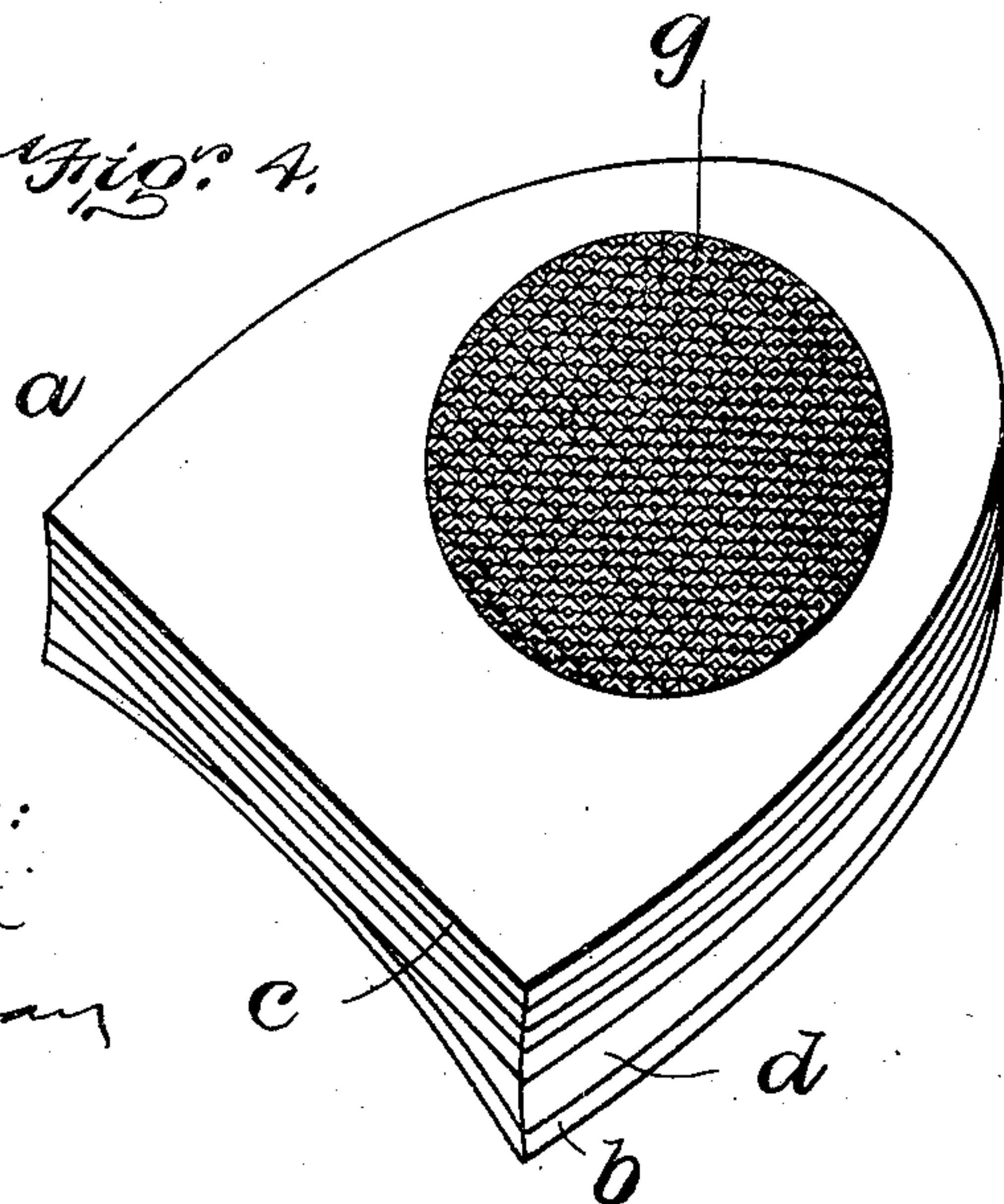


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

LINUS H. SHAW, OF BROCKTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION
OF NEW JERSEY.

HEEL.

No. 880,583.

Specification of Letters Patent.

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Application filed May 29, 1905. Serial No. 262,751.

To all whom it may concern:

Be it known that I, LINUS H. SHAW, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Heels, of which the following is a specification.

This invention relates to heels for boots or shoes.

In the manufacture of boots and shoes, as is well known, heels are commonly attached by machines which act first to press the heel upon the heel seat of the shoe with considerable pressure and then to drive the attaching nails into the heel.

15 An object of my invention is to provide a heel which is so formed that an accurate location of said heel upon the boot or shoe preliminarily to driving the nails will be facilitated. In the operation of heel attaching
20 machines there is liability of a heel slipping as it is pressed upon the heel seat. A compressed heel is more or less wedge-shaped according to different circumstances and its heel seat face is transversely concave as is
25 well known to accommodate the transverse convexity of the heel seat. In pressing a heel upon its seat, therefore, it will be seen that the surface of contact between the heel and the heel seat may be more or less oblique
30 to the line of pressure, and that consequently there will be some tendency for the pressure to force the heel out of position with relation to its seat. The heel seat face of a compressed heel generally does not accurately fit
35 the heel seat, so that as the heel is pressed upon its seat it may engage at first only a small portion of the heel seat area. This lack of conformity between heel and heel seat may cause an increased tendency to dis-
40 placement of the heel in the heel attaching operation. Moreover, the heel seat of a boot or shoe, as is well known, is the grain side of the leather, and immediately prior to the heel attaching operation is commonly quite
45 smooth so that slipping of the heel is facilitated on this account. If the heel seat face of the compressed heel should also be the grain side of the leather and have the high degree of smoothness imparted thereto by
50 the heel compressing machine, liability of slipping would be still further increased. Furthermore, the application of cement to

the heel seat face of a heel decreases frictional resistance to slipping in the attaching operation, as will be obvious.

In attaching heels to boots and shoes some difficulty has been heretofore experienced in securing an accurate location of a heel upon its heel seat on account of the tendency to displacement above referred to, the liability
60 of slipping being more or less according to circumstances. It is desirable that the heel be positioned accurately upon its seat in the operation of driving the nails, for while a slight inaccuracy in position may be at times
65 substantially cured in trimming the heel, this cannot always be done, and if the inaccuracy be considerable it may be impossible to trim the heel to secure the symmetry of form desired.

It has heretofore been generally regarded as impracticable, mainly for reasons such as above given, to make the heel seat face of the heel the grain side of the leather, although there are considerations which render it desirable. For example, where compressed heels are sold as a separate article
75 of manufacture it is of course desired to make their appearance as attractive as possible and the appearance of the heels is much improved if their exterior faces and particularly their heel seat faces are somewhat
80 finished. The natural smoothness of the grain side of the leather is such that where this side is outside the dies of the heel compressor make it extremely smooth, giving
85 the leather a more attractive appearance than where the flesh side is outside. Moreover, where the heel seat face of the heel is the grain side of the leather, a close union
90 with the outersole is permitted at the edges, since the two grain surfaces are firm and even and may be readily brought into close contact.

According to my invention a heel is provided upon its heel seat face with projections
95 formed and arranged to prevent displacement of the heel when it is pressed upon its seat. Said projections preferably are provided in molding the heel and are so formed
100 that in pressing the heel upon the heel seat they may indent or penetrate to a limited extent the face of the heel part of the outersole. In the heel shown they are arranged

over approximately the entire area of the heel seat face of the heel so that the extent of roughened surface in contact with the heel seat of the shoe will be as great as possible. Preferably the heel seat lift or inner lift of the heel is arranged with its grain side outward.

Other features of the invention will be hereinafter described and defined in the claims.

In the drawings which illustrate a heel showing one embodiment of the invention,— Figure 1 is a perspective view of said heel; Fig. 2 is a view in front elevation of the heel; Fig. 3 is a view in longitudinal vertical section of the heel; and Fig. 4 is a view in perspective of the heel, showing the outer or top lift face.

In the drawings, *a* represents a heel constituting the preferred embodiment of the invention, said heel being formed of a series of superposed lifts of leather or other material. The external lifts *b* and *c* are preferably of leather, while the remaining lifts may be made, if desired, of less expensive substance. The lifts *b* and *c* are preferably arranged with their grain sides outward. A rand *d* may be arranged between the inner or heel seat lift *c* and the next adjacent lift, said rand being provided to facilitate the production of the desired concavity in the heel seat face of the heel. It will be seen that with the rand arranged in this manner the heel seat face of the heel is formed by a single piece of leather.

The heel is molded in a compressing machine to impart to it the desired form and density. In the molding or compressing operation the heel seat face of the heel is provided with numerous projections *f*, said projections being preferably arranged as shown over approximately the entire area of the heel seat face of the heel, and being independent or spaced from each other. The heel is provided with the usual bevel at the breast which, as is well known, prevents the breast edge of the heel from marring the sole when the heel is pressed upon the heel seat part of the sole. Said bevel is preferably left smooth for the reason that it is unnecessary to provide projections upon this part of the heel seat face and the general appearance of the heel is improved if it is left smooth and also because liability of the sole being marred by pressure of such roughened face upon it in attaching the heel is thus prevented.

The raised parts or projections molded upon the greater part of the heel seat face of the heel may be of any desired form and arrangement. It is desirable, however, that they be sharply defined in order that when the heel is pressed upon the heel seat they may indent or penetrate to a limited extent

the face of the outersole. In the heel shown the projections are formed as approximately conical or pyramidal. It will be seen that on account of these projections being molded upon the grain side of the leather they possess considerable resistance to crushing pressure. The hardness of the projections and their pointed shape aid in preventing slipping of a heel with relation to a leather surface against which it may be pressed. It will be seen that the projections *f* also serve to retain cement in case it is applied to the heel seat face of a heel preliminarily to pressing it upon its seat. If said face is smooth the cement will be squeezed out at the sides in pressing the heel upon its seat. Where this face is of the flesh side of the leather the cement is absorbed to some extent by the leather, but on account of the grain side of leather being considerably more dense and firm than the flesh side it has little absorptive power. Hence, if there is no provision for retaining cement where the heel seat face of the heel is the grain side of the leather there is considerable liability of said cement not having its intended function of holding the heel in close union with the heel seat.

The projections upon the heel seat face of the heel are preferably omitted at the extreme edge of said face, as shown in Fig. 1. This feature is of advantage in that it permits a portion of the stock to be removed in the heel trimming operation without causing said projections to be brought into view at the sides or curved end of the heel.

At the same time that projections are molded upon the heel seat face of the heel shown the outer or top lift face of the heel is provided with depressions *g* shown in Fig. 4 arranged near the center of the heel. After a heel has been secured to a shoe and preliminarily to spanning the top lift upon the attaching nails of the heel an application of cement is made to the heel to assist in retaining the top lift upon the heel. The depressions *g* constitute pockets for holding the cement and prevent said cement from being squeezed out at the sides as the top lift is attached.

I claim:—

1. A heel having upon its inner surface independent penetrating projections formed and arranged to indent the heel seat of a shoe.
2. A heel comprising lifts, said heel having an inner lift situated with the grain side outward and provided with independent penetrating projections formed and arranged to indent the heel seat of a shoe.
3. A heel having upon its inner surface penetrating projections formed and arranged to indent the heel seat of a shoe.
4. A heel, comprising lifts, said heel having an inner lift with the grain side outward

and provided with penetrating projections formed and arranged to indent the heel seat of a shoe.

5 5. A compressed heel having its heel seat face molded to provide a bevel at the breast and to form penetrating projections constructed to indent the heel seat of a shoe.

10 6. A compressed heel having its heel seat face of the grain side of the leather and molded to provide a bevel at the breast and to form penetrating projections constructed to indent the heel seat of a shoe.

15 7. As a new article of manufacture, a compressed heel having a concave heel seat face formed of a continuous lift of leather arranged with its grain side outermost and provided with numerous projections molded upon said face in position to resist slipping movement of the heel upon the heel seat in attaching the
20 heel.

8. As a new article of manufacture, a compressed heel having its heel seat face molded to provide a bevel at the breast and provided

with numerous projections molded upon said face and arranged to leave smooth the beveled portion. 25

9. As a new article of manufacture, a compressed heel, having its outer face molded to form cement-receiving depressions at the central part of said face arranged to leave smooth a portion of said face adjacent to the edge of the heel. 30

10. As a new article of manufacture, a compressed heel having its heel seat face molded to provide projections to resist slipping movement of the heel upon the heel seat in attaching the heel, said projections being arranged to leave smooth the portion of said face at the extreme edge of the heel. 35

In testimony whereof I have affixed my signature, in presence of two witnesses. 40

LINUS H. SHAW.

Witnesses:

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