April 30, 1940. C. F. GIESSLER 2,198,938

SHOE HEEL

Filed April 8, 1938

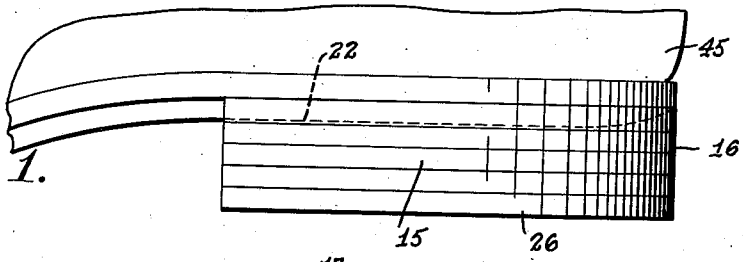


Fig. 1.

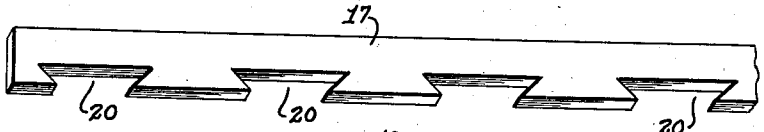


Fig. 2.

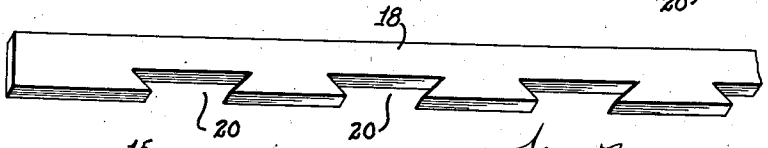


Fig. 3.

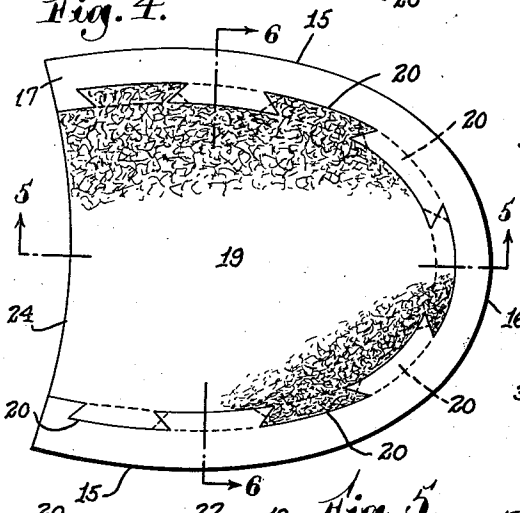


Fig. 4.

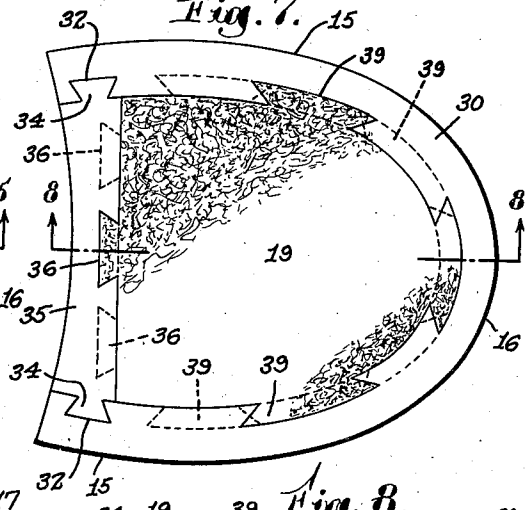


Fig. 7.

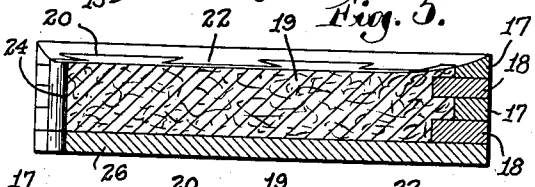


Fig. 5.

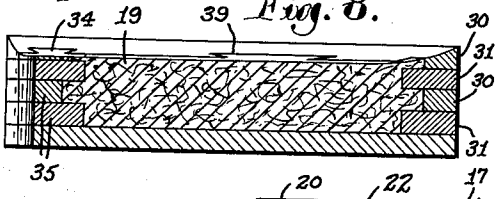


Fig. 8.

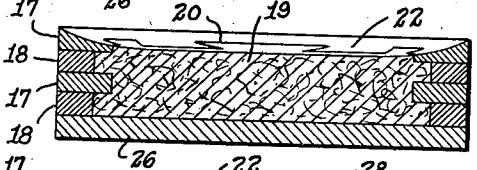


Fig. 6.

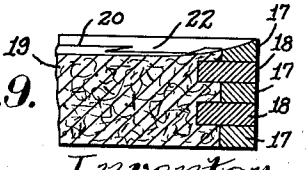


Fig. 9.

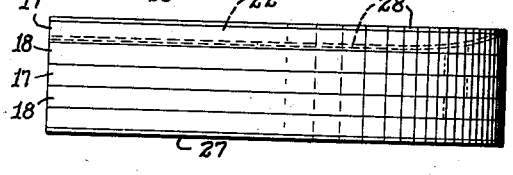


Fig. 10.

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UNITED STATES PATENT OFFICE

2,198,938

SHOE HEEL

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Application April 8, 1938, Serial No. 200,854

1 Claim. (Cl. 36—34)

This invention relates to heels for boots and shoes, and more particularly to heels made in part in leather.

It is the general object of my invention to provide an improved part-leather heel of simple, efficient and durable construction and adapted to be made at a low cost of manufacture.

A further object is to provide a part-leather heel having a leather edge capable of receiving a fine finish and which presents the external aspect of a heel made entirely of sole leather lifts.

Other objects of the invention will be more specifically set forth and described hereinafter.

My invention further relates to parts which will be hereinafter described and more particularly pointed out in the appended claim.

Preferred forms of the invention are shown in the drawing, in which

Figure 1 is a side elevation of a portion of a shoe having a heel made in accordance with my invention attached thereto;

Fig. 2 is a perspective view of one end portion of a leather strip used in the manufacture of my improved heel and having one longitudinal edge provided with spaced dove-tailed recesses;

Fig. 3 is a similar view of the end portion of another strip, in which the dove-tailed recesses are in staggered relation to the recesses shown in Fig. 2;

Fig. 4 is a plan view of a complete heel;

Fig. 5 is a longitudinal, sectional view of the heel on line 5—5 in Fig. 4;

Fig. 6 is a transverse, sectional view on line 6—6 in Fig. 4;

Fig. 7 is a plan view of a heel of modified construction;

Fig. 8 is a longitudinal, sectional view on line 8—8 in Fig. 7;

Fig. 9 is a partial, longitudinal, sectional view of the heel without a bottom lift; and

Fig. 10 is a side elevation of a heel showing a further modification.

Referring to the drawing, the heel of my invention, in its preferred form, comprises outer side and back portions 15 and 16 made up of a plurality of superposed narrow strips 17 and 18 and a center portion 19 of a hardened plastic composition. The strips 17 and 18 are preferably cut from sole leather and each is provided along its inner longitudinal edge with spaced apart recesses 20. These recesses are preferably of dove-tailed formation, and the recesses in the strips 17 and 18 are staggered in relation to each other and the heel is built up with these two strips in alternate arrangement. The two strips 17 and 18 may be cut from a continuous strip, and the staggered arrangement of the recesses may be obtained by varying in the two strips the distances between the end recesses and the ends of the strips, as shown in Figures 2 and 3.

The center portion 19 is made from any suitable plastic material, but preferably comprises a mixture of ground or shredded leather scrap and a suitable binder which is adapted to harden quickly when exposed to air.

The heel may be made in any suitable manner, but preferably strips 17 and 18 of proper length, arranged in alternate superposed relation, are bent to the outline of a heel, preferably in a suitable mold by the application of pressure, and the interior of the mold is then filled with the plastic compound which may be submitted to pressure sufficient to force the compound fully into the recesses in the strips. The heel is then taken out of the mold and set aside, and, when partially dried, is subjected to heavy pressure by any suitable means, such as a heel compressing machine. In such a machine, the pressure is exerted in all directions and the heel is pressed into an integral solid body, with its top face 22 slightly cup-shaped to fit the heel of the shoe.

After the heel has been compressed and the center 19 is firmly hardened, it may be subjected to any usual finishing operation, such as trimming, grinding or buffing, and since the heel presents on its side and back edges the edge grain of sole leather, it will take a finish identical with a heel made entirely from full sole leather lifts. The only portion of the heel which does not present the edge grain of sole leather is the middle portion of the front edge or breast portion 24, which surface is not ordinarily exposed to view.

The heel may be provided on its bottom face either with a bottom lift 26 of sole leather fastened to the heel by any suitable means, such as nailing or cementing, or with a layer 27 (Fig. 10) of thin, split leather cemented thereto. When the heel is provided with either of these, it presents the appearance of a heel made entirely of sole leather lifts. By making the heel somewhat thinner, it may be adapted for having a rubber heel cemented or otherwise secured thereto. If desired, a thin, split leather layer 28 (Fig. 10) may be cemented to the top cup-shaped surface of the heel, and a layer of this character is well adapted for use when the heel is attached by cement to the shoe.

If it is desired to provide a sole leather finish in the breast portion of the heel also, I make use of the modified construction shown in Figures

7 and 8, in which side strips **30** and **31** are provided with short dove-tailed recesses **32** adjacent their two ends. These recesses are adapted to receive dove-tailed projections **34** on the ends of breast edge strips **35**. These strips are provided on their inner edges with one or more dove-tailed recesses **36** which are in staggered arrangement in the alternate strips, as shown in Figure 7. The inner edges of the strips **30** and **31** are also provided with dove-tailed recesses **39** also in staggered relation in the alternate strips. In making this type of heel, the edge strips **30**, **31** and **35** are all assembled and the center recess is filled with a suitable plastic composition, and the heel completed in the same manner as hereinbefore described for the preferred form of heel. This form of heel, like the preferred form, may be provided with a bottom lift **26** or with the top and bottom layers of split leather, as in the case of the preferred form.

In Figure 1 is shown the heel portion **45** of a shoe having attached thereto a heel made in accordance with my invention. The heel is shown with a top layer of thin, split leather and with a bottom lift of sole leather, but both of these elements may be omitted, since the heel may be attached directly to the shoe without the interposition of the thin top layer; and it may be used also without a bottom lift, because the composition is of sufficient hardness to have wearing qualities superior to the wearing qualities of leather strips.

One of the principal advantages of my heel is due to the presence of the dove-tailed recesses in the inner edges of the superposed strips which make up the outer portions of the sides and back of the heel, because these recesses are filled with the plastic material constituting the center of the heel in such manner as to operate as an effective lock for producing a solid, integral, heel structure practically in one piece, a structure which cannot disintegrate under conditions of use. This form of construction simplifies greatly the production of the heel commercially by uniting the leather strips to the center portion of the heel, so that when they are removed from the mold, they retain their shape. It also tends to accelerate the speed of production.

I have found from experience that these heels can be made at an unusually low cost of production and, therefore, can be sold to the shoe manufacturer at a lower price. In addition, due to the form of construction, the heel is substantially waterproof.

I have further found that heels made in accordance with my invention require little or no edge trimming. After they have been subjected to the pressure of a heel pressing machine, the edges are smooth and, in many cases, they come out with a more or less polished face. The ordinary form of heel made from full lifts requires trimming in every case, and sometimes, trimming to an appreciable depth, which operation takes time and effort. This operation is practically eliminated in the use of heels made as hereinbefore described.

In the following claim, the words "dove-tailed recess" are to be understood to indicate any recess which is laterally enlarged toward the bottom of the recess.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim.

What I claim is:

A shoe heel comprising side and back portions, and a center portion formed of plastic compound molded within said parts, said side and back portions being formed of continuous superposed strips bent to the outline of a heel and having dove-tailed recesses in their inner edges to receive said plastic material, said molded center portion serving to connect opposite side portions of said strips.

CURTIS F. GIESSLER.