

No. 897,874.

PATENTED SEPT. 8, 1908.

M. BYRNE.
HEEL CUSHION.

APPLICATION FILED AUG. 23, 1906.

FIG. 1

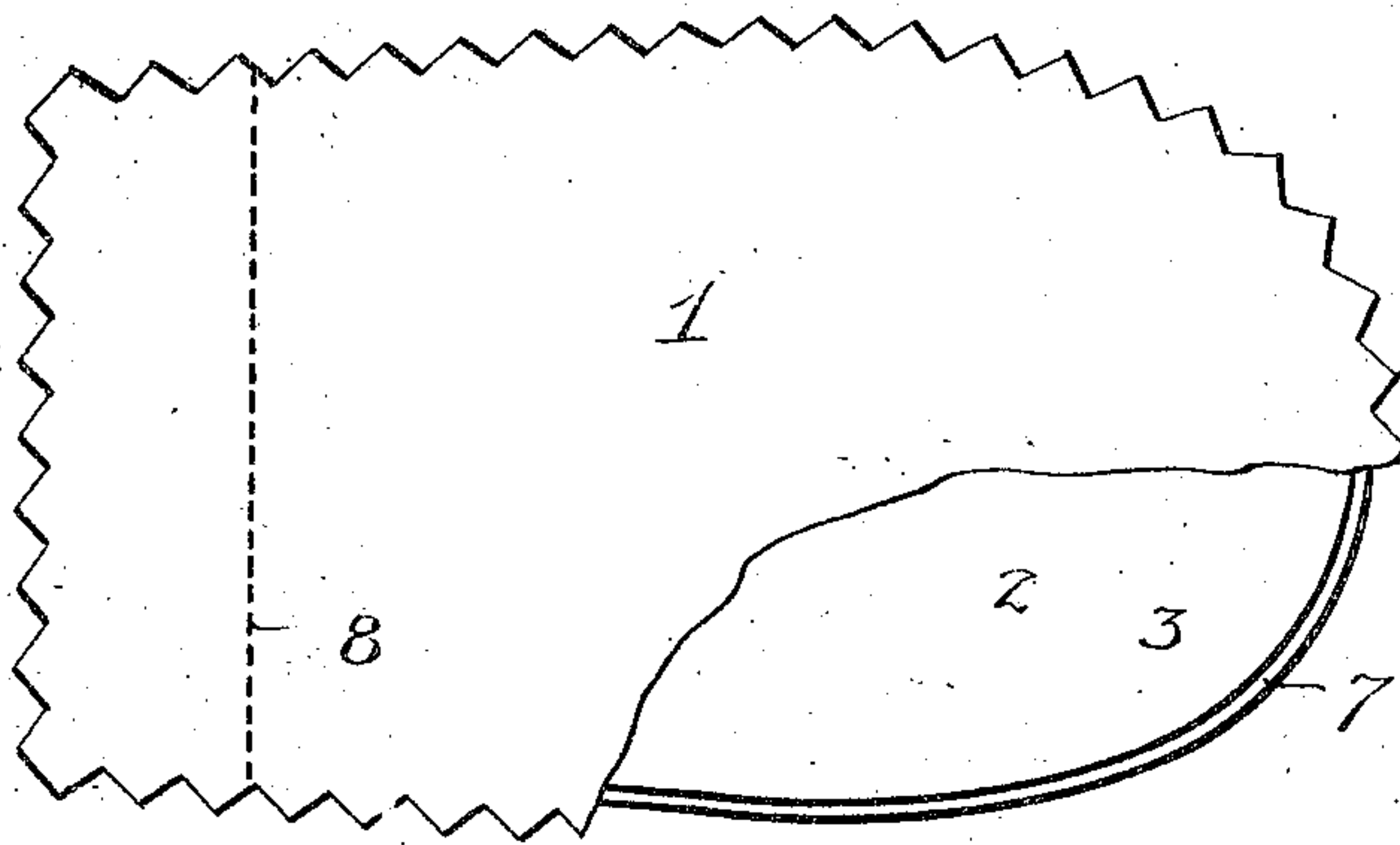


FIG. 2

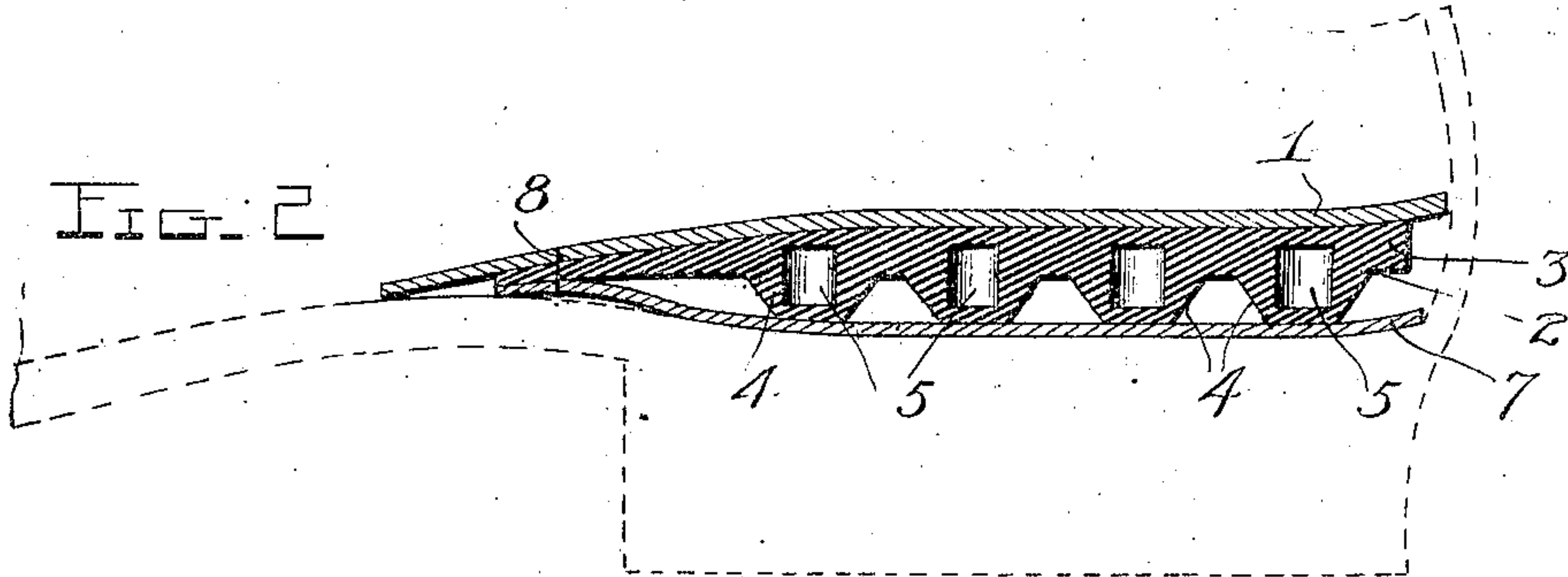


FIG. 3

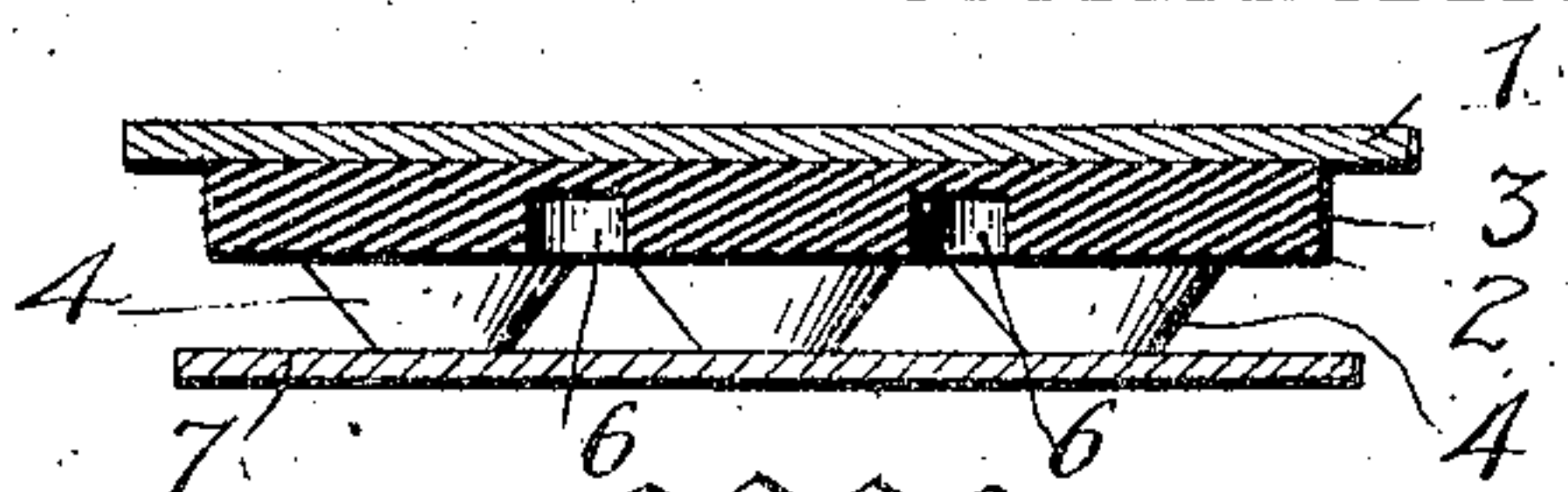
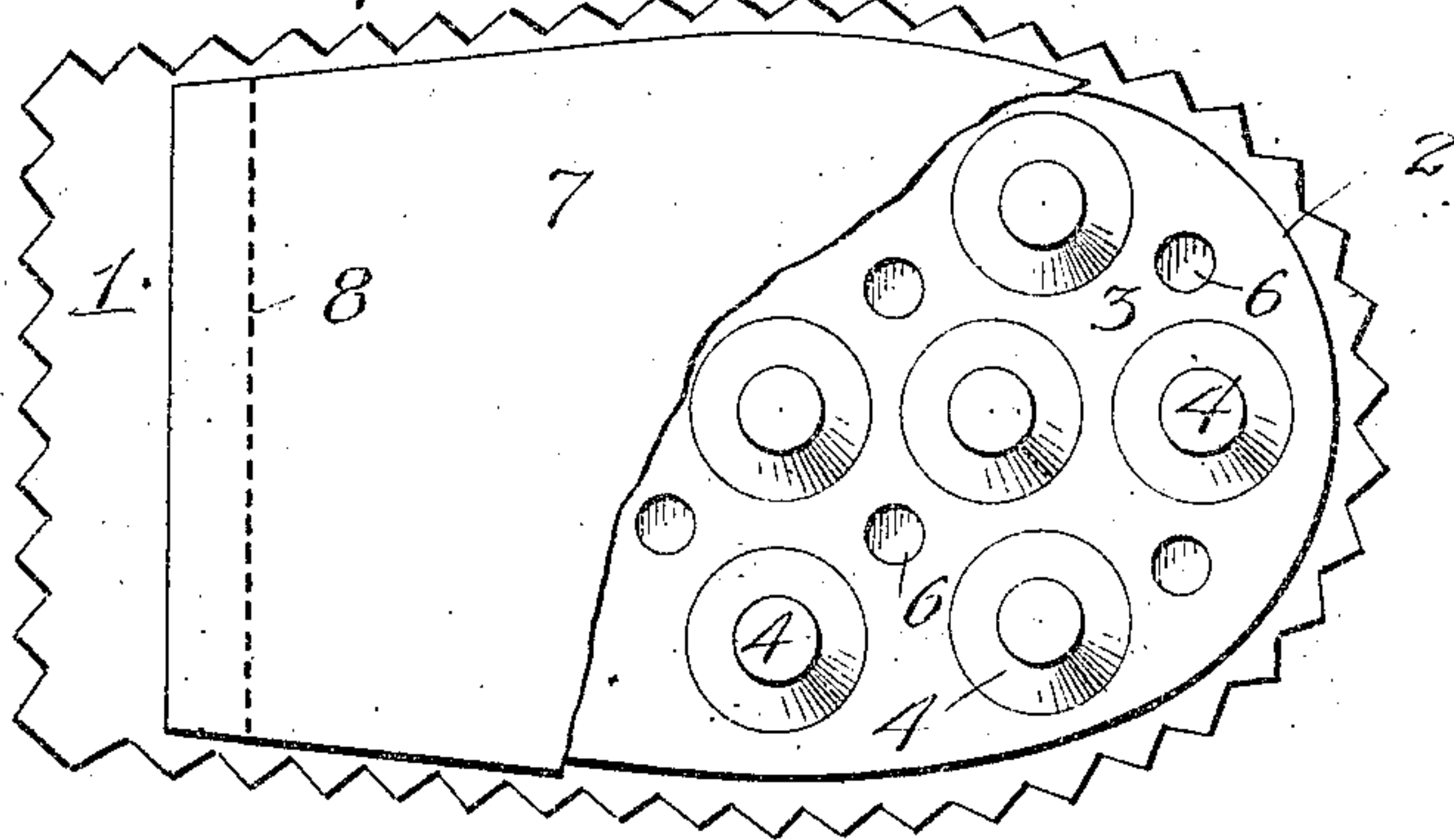


FIG. 4



Witnesses

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UNITED STATES PATENT OFFICE.

MATTHEW BYRNE, OF SAN FRANCISCO, CALIFORNIA.

HEEL-CUSHION.

No. 897,874.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed August 23, 1906. Serial No. 331,764.

To all whom it may concern:

Be it known that I, MATTHEW BYRNE, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Heel-Cushions; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in pneumatic cushions for use in boots or shoes, especially the heel portions of the same, and it consists in the construction, combination, and arrangement of parts, hereinafter described and claimed.

The object of the invention is to provide a heel cushion of this character, in which the rubber body or fabric is provided with air-tight or hermetically-sealed cells, whereby the cushioning or elastic action of the device will be greatly increased.

The above and other objects, which will appear as the nature of my invention is better understood, are accomplished by means of the construction illustrated in the accompanying drawings, in which,—

Figure 1 is a top plan view of the improved pneumatic heel cushion; Figs. 2 and 3 are respectively longitudinal and transverse sectional views through the same; and Fig. 4 is a bottom plan view of the cushion.

The present embodiment of the invention comprises a tread lift 1, preferably of leather, and shaped to fit the heel and shank portions of the shoe in which it is used. Attached to the bottom of the lift or layer 1 is a layer or body of rubber 2. This body 2, which forms the cushion proper is preferably in the form of a soft rubber fabric or structure consisting of a flat layer or sheet 3, from the bottom face of which project a plurality of frusto-conical projections 4, which are made hollow and air-tight, as clearly shown in Fig. 2. These projections 4 form air-tight or hermetically-sealed cells; the cavities 5 in which extend into the sheet or body 3 of rubber, as shown. It will be seen that when the cushion is in use, these projections will be partially collapsed and the air within the same will be compressed to increase the elasticity of the

rubber, and the cushioning action of the device. Any number of the projections may be provided and arranged between them in the sheet or body 3, are small cavities or recesses 6, which are open at the bottom of the rubber body, as seen in Fig. 3. The cushion is preferably retained in the shoe by a retaining strip or layer 7, which is adapted to be glued or cemented in the shoe. A transverse row of stitching 8 is preferably used for securing the three parts or layers of the device together.

The use of the invention is clearly shown in Fig. 2 of the drawing. It will be observed that the provision of the cells or cavities in the rubber body or fabric 2 greatly increases the cushioning action of the device, and renders the rubber more elastic.

It will be understood that the projections 4 spread laterally under the pressure on the cushion, and hence tend to expand the cushion laterally. The openings 6 contract under such pressure and hence compensate for such expansive force and correspondingly add to the elasticity of the cushion.

Having thus described my invention, what I claim as new, and desire to secure by Letters-Patent, is,—

A heel cushion for shoes comprising a relatively thick body having a plurality of frusto-conical projections depending from its lower face, hermetically closed vertically disposed air-chambers arranged in each of the several projections of the body, a forwardly projecting tongue carried by said body, upwardly extending wells formed in the lower face of said body between said air cells, a retaining strap cemented in the shoe beneath said body, a pliable tread lift applied over said body, and a transverse row of stitching passing through the lift, the tongue and the retaining strap, said tread lift projecting beyond the tongue and lying well over the instep of the shoe.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MATTHEW BYRNE.

Witnesses:

W. W. WOODS,
H. F. STANFORD.