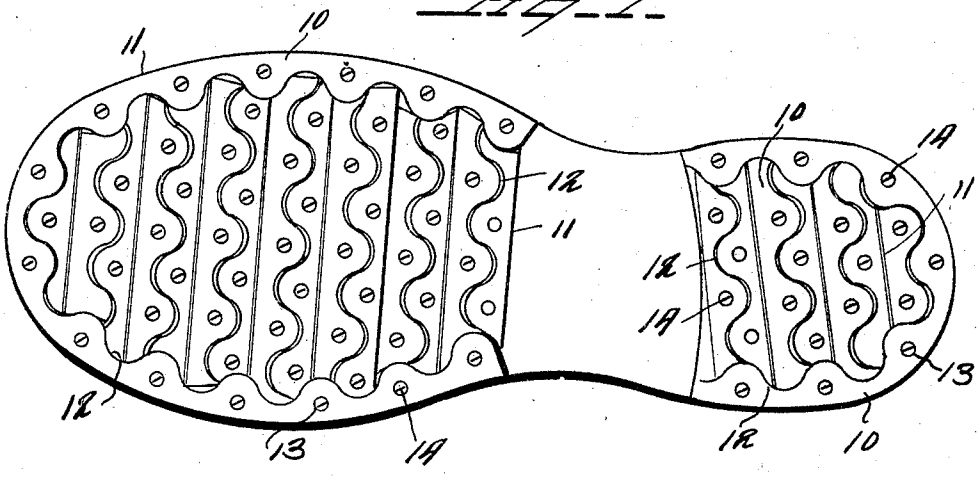
Oct. 26, 1926. 1,604,583

M. KARPE

ADJUSTABLE AND INTERCHANGEABLE RUBBER CUSHION FOR SHOES

Filed May 6, 1922

Fig. 1.



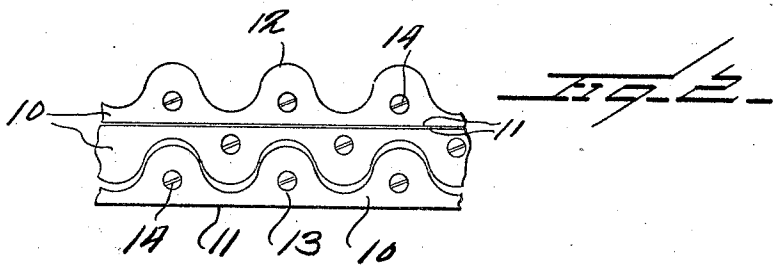


Fig. 2.

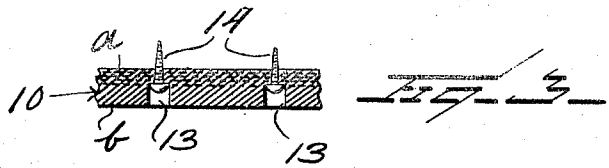


Fig. 3.

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE AND INTERCHANGEABLE RUBBER CUSHION FOR SHOES.

Application filed May 6, 1922. Serial No. 558,934.

This invention relates to shoes, and particularly to resilient cushions to be applied to the heels and soles of shoes.

It is common practice today to apply rubber heels and soles to shoes, but these heels and soles extend normally over the entire surface of the heel or sole and are very heavy and do not give good tractive engagement with the ground. Furthermore, if a greater wear comes on one portion of the sole or heel than another portion of the sole or heel, the result is that the rubber is worn down at this point and becomes very thin, the shoe gets out of shape, and the entire rubber sole or heel has to be removed and replaced. Furthermore, these soles or heels have to be put on by expert workmen.

The general object of my invention is to provide as an article of manufacture a unit which may be applied to any portion of the sole or heel and whose application does not require the assistance of a skilled workman.

Still another object is to provide a strip having a peculiar form and which is made preferably of rubber and vulcanized to an inner layer of fabric, which strip may be sold by the yard, then cut up into suitable lengths and readily applied by anyone to the shoe sole or to the heel and applied wherever the strips are most needed in order to take up wear or cushion the jar.

A further object is to provide a strip of the character stated which is so formed that a number of strips may be placed closely adjacent to each other so as to practically constitute, if desired, a full sole or a full heel, these strips being so shaped, however, as to secure tractive engagement with the ground.

Other objects will appear more fully in the accompanying description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a face view of the sole and heel of a shoe having my improved strips applied thereto;

Figure 2 is a face view of the strip 10 before its application to the shoe;

Figure 3 is a fragmentary sectional view through one of the strips.

Referring to Figure 1, it will be seen that in this figure I have illustrated a shoe sole and heel and have shown my improved cushioning strips applied to the shoe sole and heel. In all of the drawings, 10 designates a strip of combined fabric and rubber. The fabric is designated *a* and the rubber *b*, and the rubber is preferably relatively thick and is vulcanized to the fabric. This composite strip of rubber and fabric preferably has the shape shown in Figure 2, that is it has a straight edge 11 on one side and a corrugated or sinuous edge 12 on the opposite margin. In other words, one edge of the strip is scalloped.

Disposed at uniform intervals along the strip are apertures 13 to receive screws. These apertures are preferably disposed opposite each protuberant portion of the scalloped edge and these apertures will be of any desired diameter, depending upon the size and thickness of the strip. Each of the apertures will be countersunk, as illustrated in Figure 3, for two-thirds of the thickness of the combined rubber and fabric strip so that the head of the screw 14 will be entirely disposed within this countersunk opening.

It is to be understood that these strips 10 will be sold in different widths and different thicknesses. Thus, for instance, if the strip is 3/16″ thick, the holes or apertures 13 will have a diameter of approximately 3/16″ and the greatest width of the strips will be half an inch and the minimum width will be 1/4″. Larger strips will have a thickness of 1/4″, a maximum width of 2/3″, and a minimum width of 1/3″, while still larger strips may have a thickness of 5/16″, a maximum width of 10/12″, and a minimum width of 5/12″.

While in Figure 1 I have illustrated a construction wherein the rubber strips 10 are disposed so as to practically entirely cover the sole and heel of the shoe, I do not wish to be limited to this as obviously the connection strips 10 arranged so that the interdentations of one strip will fit into the interdentations of the parallel portion or length of the strip, might be used over only a portion of the shoe sole or heel.

The strip 10 is so constructed that each succeeding part has an aperture for the passage of the fastening screw and is precisely the same as each preceding part. Thus the strip may be sold to the consumer by the inch, foot or yard and the required length to fit a shoe of any size and shape and may be cut off and used without any material being wasted. Another advantage residing in the use of this strip is that almost invariably some portion of the shoe sole wears

out before another portion, but by the use of this strip portions of the strip may be applied to the sole and so spaced that the portions subjected to the greatest wear will be supplied with proportionately more rubber, thereby preventing, or at least relieving, the ungainly appearance and the injury to shoes caused by what is commonly called "walking over." In other words, a strip applied at one portion of the sole may be thicker than the strip applied to the other portion of the sole if the tendency to walk over is too great, or if one cushioning strip wears out or one portion of the cushioning strip before another strip or another portion, this worn portion can be readily removed and replaced without difficulty or waste.

By vulcanizing fabric to the bottom side of the cushion next to the leather, the cushion is very greatly strengthened, as the fabric being very strong prevents the rubber being stretched, especially that portion of the rubber immediately above the fabric where the screws are to press the rubber and fabric firmly against the sole. The stretching of the rubber is checked and, therefore, the holes occupied by the stem of the screw cannot become distorted or worn, thus insuring a firm hold throughout the entire life of the cushion. If no fabric were used on these cushions, at least one-half of the thickness of the rubber would be required under the heads of the screws to provide a reasonably firm hold. By using fabric, however, one-fourth of the rubber is sufficient to secure the full holding power of the screws, thus adding 50% more to the material to be actually worn out. It will be seen that this strip may be bent to conform to the edge shape of the sole or heel of the shoe and that short or long strips may be readily applied. It will be seen that these cushions may be cut and applied to a shoe by a penknife and screw-driver so that no skilled labor is required. These cushions are comfortable, economical, convenient, protective against dampness and slipping and are adaptable for use with men's, women's or children's shoes.

I claim:—

A shoe having applied to its tread portion strips of rubber vulcanized to a fabric base, each strip having countersunk apertures, said strips having one edge sinuous, the other edge being relatively straight, the sinuous edges of one strip approximately interfitting with the sinuous edges of an adjacent strip.

In testimony whereof I hereunto affix my signature.

MARTIN KARPE.