April 25, 1933. C. R. KEISER 1,905,909

PROCESS OF MANUFACTURING RUBBER SOLES

Filed April 25, 1931

FIG. 1

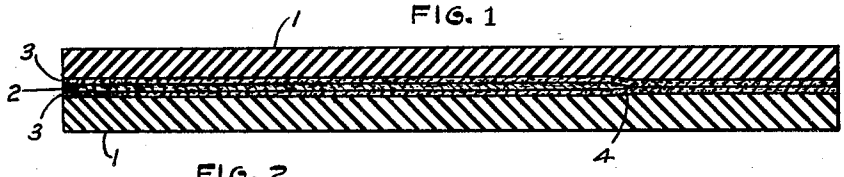


FIG. 2

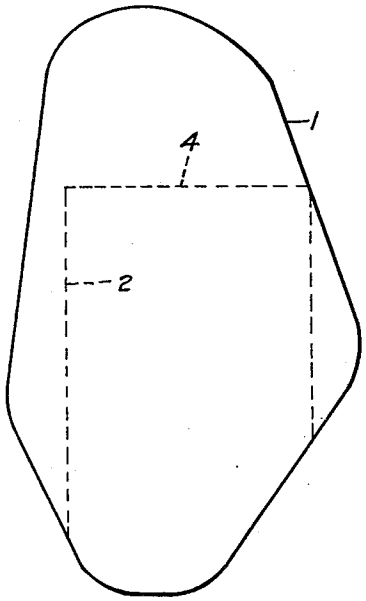


FIG. 3

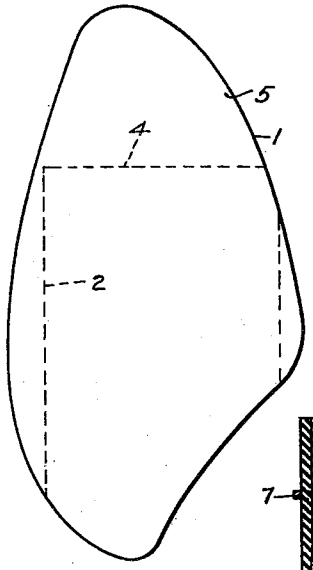


FIG. 5

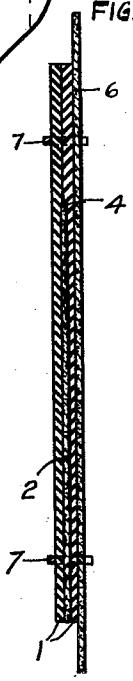
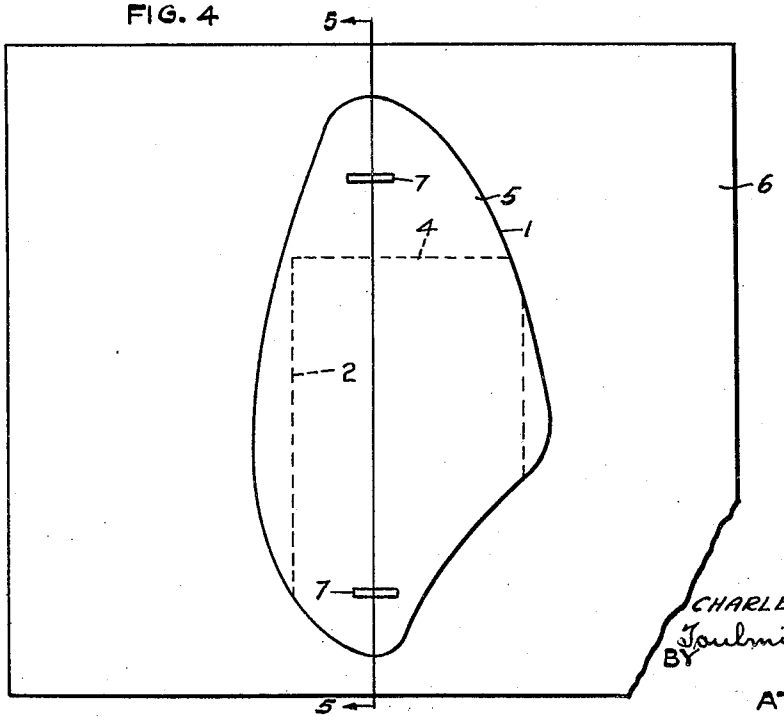


FIG. 4



INVENTOR
CHARLES R. KEISER.
BY Toulmin & Toulmin
ATTORNEYS

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UNITED STATES PATENT OFFICE

CHARLES R. KEISER, OF DAYTON, OHIO, ASSIGNOR TO THE SERTON RUBBER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO

PROCESS OF MANUFACTURING RUBBER SOLES

Application filed April 25, 1931. Serial No. 532,817.

This invention relates to rubber soles and the process of manufacturing them, and has for its object to provide from a pair of sole blanks a pair of finished soles in which the inside faces of the soles are adjacent each other.

It is particularly the object of this invention to provide a process of manufacturing rubber soles in which the blanks are placed one upon the other so that each overlies the other, forming from the assembled blanks finished soles, one for the right foot and the other for the left foot.

It is a further object of this invention to provide a process of making pairs of soles in assembled condition with an intervening strip of paper between the soles so that they may be easily parted for attachment to shoes.

It will be understood that shoe soles are provided with a raw gum backing; that is, a vulcanized rubber surface and a raw gum surface. It is essential to have a protection for the raw gum backing from the air to prevent oxidation because if the raw gum backing is oxidized it will not make a perfect union with the rubber cement that is used to attach the raw gum side of the rubber sole to a shoe sole. By trimming opposed shoe soles, with their raw gum surfaces adhering to one another, I seal the edges of the soles and exclude the air until the soles are used.

I eliminate the cost of holland cloth or other material heretofore used to cover up the raw gum surfaces. I reduce the handling, and the likelihood of improper packing by placing two left soles or two right soles together, or confusing the sizes.

These and other advantages will appear from the following description taken in connection with the drawing, in which there is shown a preferred embodiment of this invention.

Referring to the drawing:

Figure 1 is a section of a pair of soles attached to each other, with an intervening strip of paper.

Figure 2 is a top plan view of blanks from which finished soles are made.

Figure 3 is a top plan view of finished soles.

Figure 4 shows a card supporting one pair of soles.

Figure 5 is a section on the line 5—5 of Figure 4.

This invention relates to the production of shoe soles by pairs from rubber blanks or forms placed one upon the other. In Figure 1 there are shown two blanks 1, with an intervening strip of paper 2 between the blanks. To each blank there is applied a layer of gum 3 or a raw rubber surface adjacent the strip of paper, for holding the blanks to each other and to the strip of paper.

This strip of paper may not extend through the whole length of the blank but may terminate at a point indicated by the numeral 4. The purpose of this strip of paper is to enable the two blanks to be easily separated one from the other after the two blanks thus united have been formed into complete soles. Two blanks, such as shown in Figure 2, are united face to face with the strip of paper 2 between them.

From these blanks thus united one upon the other and held together by means of the gum 3, finished soles are formed, such as shown in Figure 3. The finished soles may be formed by cutting or trimming the edges and forming on the outside faces of the soles, bottoms having diagonally disposed slots therein to produce a wearing surface. The finished sole is indicated by the numeral 5. These soles, after they are finished in groups of pairs, are attached to cardboards, one pair to each card, which is indicated by the numeral 6. Any suitable means may be used for holding the pairs of soles to the card, but in the present instance they are attached thereto by means of rivets or brads or clips 7. When it is desired to apply the soles to shoes they are removed from the card and are separated from each other, beginning at the end having therebetween the strip of paper. By this means the soles are easily supported.

In applying the soles to the soles of shoes the surface of the shoe sole is thoroughly

cleaned and thoroughly dried, after which the soles are applied to the soles of the shoes so there is about one-eighth of an inch of space between the outer edges of the rubber sole and the outer edges of the shoe sole to which the rubber sole is applied.

I desire to comprehend within my invention such modifications as may be embraced within my claims and the scope of my invention.

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

1. In the process of forming rubber soles, forming a pair of sole blanks, placing the blanks one upon the other and causing them to slightly adhere, and forming the assembled blanks into finished soles with each outer surface of the assembled blank forming the wearing surface of a sole.

2. In the process of forming rubber soles, forming a pair of sole blanks and placing one upon the other, and stamping from the assembled blanks a pair of finished soles slightly adhering to each other along their inner surfaces.

3. In the process of forming shoe soles, forming blanks, placing one blank upon another with a strip of paper between them, and forming the assembled blanks into finished soles by shaping the edges and faces of the assembly.

4. In the process of forming rubber soles, forming blanks, placing the blanks one upon another with a strip of paper between them, trimming the edges of the assembled blanks to give the assembly the shape of a left sole on one side and the shape of a right sole on the other side, and stamping the outer surfaces of the assembly to provide wearing surfaces for the soles.

5. In the process of forming rubber soles, forming blanks from which either a right or a left sole may be formed, placing one blank upon another so that each overlies the other, trimming the edges of the assembled blanks to give the assembly the shape of a right sole on one side and the shape of a left sole on the other side, and forming on the outer surfaces of the assembly wearing surfaces for the soles.

6. In the process of forming rubber soles, forming blanks from which either a right or a left sole may be formed, placing one blank upon another with a strip of paper between them so that each blank overlies the other, shaping the assembled blanks into the form of soles, and forming the outer surfaces of the assembly to provide bearing surfaces for the soles.

7. In combination, a pair of shoe soles having adhesive faces adjacent one another and in engagement with one another, a strip of material of lesser size than said shoe soles interposed therebetween extending from one edge thereof to facilitate the separation of said soles, a supporting card for said soles, and mechanical means passing through said soles adapted to attach them to said card in their face to face position.

8. In combination, a pair of shoe soles having vulcanized rubber surfaces and raw gum surfaces, said raw gum surfaces being applied to one another, and the edges of said surfaces squeezed together to exclude air.

9. In a method of packing shoe soles, placing rubber vulcanized shoe soles with raw gum surfaces with their raw gum surfaces adhering to one another, pressing to exclude the air from between the surfaces so adhering, and trimming to a predetermined size and by trimming causing the edges of the trimmed soles to closely adhere to exclude the entrance of air.

In testimony whereof, I affix my signature.

CHARLES R. KEISER.