Oct. 7, 1941.

J. J. SHEEHAN

2,257,864

SURFACING WHEEL

Filed Nov. 10, 1938

Fig. 2.

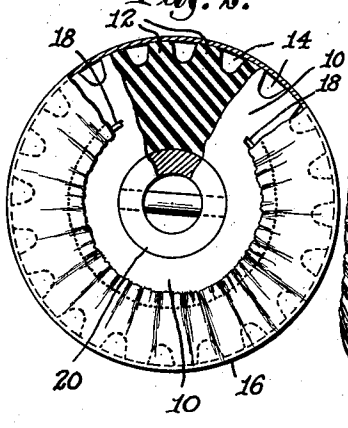
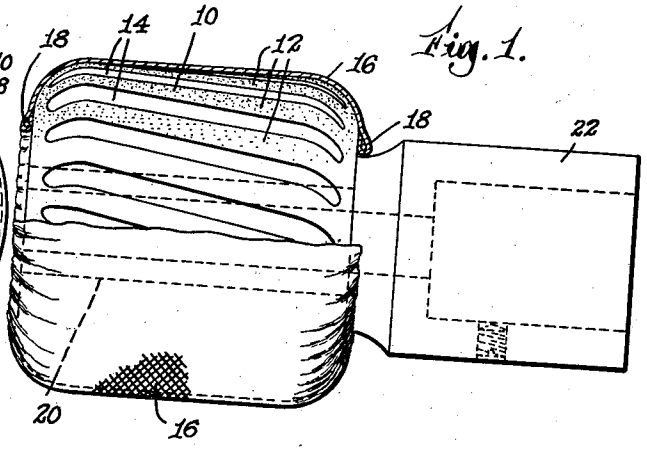


Fig. 1.



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SURFACING WHEEL

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Application November 10, 1938, Serial No. 239,814

2 Claims. (Cl. 12—79.5)

This invention relates to surfacing wheels used more particularly in shoemaking for finishing the exposed edge surfaces of heels. The heel is ordinarily first given an abrading treatment to remove excess material and provide a surface for polishing and this surface is then polished to a glossy finish. The abrading treatment is carried out by bringing the heel surface to be treated into contact with an abrading strip mounted on the periphery of a wheel formed for that purpose, and the polishing treatment is carried out in like manner by bringing said surface into contact with a textile fabric mounted loosely on a similar wheel, polishing wax being applied to the fabric during the treatment. Wheels heretofore used for these surfacing operations have resulted in rapid and excessive wearing out of the polishing fabrics, burning of the surfaces being treated, objectionable settling of the polishings into and between the fabric and wheel, and other deleterious results. The primary object of my invention is the production of an improved surfacing or shoe finishing wheel eliminating these objections and producing superior work more efficiently.

My improved surfacing wheel employs resilient rubber projections or ribs as the backing for the abrading or polishing fabrics and these projections or ribs are preferably constructed in diagonal formation about and integral with an annular cushioning body member also of resilient rubber. It will be apparent that a wheel of this nature provides a resilient and non-continuous backing for the surfacing fabrics and the use of this improved wheel results in an improved product and the elimination of the above enumerated objections. I have found that wheels having the said cushioned ribs extending diagonally across the wheels at a slight angle to the rotary axes are very efficient and that the life of the surfacing fabrics is greatly extended by the use of such wheels.

These and other features of the invention will be best understood and appreciated from the following description of preferred embodiments thereof presented for purposes of illustration and shown in the accompanying drawing, in which,

Fig. 1 is a side elevation of a polishing wheel embodying my invention,

Fig. 2 is an end elevation thereof, partially broken away.

In the drawing, I have illustrated my improved surfacing wheel as embodied in a form for polishing heels or the like. This wheel, as illustrated, comprises an annular body **10** of resilient rubber having integral projections in the form of ribs **12** integral with the periphery of the body. These ribs extend longitudinally of the wheel and preferably relatively angular to the rotary axis, the preferred arrangement being illustrated as having the ribs extending somewhat diagonally of the wheel and each two adjacent ribs as separated by an open groove **14** substantially of the width of a rib. The ribs are of the same radial height and the ends of the wheel will preferably be rounded off whereby better to receive a textile polishing fabric **16** of cotton thereover. This fabric is of tubular form and is provided with draw strings **18** at its ends whereby the fabric can be secured to the wheel.

When polishing heels or the like, wax is applied to the fabric **16** and the surface to be treated is pressed into contact with the fabric backed up by the wheel. The ribs engage and pass over the surface with a resilient rubbing action, this action being progressive along each rib due to the spiral arrangement of the ribs. The wheel is supported on the reduced portion **20** of an arbor **22**.

The efficiency of my improved surfacing wheel and the high character of work performed is due in a large measure to the resilient construction of the wheel. The ribs **12** are integral with and directly supported by a thick resilient rubber body as illustrated in the drawing. The radial thickness of the body from the bottoms of the grooves **14** is substantially greater than the depth of the grooves and, in the preferred construction, the opening which receives the arbor **20** is of a diameter smaller than one half the diameter of the wheel, whereby providing ample resilient body for backing up the ribs and producing the required resilient action. It may also be noted that this construction permits re-cutting of the grooves **14** should such re-cutting be desirable after the ribs **12** have become worn down.

I have found in actual practice that the form of wheel illustrated in the drawing is very satisfactory for all surfacing treatments and, while the rubber portion thereof may be constructed in any suitable manner, I have found that the diagonal ribs can best be formed by grinding or milling the grooves **14** into the rubber body portion of the wheel, the ribs thereby becoming an integral part of such body. The resilient rubber backing for the surfacing fabric provides a cushioning action against the surface being treated and the relatively spaced and diagonally arranged ribs provide a series of cushioning impacts together with a progressive rubbing treat-

ment. This structure and arrangement gives a smoother action, produces better surfaces, eliminates burning of the treated surface heretofore caused by relatively harsh and continuous rubbing contact, saves wear and tear on the surfacing fabrics, and the resilient ribs act to throw off the polishings free from the wheel.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A shoe finishing wheel of the class described, comprising an annular body of resilient rubber having a plurality of resilient rubber ribs integral with the body at and around its periphery and separated by grooves extending into the body, the ribs and grooves extending diagonally across the wheel at a slight angle to the wheel axis and the radial thickness of the body from the bottoms of the grooves being substantially greater than the depth of the grooves whereby providing a relatively thick cushioning mass of rubber resiliently supporting the ribs.

2. The shoe finishing wheel defined in claim 1 in which the ends of the body including the ribs are rounded at the periphery.

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