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ROUGHING GUIDE DEVICE

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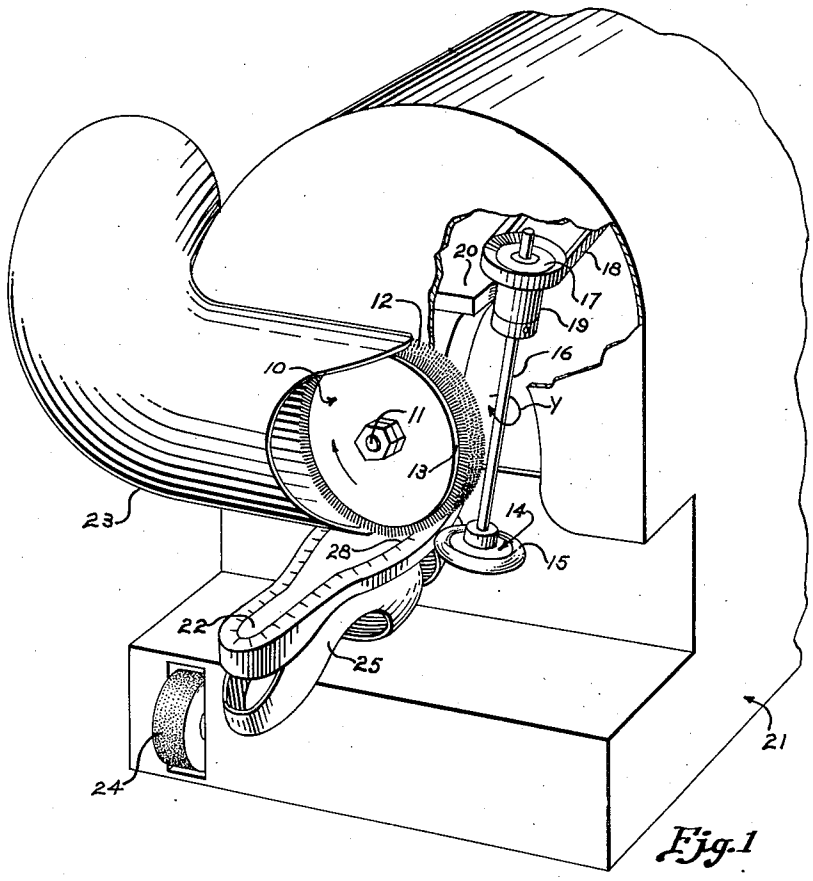


Fig. 1

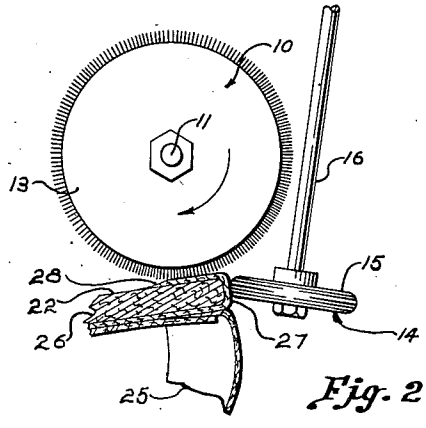


Fig. 2

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ROUGHING GUIDE DEVICE

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2 Claims. (Cl. 69—1)

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This invention relates to a roughing machine and guide device therefor employed in the roughing of the shoe bottom for the application of the final sole thereto by cementing.

In the manufacture of shoes, particularly of the class having a sole, which is cemented to the undersole, it is usual to project the upper leather over the outer surfaces of the shoe bottom by cementing before the application of the final sole.

A conventional operation involves the roughing of the overlapped portions of the upper in order to remove unacceptable irregularities and also to provide a refined surface in the leather facilitating a tenacious bond for the bonding cement which fastens the final sole to the shoe bottom. In employing a conventional wired buffing wheel for such a roughing operation, it is necessary to train the operator sufficiently for him to develop high skill since it is comparatively easy for the shoe to be improperly manipulated in the hands of the operator, whereby the sides of the shoe adjacent the sole are scuffed or otherwise damaged, requiring loss of the shoe or expensive repair procedure.

It is a particular object of the present invention to provide a guide wheel mountable in conjunction with a roughing wheel against which the operator may ride the shoe as the shoe is engaged with the roughing wheel.

Another object of the invention is to provide a device as before, wherein the guide wheel is so positioned that it is impossible for the operator to damage the sides of the shoe if the shoe is kept in engagement with the guide wheel during the roughing operation.

A further object of the invention is to provide a device of this character wherein the guide wheel may be driven a predetermined speed to control the speed of the roughing operation along the shoe, being of particular importance in the roughing of shoes having very fine and thin leather uppers.

With this and other objects in view, the invention generally comprises a device for roughing shoe bottoms in the form of a roughing wheel and a guide wheel positioned adjacent the roughing wheel aligned approximately tangentially in respect thereto and spaced therefrom in accordance with the dimensional characteristics of the article to be roughed.

Other objects of the invention will be appreciated by a study of the following specification taken in conjunction with the accompanying drawings.

In the drawings, Figure 1 is a perspective view

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of a machine showing components thereof incident to the present invention. Figure 2 is a detailed view of the components essential to the invention, illustrating the operation thereof.

Referring to the drawings, a roughing wheel 10 is provided, mounted on a suitable shaft 11 driven by belt drive from a motor (not shown). The roughing wheel 10 may be of any suitable type but is preferably formed of a conventional wire brush 12 retained in its form by the side discs 13. As indicated in Figure 1, a guide wheel is provided which may be in the form of a metal disc 14 having a rubber-like tire 15 thereon, which disc is fastened to the mounting shaft 16 in any suitable manner. A suitable pulley 17 mounts a belt 18 which extends from operative connection to the motor (not shown), serves to drive the shaft 16 in the direction of arrow "y" (Figure 1). The shaft 16 is suitably mounted in a bracket 19 supported by a frame piece 20 in the interior of a housing structure 21. The wheel 10 rotates in a clockwise direction and the material removed from the shoe bottom 22 passes to the dust collector tube 23 which extends to the dust collector unit of any well-known design.

A coarse roughing wheel 24 is preferably provided in the lower shaft portion of the housing 21 for the removal of very coarse irregularities on the sole bottom 22 before the roughing operation. The wheel 24 is driven in any suitable manner from the motor (not shown) in the housing 21.

In operation, the shoe 25 is positioned such that the shoe bottom 26 thereof has its edge 27 positioned against the guide wheel 14 whereby the wheel 10 is positioned to remove small irregularities from the surface 28 and to refine the latter. It will be observed that the shoe bottom 26 illustrated in Figure 2, may be moved about considerably during the roughing operation so long as some portion of the edge 27 thereof is kept in engagement with the guide wheel 14. So long as the operator keeps positive pressure in the direction of the guide wheel 14, there is no danger of the roughing wheel riding over the edge of the shoe bottom and damaging the surfaces 27 thereof. Preferably the guide wheel is driven at a rate of rotation which is about one-sixth of the rate of rotation of the roughing wheel. Satisfactory operation has been experienced with the roughing wheel rotating at 3,000 R. P. M. and the guide wheel at about 500 R. P. M.

Although in the preferred construction, it is desired that the guide wheel 14 be driven, it is

nevertheless contemplated that it merely be free to rotate and this construction involves the invention in its broader aspect. It will, however, be apparent that many modifications can be made in the specific manner of mounting the roughing wheel and the guide wheel without departing from the spirit of this invention. Accordingly, it is desired that this disclosure should not be construed in any limiting sense other than that indicated by the scope of the following claims.

What we claim as our invention is:

1. In a roughing machine for roughing shoe bottoms, the combination of, a roughing wheel having roughing means thereon, a guide wheel, means mounting said guide wheel to align its plane of rotation substantially tangential to the circumferential line of the roughing means on the roughing wheel, and means for rotating said roughing wheel in a direction tending to urge the shoe bottom away from the guide wheel when the edge of the shoe bottom is engaged against the circumference of the guide wheel by an operator.

2. In a roughing machine for roughing shoe bottoms, the combination of, a roughing wheel having roughing means thereon, a guide wheel, means mounting said guide wheel to align its plane of rotation substantially tangential to the

circumferential line of the roughing means on the roughing wheel, means for rotating said roughing wheel in a direction tending to urge the shoe bottom away from the guide wheel when the edge of the shoe bottom is engaged against the circumference of the guide wheel by an operator, and means for driving said guide wheel in a direction tending to move the shoe bottom into engagement with the roughing means of said roughing wheel but rotating the same at a relatively slow speed as compared to the speed of rotation of said roughing wheel.

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