

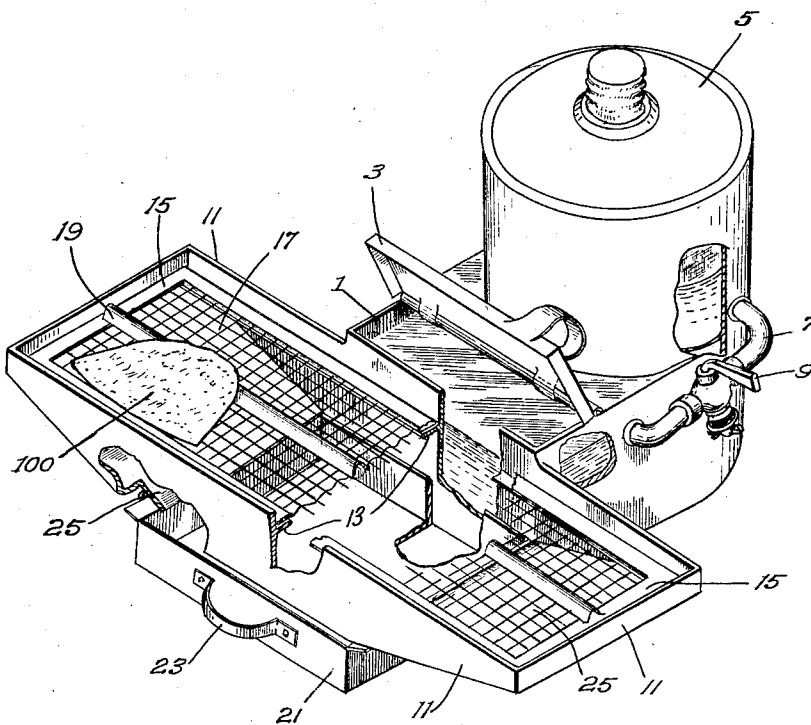
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DEVICE FOR SOFTENING STIFFENERS FOR BOOTS AND SHOES

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DEVICE FOR SOFTENING STIFFENERS FOR BOOTS AND SHOES

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This invention relates to devices for use in softening sheet material and is herein illustrated as embodied in a device for use in softening stiffeners which are to be incorporated in boots and shoes.

In the manufacture of boots and shoes it is common to make use of stiffeners which are normally hard and resilient and must be softened by treatment with a solvent for the stiffening substance prior to incorporating them in a boot or shoe upper and shaping them upon a last during the pulling-over and lasting operations. For example, a toe stiffener which has gone into extensive use consists of a fabric base impregnated with celluloid, the procedure with this stiffener being to dip it into a liquid which contains a solvent for celluloid in order to render it properly limp for the subsequent pulling-over and lasting operations. After the stiffener has been dipped, it should be allowed to stand for an interval—the length of the interval depending upon the degree of porosity of the type of stiffener being used—in order to permit the solvent to work into the stiffener and to permit the surplus solvent to drain away.

An object of the invention is to provide an apparatus which, while simple and inexpensive, will enable the above-described treatment of stiffeners to be carried out conveniently and effectively. In accordance with this object, a feature of the invention consists in the provision of a receptacle for liquid into which a stiffener may be dipped, a closed reservoir connected by a conduit to the receptacle for supplying liquid thereto, and a screen located outside of the reservoir upon which the stiffener may be laid to soften and drain. In the illustrated embodiment of the invention the receptacle is integral with the support which carries the screen, the whole device being adapted to stand upon a bench located close to the pulling-over machine so that the pulling-over machine operator may dip box toes, place them upon the screen and then take them from the screen as needed. The receptacle is preferably a small one so as to avoid excessive evaporation of the solvent, which is commonly very volatile, the reservoir being pro-

vided so connected with the receptacle that the level of the solvent in the receptacle may be maintained substantially uniform. The screen is of a size to hold a small number of box toes, for example, four. In the use of the device the operator dips, one at a time, four box toes and places them in order upon the screen. By the time the fourth box toe has been dipped, the first one has usually become sufficiently soft and the surplus solvent has drained from it. The operator picks up box toe Number 1, incorporates it in an upper and pulls the upper over a last. He then dips another box toe and having put it on the screen in the place formerly occupied by Number 1, picks up Number 2 from the screen. By following this procedure, he is enabled always to have ready a box toe which is in proper temper.

In order to facilitate the picking up by the operator of the box toes, there may be provided means for holding a portion of each box toe above the screen. In the illustrated device this means takes the form of a rib extending lengthwise of the screen upon which a portion of each box toe rests and beyond which a portion of each box toe projects so that the projecting portion may readily be grasped by the operator.

Since the solvent, which is commonly used, is volatile and inflammable, it is desirable that means should be provided for catching that part of it which drains from the stiffeners. Therefore, in accordance with another feature of the invention, there is provided, in combination with the receptacle and the screen, a second receptacle located beneath the screen in position to catch such drained-off solvent. In the illustrated device this second receptacle takes the form of a drawer which may be readily removed from time to time and emptied back into the dipping-receptacle.

These and other features of the invention including certain details of construction and combinations of parts will be described as when embodied in an illustrative device and pointed out in the appended claims.

Referring now to the accompanying drawing,

The figure is a perspective of a device in which the present invention is embodied, certain parts having been broken away.

A receptacle 1 is provided for softening liquid into which the stiffener may be dipped. This receptacle is a comparatively small one and is provided with a hinged cover 3 which may be closed when the device is not being used. Located in the rear of the receptacle 1 is a closed reservoir 5 for a supply of softening liquid, said reservoir being connected with the receptacle by a conduit in the form of a pipe 7. A stop-cock 9 in the pipe provides means whereby the operator may from time to time cause liquid to flow into the receptacle 1 so as to maintain the level of liquid in the receptacle substantially uniform. A support 11 for a screen and certain other parts is integral with the receptacle 1. This support is rectangular in outline and has near its top a ledge 13 upon which rests the frame 15 of the screen 17. As shown in the drawings, the screen 17 is located at substantially the level of the top of the receptacle 1, thereby permitting the stiffeners to be deposited upon the screen with a minimum of movement. Extending lengthwise of the screen is a rib 19, the ends of which are fastened to the ends of the frame 15 of the screen. The liquid which drains through the screen is received in a receptacle in the form of a drawer 21, said drawer being slidably mounted in the screen support 11 and having a handle 23. The length of the drawer is slightly greater than the width of the screen but the width of the drawer is considerably less than the length of the screen. In order to ensure that all the liquid which drains from the box toes, one of which is shown at 100, shall reach the drawer 21, drain-plates 25, extend respectively downward from localities beneath the ends of the screen to the drawer.

In the use of the device, the operator dips one by one a series of box toes and lays them in order upon the screen in the manner shown in the figure so that their ends project over the rib 19. After he has thus completed a row of box toes, the first box toe which was placed on the screen is usually in proper temper. He now picks up box toe Number 1, places it in a shoe upper, and pulls the upper over the last. He then dips a second box toe, puts it in the place which Number 1 formerly occupied and picks up box toe Number 2. By carrying out this procedure, the pulling-over operator is enabled to have at all times a box-toe in proper temper to be placed in an upper.

Although the invention has been set forth as embodied in a particular device, it should be understood that the invention is not limited in the scope of its application to the particular device which has been shown and described.

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

1. A device for softening stiffeners having in combination a receptacle for softening liquid into which a stiffener may be dipped, a screen carried by the receptacle upon which the stiffener may be placed to drain, and a second receptacle located beneath the screen in position to catch the liquid which drains from the stiffener.

2. A device for softening stiffeners having in combination a receptacle for softening liquid into which a stiffener may be dipped, a closed reservoir for a supply of said liquid, a conduit leading from the reservoir to the receptacle, and a screen upon which the stiffener, after having been dipped, may be placed to drain, said screen being located outside of said reservoir.

3. A device for softening stiffeners having in combination a receptacle for softening liquid into which a stiffener may be dipped, a reservoir for a supply of said liquid, a conduit leading from the reservoir to the receptacle, a screen upon which the stiffener, after having been dipped, may be placed to drain, and a second receptacle located beneath the screen in position to catch the liquid which drains from the stiffener.

4. A device for softening stiffeners having in combination a receptacle for softening liquid into which a stiffener may be dipped, a reservoir for a supply of said liquid, a conduit leading from the reservoir to the receptacle, a screen upon which the stiffener, after having been dipped, may be placed to drain, a second receptacle located beneath the screen in position to catch the liquid which drains from the stiffener, and means for directing the drained liquid into said second receptacle.

In testimony whereof I have signed my name to this specification.

HAROLD L. SAWYER.