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SHOE LASTING MACHINE HAVING ADHESIVE APPLYING MEANS

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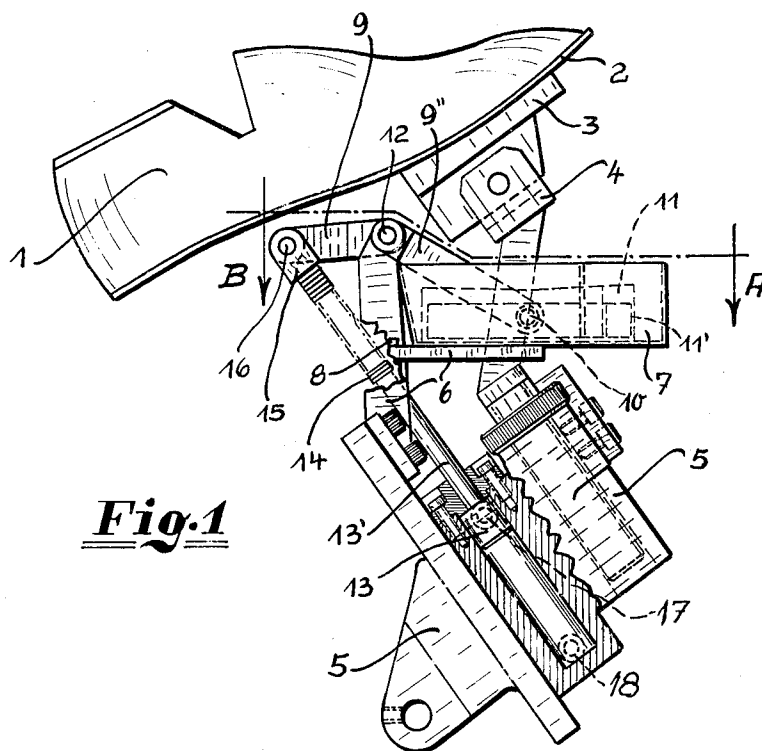


Fig. 1

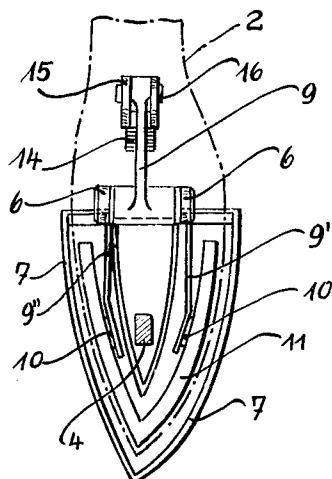


Fig. 2

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SHOE LASTING MACHINE HAVING ADHESIVE APPLYING MEANS

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Sch 34,121

4 Claims. (Cl. 12—7)

The invention relates to shoe-lasting machines and is particularly concerned with an apparatus for applying an adhesive to a shoe sole while supported on a last.

It is conventional practice to apply adhesive to the underside of a shoe upper assembly while supported on a last, before placing it in the lasting machine, whereby, after introduction into the machine, adhesion is brought about by pressing a sole onto the adhesived upper, heat being applied to activate the adhesive if necessary.

Shoe lasting machines are known in which the adhesive is sprayed by means of nozzles adapted to direct the adhesive onto the underside of a sole supported on a last. In this case the nozzles are so arranged that a marginal area adjacent the edge of the front end of the sole is provided with a film of adhesive of a suitable width. In a shoe lasting machine which operates on a shoe having its sole turned upwards, the application of the adhesive has been effected by means of a spray gun which is moved by hand. However, in such a lasting machine where the shoe sole is turned downwards difficulties arise when spraying the adhesive, because the upwardly directed openings of the nozzle become quickly clogged by the hardening adhesive and moreover the surrounding parts of the machine soon become covered by adhesive.

The object of this invention is to avoid these drawbacks.

Accordingly, the present invention provides for a shoe lasting machine an apparatus for applying adhesive to a sole which is secured on a shoe last, said sole being directed downwardly either vertically or obliquely, said apparatus comprising an open-top container for adhesive, a form piece approximately corresponding to the shape of the sole, and means adapted to move said form piece carrying a charge of adhesive picked up from the supply thereof in the container out of said container and to press it against the sole secured to the last. Both the container and the form piece may be of horseshoe shape.

In a preferred arrangement the means for moving said form piece is a linkage on which the form piece is pivotally mounted, an operating rod attached to said linkage being adapted for imparting swinging movement to said linkage to move the form piece from a rest position within the container and a position in which it contacts with said sole to transfer thereto the charge of adhesive collected from the container. Conveniently the said operating rod is the rod of a piston forming part of a cylinder unit wherein pressure fluid effects sliding of the piston to move the rod to and fro.

An embodiment of the invention will now be more particularly described with reference to the accompanying drawings, wherein:

FIGURE 1 is a side view of the embodiment of the invention, and

FIGURE 2 is a cross section along line A-B of FIGURE 1; for clearness some of the component parts are omitted in this figure.

The accompanying drawings illustrate only such parts of a shoe lasting machine as are necessary for an understanding of the invention.

The shoe last 1 with an insole 2 affixed thereto in suitable known manner lies with its forepart opposite the front portion on a last base 3, which is mounted on an

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adjustable support 4. The support 4 is carried and held in a bearing bracket 5 which is a part of the existing shoe lasting machine. A trestle 6 is secured to the bearing bracket 5, extends towards the last 1 and has secured thereto by means of screws 8 an open-top container 7 so constructed that the support 4 can pass therethrough.

The container 7 is adapted to be filled with fluid adhesive, and is preferably provided with a suitable heating device in order that a thermoplastic adhesive may be used. On the trestle 6 is mounted a linkage comprising lever 9 and extending arms 9' and 9'', which latter are connected by pivots 10 to a form piece or applicator 11 which corresponds substantially to the shape of the forepart of the sole, being preferably of horseshoe shape; the container 7 is also of horseshoe shape to allow free movement of the support 4. The form piece 11 may be made of metal, plastic or other suitable material, and in the illustrated embodiment consists of a strip of cellular rubber recessed into a metal frame 11'. The lever 9 is pivotable about a pivot 12 carried by said trestle 6 and is adapted to be moved by means of the piston 13 of a cylinder unit through a piston rod 13'. A draft or buffer spring 14 encircles the rod 13' and presses against a fork 15 connected by a pivot pin 16 to the lever 9. The cylinder unit containing the slidable piston 13 has an inlet 17 and an outlet 18 connected in suitable manner to a source of pressure fluid. Control means for supplying pressure fluid at appropriate times to the cylinder unit are of conventional form and are not shown.

The appliance is operated as follows:

After placing the last 1 on the last base 3, a shoe upper on the last (not shown) is pulled over by pincers (not shown) in conventional manner, and oil under pressure is then fed to the cylinder unit through inlet 17 so that the piston 13 is moved downwards and thus swings lever 9 about the pivot 12, the motion being transmitted through piston rod 13', spring 14, fork 15 and pivot pin 16. The form piece 11 is thereby pressed against the sole 2, swinging on pivot points 10 as it moves upward, so that a charge of adhesive on the form piece 11 is transferred to the sole 2. By reversing the flow of pressure oil, the piston 13 moves upwards again and this causes the form piece 11 to be retracted into the supply of adhesive in the container 7.

For cleaning purposes the lever 9 with the form piece 11 can be easily removed after detaching the pivot pins 12 and 16. The container 7 can also be removed for cleaning after detaching the screws 8. The pivots 10 are so designed that by simply pressing the lever arms 9' and 9'' together, the form piece 11 can be extracted and replaced; for this purpose the lever arms 9' and 9'' are preferably made of spring steel.

Instead of using the above described attachment it is also possible to press the form piece against the sole manually, for instance, by means of a swingable lever.

We claim:

1. In a shoe lasting machine, the provision of apparatus for applying adhesive to a sole which is secured face down on a shoe last, said apparatus comprising an open-top container for adhesive, a form piece approximately corresponding to the shape of the sole, and means adapted to move said form piece carrying a charge of adhesive picked up from the supply thereof in the container out of said container and to press it against the sole secured to the last, said means for moving said form piece comprising a linkage on which the form piece is pivotally mounted, and an operating rod attached to said linkage and adapted for imparting swinging movement to said linkage to move the form piece between a rest position within the container and a position in which it contacts said sole to transfer thereto the charge of adhesive collected from the container, said linkage comprising a lever

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to which said form piece is detachably connected, and arms extending from the lever, said arms being constructed of spring steel so that the linkage can be removed from said form by merely pressing the arms together.

2. Apparatus according to claim 1 wherein said means for moving said form piece comprises a cylinder and a piston slidable in said cylinder under the action of pressure fluid which can be supplied to and withdrawn from the cylinder, said operating rod being coupled to the piston for movement therewith.

3. Apparatus according to claim 1, in which both the container and the form piece are substantially of horse-shoe shape.

4. In a shoe lasting machine, the provision of apparatus for applying adhesive to a sole which is secured face down on a shoe last, said apparatus comprising an open top container for adhesive, a form piece adapted to be supported within the container, said form piece and container having corresponding horseshoe shapes, means

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coupled to said form piece to move the same and adhesive therewith from the container to a position in which the form piece is pressed against the sole secured to the last, the latter said means passing through the open top of the container and engaging the form piece to raise and lower the same, and support means supporting said last and including a support member which freely passes through the container and is surrounded by the form piece and container.

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