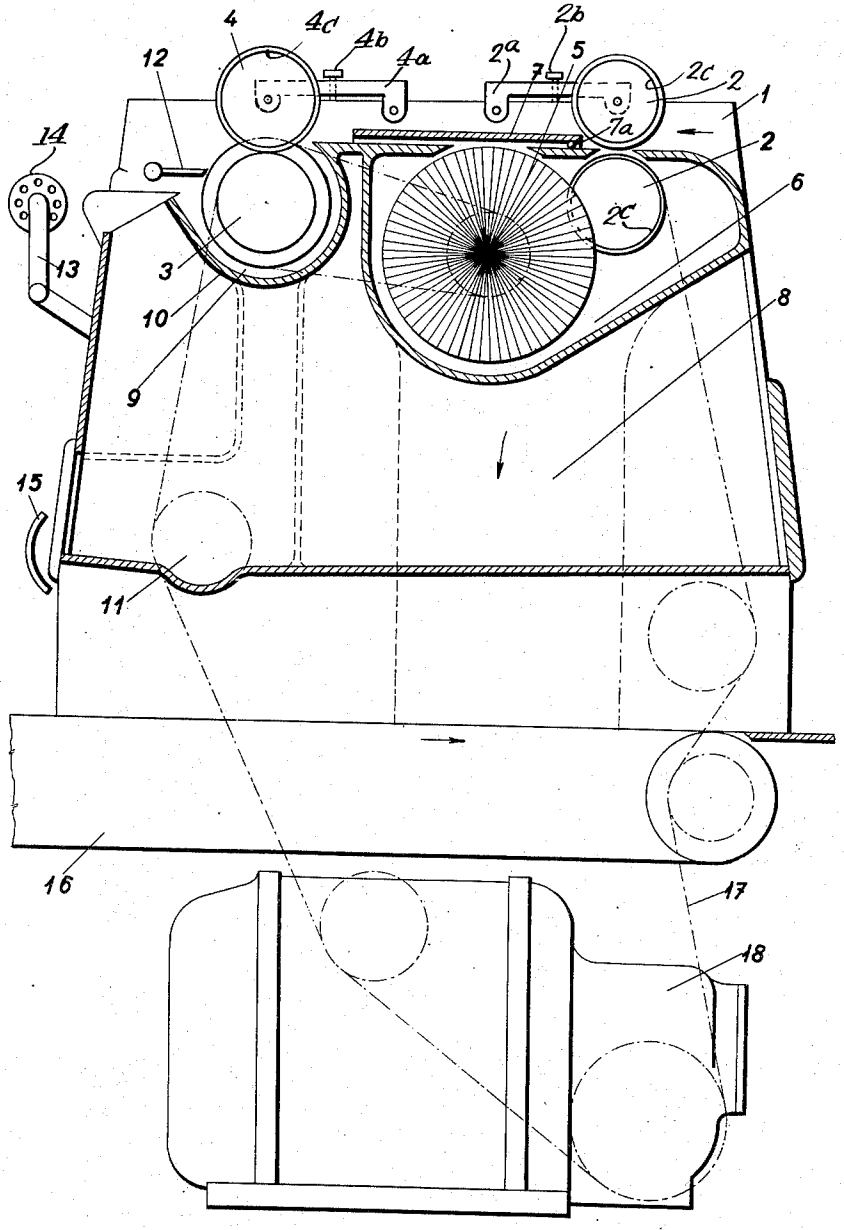
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APPARATUS FOR THE APPLICATION OF ADHESIVES AND THE LIKE

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APPARATUS FOR THE APPLICATION OF ADHESIVES AND THE LIKE

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This invention relates to an apparatus for applying adhesive, and in particular rubber cement or similar adhesives, to various articles, such as rubber insoles, soles and the like for footwear.

In adhesive-applying apparatus difficulty is frequently experienced in applying the adhesive to the desired surfaces in a uniform manner, due to insufficient preparation of the surfaces. In the case of rubber articles in particular it is necessary to ensure that talcum present on the surfaces shall be removed prior to applying the adhesive, since otherwise the desired uniform application will not be achieved.

An object of this invention is to provide an adhesive-applying apparatus capable also of effectively cleaning the articles to be treated.

Another object is to provide such an apparatus in which the treated articles are returned towards the feeding position.

The above and other objects of the invention will now be described with reference to the accompanying drawing, wherein an apparatus according to the present invention is diagrammatically illustrated in elevation and partially in longitudinal section.

Referring to the drawing, the apparatus comprises a casing 1 having therein one or more pairs of feed rollers 2 suitably grooved, for example circumferentially as shown at 2c, the top rollers being hinged as by an arm 2a, and adjustable as by screw 2b in accordance with the thickness of the material to be fed and to be coated with adhesive. In the same plane, beyond the feed rollers in the direction of travel through the machine, one or several fixedly supported adhesive applying rollers 3 are arranged, over which are hingedly mounted, for example as by arms 4a, pressure rollers 4, the surfaces of which are also suitably grooved for example circumferentially as shown at 4c.

The distance between the application rollers 3 and the pressure rollers 4 may be controlled in a manner similar to the feed rollers, as shown at 4b.

Between the feed rollers and the application rollers a rotary brush 5 is supported within a suitably arranged cavity 6 in the casing 1, said brush being arranged at such a depth, that the circumference thereof cuts or touches the feed plane of the material being treated. The brush is also adjustable in a vertical plane.

Above the brush 5 a horizontal thrust and guide plate 7 is hinged as shown at 7a so as to be capable of being pivoted away from the brush for the purpose of permitting cleaning of the brush to be conveniently effected. The said plate is arranged so that when the brush is suitably adjusted the material fed to the device is pressed upon the brush. Since the brush 5 revolves in the same direction as the feed and application rollers, but at a higher speed, it assists the transport of the material fed towards the application roller and at the same time wipes the excess of talcum therefrom.

The talcum removed is sucked off both from the brush 5 and from the cavity 6 in the direction of the arrow through the outlet 8 into an exhauster provided, for example, in the stand of the machine.

The material fed, and prepared by the brush, is provided with a layer of adhesive by the application roller 3. For this purpose the application roller 3, dipping into a bath 9 of "cement" or other adhesive, is rotated, whereby its surface, which is adapted for the purpose, takes up small quantities of adhesive from the bath. As the material passes through between the roller 3 and the roller 4, the uniformly divided layer of rubber, "cement" or other adhesive is transmitted on to the material fed. The transport of the rubber, cement or other adhesive into the receiver 10 of the bath is effected by means of a pump, for example a worm pump arranged on the axis 11. The removal of the material provided with the adhesive layer is effected by collecting fingers 12. These fingers may be angularly displaced away from the application roller either individually or all together. Behind the discharge fingers 12 there is a light turning roller 14 supported freely on two hinged arms, one of which is shown at 13, said roller 14 being made, for example, of two light side portions interconnected by steel wires in parallel relation to the axis of the roller. The roller 14 is supported between bearing pins or the like in such manner that it may be very easily turned.

The material provided with an adhesive layer, on its passage over the turning roller 14, is pushed over a glideway 15 on to a movable conveyor 16, which latter transports the product back to the operator's stance, in direction of the arrow, with the treated side uppermost.

The drive of all turning parts, rollers and conveyor, with the exception of the turning roller 14 which is rotated only by the engagement therewith of the material fed, is effected, for example by a chain transmission 17, the drive being derived from an electric motor 18 suitably placed on the frame or the like of the apparatus.

Preferably the above described device is used for progressively pasting the topmost layer of a number of layers to be stuck together. Thus, for example, when providing an insole with a base layer, first of all the insole is pasted, whereupon it is transported on the conveyor belt 16 to the point of its initial admission to the pasting apparatus; then the pasted layer is laid with the base layer and the two are passed through the apparatus, thus sticking on the top side of the base layer.

The embodiment of the invention illustrated in the accompanying drawing and explained in the description represents only one of the many possible constructional embodiments and does not preclude any modifications in details of the design within the scope of the present invention.

I claim:

1. In an apparatus for the application of adhesives and the like to articles, for example rubber insoles or soles, means for feeding the articles forward and applying adhesive thereto, and a cleaning device arranged to act on said articles prior to the application of the adhesive, said cleaning device comprising a rotary brush operating upon the articles as they pass to the point at which adhesive is applied, and a thrust plate arranged to bear upon said articles and maintain them in engagement with the brush.

2. An apparatus for the application of adhesives and the like to articles, for example rubber insoles or soles, as claimed in claim 1, wherein the thrust plate is pivotally mounted to permit access to the brush.

3. In an apparatus for the application of adhesives and the like to articles, for example rubber insoles or soles, a system of feed rollers and of adhesive-applying rollers spaced from one another, a cleaning device arranged between said roller systems, said cleaning device comprising a rotary brush operating upon the articles as they pass to the point at which adhesive is applied, and a thrust plate arranged to bear upon said articles and maintain them in engagement with the brush, and means for conveying the articles back to the feeding end of the apparatus after the adhesive has been applied.

4. An apparatus for the application of adhesives and the like to articles, for example rubber insoles or soles as claimed in claim 3, wherein the thrust plate is pivotally mounted to permit access to the brush.

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