UNITED STATES PATENT OFFICE.

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WELT-CEMENTING MACHINE.


Application filed November 6, 1899. Serial No. 785,940. No model.

To all whom it may concern:

Be it known that I, JOHN B. HADAWAY, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Welt-Cementing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to machines for manufacturing reinforced wets, such wets comprising a leather body portion with a strengthening-strip of some suitable reinforcing material, such as canvas or other suitable material, cemented to the under surface of the leather body portion, such reinforcing-strip being usually somewhat narrower than the leather body portion and secured along the edge of such body portion which receives the stitches of the inseam.

The object of the present invention is to produce a machine for applying the cement or other adhesive material to the under surface of the welt, to thus prepare the welt for receiving the strip of reinforcing material.

Another object of the present invention is to produce a machine which is adapted to apply the cement to the under surface of the welt along its inner edge, leaving a portion of the welt or its outer edge free from cement.

To the above end the present invention consists of the devices and combinations of devices which will be hereinafter described and claimed.

The present invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a front elevation of a machine embodying the invention. Fig. 2 shows the machine in broken side elevation looking at the right of Fig. 1. Fig. 3 illustrates the machine in top plan view. Figs. 4 and 5 show a modification of the welt-support, to be hereinafter described; and Fig. 6 shows the stripper removed, with the welt in cross-section.

Similar reference characters will be used throughout the specification and drawings to designate corresponding parts of the machine.

The present invention comprises a suitable receptacle or tank 1 for containing the cement or other adhesive material, and this tank in the machine of the drawings comprises a substantially rectangular casting open at its top and preferably provided at its base with projecting lugs 2, in which are formed apertures 3 for receiving screws or other means for fastening the tank securely to a work-bench or other support.

The sides of the tank 1 are provided along their upper edges with suitable bearings 4, in which is mounted a shaft 5, supporting a cement-applying wheel 6, which is secured to said shaft by a set-screw 7, passing through the hub of the wheel and engaging the shaft 5, or such wheel may be secured to the shaft in any other suitable or convenient manner. The wheel 6 as it revolves in the tank 1 will take therefrom sufficient cement and apply it to the under surface of the welt 8 as such welt is drawn through the machine, that portion of the edge of the welt 8 which is designed to receive the cement resting on the surface of the wheel 6, as shown in the drawings, and in the case of a grooved welt, such as shown in the drawings, the wheel 6 will be provided with a bead or rib 71, designed to take into the groove of the welt and apply cement in said groove. In order to support that portion of the welt which does not engage the periphery of the wheel 6, there is provided a suitable welt-support, which is carried by a bracket 8, adjustably secured by means of a set-screw 9, which passes through a slot 10 in said bracket to one side of the tank 1, and the bracket 8 extends upwardly and is preferably curved, as shown, to bring its upper end or the bearing 11, formed in said upper end, in vertical alinement with the shaft 5 of the wheel 6, (see Fig. 2 of the 90 drawings,) and said bracket 8 is further preferably inclined inwardly, as shown in Fig. 1 of the drawings. In the bearing 11 of the bracket 8 is supported a substantially cylindrical rod or shaft 12, which extends inwardly 95 over the tank 1 and the wheel 6 therein, as shown clearly in Fig. 1 of the drawings.

Adjustably mounted on the rod 12 by means of a split sleeve 13 and a set-screw 14 is the welt-support, consisting of the vertical arm 15, which at its lower end carries a curved arm 16, the curve of which is substantially
concentric with the periphery of the wheel 6, and, as shown in the drawings, the arm 13 is provided with inwardly-projecting headed studs 17, secured thereto by nuts 18, and upon which studs are mounted rolls 19, the arm 15 being positioned on the shaft 12 so that the inner ends of the rolls 19 are closely adjacent to one side of the wheel 6, and the bracket 8 being adjusted vertically so that the peripheral edges of the rolls will be substantially coincident with the periphery of the wheel 6, the arrangement being such that as the welt w is drawn through the machine that portion of the welt which is not supported by the wheel 6 will ride upon and be supported by the rolls 19, all as clearly indicated in Figs. 1 and 3 of the drawings.

The welt w, which is usually made in lengths of twenty-five yards or more, is led into the machine with the under surface or grooved surface turned downward, so as to contact with the periphery of the wheel 6, and such wheel is first passed under a guide-roll 20, provided with adjustable collars 21, mounted on a shaft 22, supported in bearings in brackets or standards 23, rising vertically from one end of the tank 1, and thereafter the welt is carried over the periphery of the wheel 6 and over the supporting-rolls 19, and then under a guide-roll 24, provided with adjustable collars 25, mounted on the shaft 26, supported in bearings 27, formed in the sides of the drip-trough 28, which is formed integrally with the tank 1 at its forward end and leads back into such tank, as clearly shown in Fig. 2 of the drawings.

Supported adjacent to the guide-roll 24 is a stripper 29, having its end projected to engage the cemented surface of the welt w as it is drawn from the machine to remove therefrom any surplus cement, which then falls into the drip-trough 28 and is conducted back into the tank 1. The stripper 29 is formed integrally with a carrier 30, which is pivotally supported on the pointed studs 31, which engage recesses in the ends of the carrier 30, and which studs are tapped into threaded bearings 32 in the sides of the drip-trough 28. The stripper 29 is provided with a rib 291 to enter the groove of the welt. (See Fig. 2 in dotted line and Fig. 6 in full line.)

In order to maintain the stripper 29 yieldingly in engagement with the cemented surface of the welt w, there is provided a coiled spring 33, one end of which engages a screw 34, projected from the carrier 30 of the stripper, and the other end of which engages an adjusting-screw 35, which passes through an aperture 36 in a bracket 37 and which is screw-threaded, as shown, and is engaged below the bracket 37 by a thumb-nut 38, whereby the tension of the spring 33 may be adjusted to hold the stripper 29 with more or less force against the cemented surface of the welt w.

The foregoing arrangement is such that as the welt w is drawn through the machine, as indicated in the drawings, the wheel will turn the wheel 6 and cause such wheel to apply to the grooved surface thereof a coating of cement, the passage of the welt through the machine being as indicated by the arrows in Fig. 2 of the drawings, and as said welt is drawn through the machine it may be either led to a machine which applies the reinforcing-strip to the cemented surface thereof or wound about a reel or other suitable device and left for a sufficient length of time to enable the coating of cement to become sufficiently tacky before applying the reinforcing material thereto.

In order to maintain the welt in proper position as it passes over the cemented roll and the supporting-rolls, there are provided suitable guides which are arranged to engage the opposite edges of the welt as it passes through the machine. These guides consist of thin curved plates 39, the under edges of which are substantially concentric with the periphery of the wheel 6, and they are each formed with split bearings 40, by means of which they may be adjustably mounted by set-screws 41 on the rod 12, the guides being so positioned that they will engage the opposite edges of the welt, as clearly shown in Figs. 1 and 3 of the drawings, and maintain such welt in proper position on the cementing-wheel and supporting-rolls as it passes through the machine, and by adjusting such guides along the rod 12 they may be positioned for webs of varying width or to cause more or less of the inner edge of the welt to project over the periphery of the cementing-wheel 6.

In Figs. 4 and 5 of the drawings I have illustrated a modification of the welt-support for supporting the outer edge of the welt, and instead of employing supporting-rolls, as in the construction just described, this support consists of a curved plate 42, which projects laterally from its arm 43, which arm is provided with a split bearing 44 and secured to the rod 12 by screws 45, as indicated in the construction hitherto described. When this support is used, it is so positioned on the rod 12 that the outer edge of the curved plate 42 will be closely adjacent to one side of the wheel 6, with the upper surface of such guide substantially in the plane of the periphery of the cementing-wheel.

Having thus described the construction and mode of operation of my invention, I claim as new and desire to secure by Letters Patent of the United States—

1. A welt-cementing machine, the combination with a cement-receptacle, of a cementing device supported thereby and adjustable guides for guiding the welt, whereby cement may be applied to more or less of the welt, substantially as described.

2. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing device and guides for guiding the welt whereby cement may be applied to less than the entire width of the welt, substantially as described.
3. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing device for applying cement to the welt and a welt-support located adjacent to the cementing device for supporting that portion of the welt unsupported by the cementing device, substantially as described.

4. In a welt-cementing machine, the combination with a cement-receptacle of a cementing-wheel mounted in said receptacle, and adjustable guide-rolls located on opposite sides of the cementing-wheel with their axes beneath the periphery thereof and arranged to guide the welt and to hold it in contact with the cementing-wheel to apply cement to more or less of the welt, substantially as described.

5. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing-wheel mounted therein and means for guiding and holding the welt relatively adjustable with respect to the cementing-wheel for applying cement to more or less of the welt, substantially as described.

6. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing-wheel, a welt-support located adjacent to the cementing-wheel having its supporting-surface concentric with the periphery of the wheel, and suitable guides for positioning the wheel so that a portion thereof will overlap the periphery of the cementing-wheel, substantially as described.

7. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing device mounted therein, said device being provided with a bead or rib to engage the groove of a grooved welt and apply cement thereto, substantially as described.

8. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing-wheel mounted in said receptacle, and a supporting-roll located at the side of the wheel and arranged to support one edge of the welt, substantially as described.

9. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing-wheel mounted therein, suitable guides for guiding the welt, and a supporting-plate for supporting the welt having the same radius of curvature as the cementing-wheel and located adjacent thereto, substantially as described.

10. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing device supported therein, a welt-support located adjacent to the cementing device and adjustable with relation thereto and suitable guides and means for adjusting said guides for varying widths of welt and to position the welt with relation to the cementing device, substantially as described.

11. In a welt-cementing machine, the combination with a cementing device for applying cement to the grooved surface of a welt, of a stripper having a projection to enter and remove the surplus cement from such groove, substantially as described.

12. In a welt-cementing machine, the combination with a cement-receptacle, of a cementing-wheel mounted to turn freely therein, welt-supporting rolls located upon one side of the cementing-wheel and arranged in a curved line coincident with the periphery of the cementing-wheel, and guide and tension rolls mounted upon opposite sides of the axis of the cementing-wheel parallel with said wheel and below the periphery thereof, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. HADAWAY.

Witnesses:

T. HART ANDERSON,
A. E. WHITE.