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HAT BLOCKING AND STRETCHING MACHINE

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Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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This invention relates to hat blocking machines in which all of the stretching and blocking operations on the hat body are performed by instrumentalties thereof.

The blocking of hats, as at present performed, is an arduous and tiring operation. Even with a powered blocking machine, operators, in teams of two, are necessary to carry out the desired operations. Pre-stretching, entirely by hand, must be done before a hat body is placed in a blocking machine and after the body is clamped between the blocks, manual pull on the brim thereof, by both operators, is a necessary function.

Attempts have been made to provide a machine having brim gripping means to impart stretch to the hat body during the blocking operation, but these have been faulty in that the blocks had no compensating movement so that the stretch, instead of being imparted to the entire hat body, was confined to certain points thereof to cause tears, and rips in the body.

Recognizing the above faults, the present invention seeks to provide a machine in which a hat body may first be stretched, to obviate hand labor, and then, while in stretched condition, to be blocked with block means having compensating movement so that the body is uniformly stretched to obviate rips therein.

The invention also contemplates a particular association between the brim-gripping or clamping means and the blocks so that definite marking on the body of the headsize line and the finished brim size line is had.

The invention also incorporates novel features of design of crown block, brim rings, mounts thereon, etc.

The foregoing and other objects, features and advantages of the invention may be more clearly evident from the following detailed disclosure which has basis on the drawings typifying forms of the invention as at present conceived.

In the drawings:
Fig. 1 is an elevational view, partly in vertical section, of a machine incorporating features of the invention.

Fig. 2 is a similar view of the operating parts of an alternate form of the invention.

Figs. 3, 4, and 5 illustrate in semi-diagrammatic manner the stages of operation of the form of the machine shown in Fig. 2.

In that embodiment of the invention which is depicted in Fig. 1, a bowl 10 is equipped with a plurality of brim grippers 11 circularly arranged therein. The bowl is suitably mounted on a support and the grippers operated as by a hand lever or foot pedal. These latter parts are not illustrated, and may comprise, together with the bowl and grippers, a machine known as the Marvin Blocker.

In the instant case, the bowl serves to mount a bracket 12 having a goose-neck portion 13 which is vertically bored along the axis of the bowl for movement therethrough of a stem 14, the latter removably mounting an adapter 15 which carries a brim ring 16.

The stem 14 may be moved up or down as by means of a handle 17 fixed with a pinion 18 having engagement with a rack 19 carried by the stem. Thus, the brim ring 16 may be moved in a direction towards and away from the bowl 16.

This movement of the stem, and thus of the brim ring, may be limited as by means of a collar 20 which may be clamped to said stem to form an abutment against the bracket portion 13 to limit the downward movement of the stem. Spring, or other counterweight means may be provided for raising the stem from its low position.

When the brim ring is in its low operating position as will be hereinafter described, and in order to obviate holding it in that position by continued grasp on the handle 17, a dog 21 pivotally carried by the collar 20 has hooking engagement with a lug 22 formed on the bracket portion 13 to hold the stem depressed against the counterweighting means. Means such as the spring 23 may be employed for holding the dog in hooking position until released by a push on the tail 24 thereof.

The machine is provided with a replaceable crown block 25 which is mounted upon a tubular member 28 arranged for vertical slider movement in a casing 27 supported upon the bed 28 of the bowl 10. The portion of the tube 26 which is disposed within said casing, is preferably provided with a shiftable abutment collar 29 for engagement with the top of a compression spring 30 seated in the casing. In this manner the block 25 is supported for vertical downward movement against the force of the spring 30.

Normally, the spring 30 urges the block 25 to a position above the grippers 11 but not in interfering relation to a hat body being stretched by said grippers. But when the brim ring is moved down to engage said body between the block and itself, the conical condition of the body is changed to an inverted conical condition as clearly shown in the drawings.
When a hat body is to be blocked, the brim ring is raised by unlatching the dog 21 and a body placed into the machine by clamping the brim thereof in the grippers 11. The grippers are then moved outwardly to stretch the body, steam being supplied to the interior of the bowl 10, as for instance, through the pipe 31 and the openings 32 in the tube 28. When the body has been sufficiently stretched, the handle 17 is manipulated to depress the brim ring 16 which presses the body firmly and closely about the block 25 which is simultaneously depressed against the force of the spring 30. It will be noted that there is no actual clamping of the body between the brim ring and the crown block until the last portion of said downward movement of the parts. Thus, the possibility of tearing the hat body is minimized since its stretch is not confined at any particular point. When the collar 20 strikes the bracket 13, the downward movement ceases and the operator’s grasp on the handle 17 may be released because of the latching of the dog 21 with the lug 22. During this condition, steam may be supplied to the block passages 33 through the pipe 31 and the parts held in blocking condition for a suitable length of time. Pressure in the dog tail 24 will release the brim ring for upward movement so the blocked hat may be removed.

In its blocking position, the inner, lower edge of the brim rim 34 definitely marks the headsize line of the hat and the outer, lower edge 35 thereof marks the finished rim line to guide the cutting away of the excess material of the body.

In the form shown in Fig. 1, the crown is plunged from the top, the reverse may be true, also. The crown may be plunged from the bottom by a mere reversal of the spring mount 30 and the plunger stem 14. In the latter case hydraulic pumping means operable by means of a foot pedal may be used for forcing the bottom block against the top block which may be resiliently mounted. This would give exactly the same blocking results.

As shown in Fig. 2, the crown block may be carried by the stem 14 and the brim ring 16a by the tube 32. In order to initially position the brim ring with respect to the grippers 11, it is preferred to mount said ring in an adapter 36 which is supported on the tube 32. The position of the ring may be varied by proper selection of spacer blocks 37 placed between the adapter and its support legs 38.

It will be noted in Fig. 2 that the headline is disposed at an angle. This indicates the great variety of shape which may be blocked in the machine with suitably formed blocks. The operation in this case is similar to that described and is shown graphically and serially in Figs. 4, 5, and 6. Here again the headsize line is marked by the edge 34a of the brim ring and the finished brim line, in this instance, is marked by the edge of a brim portion 35a on the crown block.

At the present time, there is not available a blocking machine in which all of the necessary blocking steps may be performed by the machine. These machines require either initial hand stretching, intermediate steaming over a separate block, etc. In the manner herein disclosed, a machine is provided wherein all of the necessary blocking operations may be performed to provide a blocked hat which is ready for trimming of the brim thereof. The machine incorporates stretching means for the hat body, blocking means of great flexibility, and heating or steaming means for the body parts being blocked.

From the foregoing it is evident that a machine has been provided whereby one operator may quickly, without undue muscular effort, block a hat, performing all the necessary operation on the machine. It is also apparent that the concepts of the invention may be realized in structures varying from those disclosed herein without departing from the spirit and scope of the invention as claimed.

I claim:

In a hat blocking machine, in combination, means for clamping the brim of a hat body and stretching the same, a brim ring movable into contact with the stretched hat body, a crown block, and resilient means supporting said crown block whereby the hat body is engaged between said ring and said block, said block being movable by said ring to a position out of line with said clamping means to cause a crease to be formed in said hat body at the outer peripheral edge of said block. LOUIS MELTZER.