BUCK FOR SYNTHETIC GARMENTS

ABSTRACT: This invention relates to bucks for laundry cabinet presses and in particular to one intended for use with synthetic garments. The buck is provided with arms which can be moved outwardly to fill the garment and the finishing operation is then carried out in two stages. In the first stage, hot air and steam or steam alone are blown through the garment to relax the fibers, and then hot air alone is blown through it to dry it out.

The buck has been provided with a latch mechanism which enables the arms to be moved outwardly in a different way for short and long garments without any further adjustment, and is designed to fit a conventional cabinet press with only minor modification of the press.
Fig. 4A. 

Long garments. Mechanism unlocked.

Fig. 4B.

Short garments. Mechanism locked.
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This invention relates to a laundry process for garments of synthetic material and machinery for carrying out this process.

In particular the invention relates to the laundry operation which is known as "finishing", that is to say, the operation after washing and drying in which the garment is reshaped or returned to its proper shape. In the case of garments made of natural fibers the finishing operation is achieved by pressing the garment, but when the fabric of the garment contains a substantial proportion of synthetic material, a normal pressing operation is not suitable.

In accordance with the invention a synthetic garment is finished by mounting it on a buck, moving the buck into a cabinet press and filling the garment out while moistened hot air is blown through it.

This is preferably effected on a buck having arms or other means which can be moved outwardly from the buck in order to fill the garment out while the garment is held on the buck. The buck is also dimensioned and arranged generally to fit inside the cabinet press without major alteration to the press being necessary.

In a buck with arms which move outwardly, the arms are conveniently pivotally mounted on either side of the buck and arranged so that in a loading position the arms hang substantially parallel to the body and when a garment has been hung over the buck and clamped the arms can be moved away from the body member in order to fill out the garment and/or stretch it.

The best results are achieved when each arm is pivoted at a point above its respective center of gravity by a lever attached to a point near the base of the body member and arranged so that they can be actuated hydraulically or pneumatically.

In order to accommodate short garments such as jackets, means for restraining movement of the lower end of the arm is advantageously provided so that the garment is properly filled out. For long garments such as an overall or a uniform having a flared skirt, as the arms are moved outwardly a sensing device on each arm detects the presence of the garment at a predetermined point and releases the restraining means to allow the lower ends of the arms to swing outwardly to fill out the body and lower part of the garment or its skirt portion. A suitable restraining means comprises a latch which holds the arm and the lever together until a predetermined pressure is exerted on the latch.

Clamps are provided on the front and rear of the buck to enable the garment to be held firmly on the buck as the arms are expanded.

The invention is particularly useful with garments of material consisting of 65 percent polyester fiber and 35 percent cotton, or with those wholly made of nylon and can be used with almost any type of garment from, for example, short jackets to nurses' uniforms having wide flared skirts.

The invention will now be further described by way of example with reference to the accompanying drawings, in which:

FIG. 1 is a front elevation of a buck in accordance with the invention;

FIG. 2 is a side elevation of the buck shown in FIG. 1;

FIG. 3 is a side elevation of the buck shown in FIG. 1 in position in a cabinet press;

FIGS. 4a and 4b show the same view as FIG. 1 but in FIG. 4a the arms have been expanded to fill out a "long" garment, and in FIG. 4b the arms have been expanded to fill out a "short" garment.

The buck 10 includes a body member 12 standing on a base 23, and has a pair of arms 14, one of which is mounted at either end of the body member 12.

The body itself is built up around a central hollow spine 41 which at its upper end provides a neck 32 and terminates above the base 23 in a deflection tray 39, and a front and back panel 29, 30 respectively.

Each of the arms 14 is pivotally mounted at a point 28 which is above its respective center of gravity and is arranged so that in a loading position (FIG. 1) the arms 14 hang substantially parallel to the body but when a garment has been hung over the buck the arms can be moved away from the body member in order to fill out the garment and/or stretch it in a finishing operation. Each of the arms 14 has a substantially U-shaped section throughout its length but part 26 is tapered. The arms are pivotally mounted at 28 to the upper end of a lever 20 which itself is pivotally mounted near the base. In the loading position of the buck as shown in FIG. 1 the arms 14 are held to the sides of the buck, and held to the levers 20 by means of a latch mechanism 44 below the point of support 28.

The arms 14 can be moved outwardly by a linkage 32 operated by means of a hydraulic ram 34, which is arranged to drive the levers 20 outwardly.

In use the garment is hung over the buck without the necessity of making any specific adjustment to the buck for the kind of garment to be finished. The garment is hung over a shoulder part 31 of the body and the neck of the garment is clipped against the neck 32 of the buck by means of a spring operated clamp 34. The garment is then arranged and held on the buck by means of front and back clamping plates 36, 38 which are actuated by a small ram 40 through a simple toggle linkage 42. The sleeves of the garment are held outwardly by conventional spring-biased arms (not shown).

In the case of short garments 43 such as a waiters' jacket or the like, the arms are moved outwardly about the pivots 28, but are held to the levers 20 by means of a spring-loaded sensing latch 44. Latch 44, as shown in FIGS. 1 and 4b includes a hook member 44a at the end of the latch lever 50 which is pivoted on the arm 14, which hook member 44a engages over a pin 20a on the lever 20 when the latch is locked. The hook member 44a is released from the pin 20a when the latch lever 50 is depressed by engagement with the garment so that the related arm 14 can pivot about the pivot 28 relatively to its related lever 20. Thus, only the upper, tapered portions 26 of the arms 14 engage the garment 43, but because of the taper, act to fill it out satisfactorily and act in a substantially upright line along the side of the garment as shown in FIG. 4b. Thus during the whole operation the latches 44 locks the arms to their respective levers 20.

On the other hand, in the case of a long garment, such as a nurses' uniform or an overall, as the arms 14 are moved outwardly by the levers 20 the outer end 48 of the latch arm 50 engages the garment 52 (FIG. 4a) causing it to pivot against a slight biasing force supplied by a spring 54 about a pin 56 to release the latch 44. This allows the arm to adopt the optimum angular position as it is moved outwardly to fill the garment out fully. This swinging action also has the beneficial effect of pulling the garment downwardly as the arms are moved out.

The necessary hydraulic and/or pneumatic connections for operating the clamping mechanism and the arms are made through nylon tubes (not shown) which can be connected to appropriate supply parts provided on the cabinet press with which the buck is to be used.

In order to ensure that hot air is blown through all parts of the garment the body of the buck which is made of stainless steel sheet material has perforations 37 formed in its front and back panels 29, 30. The arms which are also of stainless steel are perforated over their whole surface; a section of the perforations is shown at 37.

In order to improve the flow of hot air or hot air and steam through all parts of the garment a deflector tray 39 is provided at the foot of the hollow spine 41 which leads from the neck or yoke 32. Thus, the steam or air blown down the spine is deflected upwardly to act over the whole of the garment.

Referring now to FIG. 3 of the drawings, which shows the buck mounted on a trolley 56 which is provided with rollers 69 on rails 58 arranged in a cabinet press.

When the garment has been clamped to the buck it is rolled into the cabinet between the irons 60, until the neck 32 of the buck is in line with a duct 62 through which hot air is supplied. There is also a steam inlet pipe 61.

The lower portion of the duct 62 is provided with a moveable sealing unit 64 which is moved into engagement with the
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3

neck 32 by means of a small ram 66 operating through a linkage 70. Movement of the sealing unit 64 is permitted by providing it with a flexible connection in the form of a gaiter 68.

The actual finishing process then takes place in two stages; first a mixture of hot air and steam or steam alone is blown through the garment to relax the synthetic fibers; and then hot air alone is supplied to it in order to dry it out.

This produces a remarkably good result and has the advantage that a single buck can be used for all synthetic garments, regardless of their shape, size or length.

The initial clamping of the garment is achieved by the operator, but the clamps will be actuated automatically if the operator forgets, as the buck will not fit into the press with the clamps in the open position.

The hot air and steam are automatically switched on as the buck is moved into the press.

The buck such as the one described above has many advantages over those presently in use and enables synthetic garments which are becoming more and more widely used for medical and industrial purposes to be finished to a high standard in one of our ordinary cabinet presses by making only minor modifications to the press, such as the hydraulic or pneumatic connections and steam supply.

I claim:

1. A buck for a laundry press comprising a base member, a body having a hollow spine mounted on said base member, a shoulder and a hollow neck at the top of said body, clamping means on the body operable to effect clamping of a garment against said body, and a pair of movable arms pivotally mounted at either side of said body portion, means for moving the arms outwardly to fill the garment out, a lever pivoted on each arm near said base member, latch means for restraining the said arms so that they are moved outwardly with the said levers unless the latch means is released, the said latch means having a sensing member which causes the latch means to be released when it engages a garment, the said latch means being disposed below the pivot part on the arm so that it is released only when a long garment is clamped to the buck.

2. A buck according to claim 1 wherein said arms are pivotally mounted above their center of gravity, and are free to move about their pivotal correction to best accommodate a garment by conforming to its general outline.

3. A buck according to claim 1 wherein the upper part of each of said arms is tapered.

4. A buck according to claim 1 wherein the body is hollow and has inlet openings in its neck portion to receive hot air and steam which are ducted to substantially all parts of the garment.

5. A buck according to claim 4 in which there is a deflector plate at the foot of the spine which deflects the hot air and steam upwardly and outwardly.

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