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[54] **ROLLER DRAINAGE PRESS FOR LAUNDRY**
2 Claims, 4 Drawing Figs.

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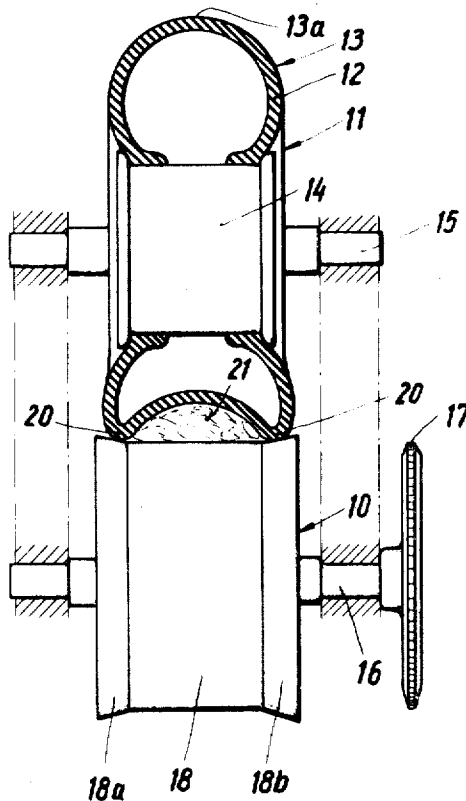
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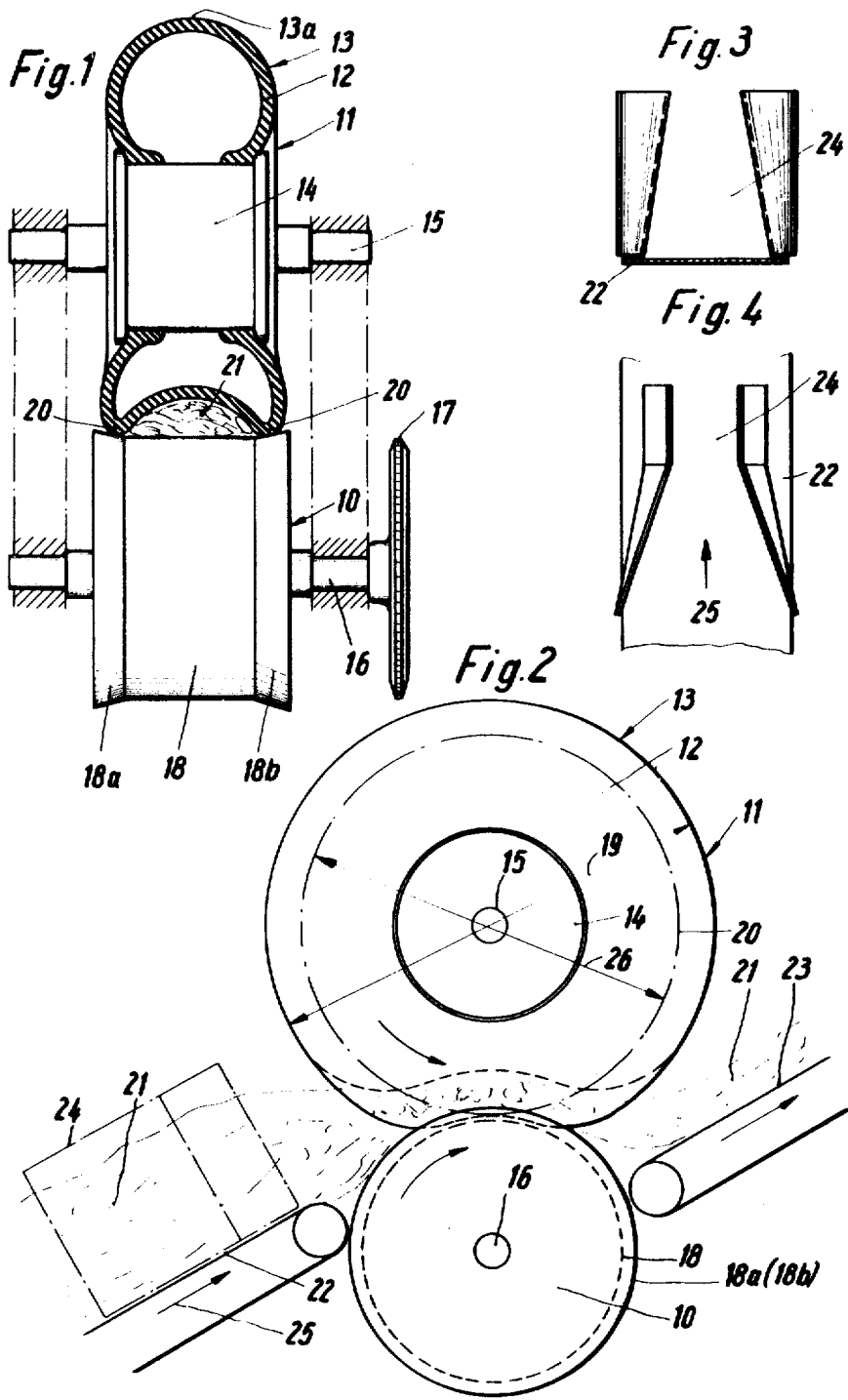
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ABSTRACT: A roller drainage press for wet laundry including a steel drum having conically flared outer edges driving a doughnut-shaped inflated rubber tire. A continuous band of wet laundry is fed through a conically reduced feeder channel to the drum and tire interface. The laundry band distorts the tire to a concave cross section which wrings out absorbed liquid.





ROLLER DRAINAGE PRESS FOR LAUNDRY

This invention relates to a roller drainage press for laundry, consisting of a cylindrical steel roller and a rubber counterpressure roller driven by the steel roller.

Roller drainage presses of this kind are usually connected in series with continually operating washing machines from which the washed laundry is released in the form of an interrupted laundry band.

The rubber counterpressure roller of the known roller drainage presses for laundry consists either of a cylindrical roller in the form of axleless air tire, provided with four smaller counterpressure rollers, or several tires arranged on rims, next to each other, on an axle, said tires being provided with a cylindrical rubber overlay or coating. The air-filled tires are used for the pressing of the laundry because they permit the necessary heavy deformation of their pressure surface in combination with different thicknesses of laundry layers resting upon them.

In order to achieve economic use in the pressing of laundry, a laundry overlay amounting to an average of 15 percent must be planned for when compared to the diameter of the steel roller. Since the laundry overlay is that high only in the middle and becomes increasingly thin toward the ends of the rollers and since as a rule there is no laundry present at all there, we find that the rubber counterpressure roller has a rolling distance which is about 15 percent longer, in the middle, when compared to the ends of the rollers. This brings up the undesirable disadvantage that the rubber counterpressure roller will tend to slip at the ends of the roller. This slippage leads to faster wear and tear of the rubber tires due to friction along the roller ends.

This invention is intended to develop the known roller drainage presses further and to improve them, particularly to the extent that the wear and tear of the rubber counterpressure roller at its ends can be avoided, coupled with the simultaneously more gentle handling of the laundry during pressing. Furthermore, the invention is also intended to bring about an improved drainage of the laundry toward the ends of the rollers.

This invention resides in the rubber counterpressure roller being made up of a rubber tire which is filled with compressed air and which has a ball-shaped pressure surface, in the cross section. The ball-shaped pressure surface is best executed in the form of a circle, according to this invention.

By virtue of the above-mentioned features of this invention, we can prevent a slippage of the rubber counterpressure roller, with respect to the steel roller, due to the differences in the two diameters of the pressure-surface and the running sides of the rubber counterpressure roller. This eliminates the hitherto encountered disadvantage of a considerable friction and wear and tear of the rubber counterpressure roller along its roller ends, with the result of a longer lifetime for the rubber counterpressure roller. At the same time, the laundry can be handled in a much gentler fashion during pressing, as a result of the elimination of the slippage of the rubber counterpressure roller.

According to a further proposal of this invention, the diameter of the casing of the cylindrical steel roller is conically widened toward the outside in both marginal zones. This results in the improved drainage of those portions of the laundry which lie toward the two marginal zones of the rollers.

A further proposal of the invention is based on the task of gently handling the laundry to be drained also to the extent that damage to buttons can be avoided as much as possible, coupled with the simultaneous increase in the drainage effect. For this purpose a guidance channel is provided which is connected in front of the roller drainage press and which is conically reduced in the direction of conveyance and perpendicularly upward thereto. As a result the laundry band will be fed into the press in a comparatively compact fashion and in the desired width, so that buttons in the interior of this band will be protected against damage. At the same time, hollow spaces

in the laundry band can be closed up and this increases the drainage effect.

In the drawings:

FIG. 1 is a partial section view of the roller drainage press;

FIG. 2 is a side view with respect to FIG. 1, with the feeder channel shown in a dot-dash line;

FIG. 3 is a feeder channel in the direction of laundry conveyance, and

FIG. 4 is a top view with respect to FIG. 3.

The roller drainage press consists of a cylindrical steel roller 10 and a rubber counterpressure roller 11, driven by the steel roller. The rubber counterpressure roller 11 is preferably doughnut-shaped with a circular cross section.

The rubber tire 12 is placed on a rim 14 with rigidly mounted axle 15. The diameter 19 of the pressure surface center 13a is larger than the diameter 26 of the running flanks 20 of the rubber counterpressure roller 11.

The steel roller 10 is driven by a sprocket wheel 17 which is attached to its rigidly mounted axle 16. Steel roller 10 drives the rubber counterpressure roller 11. The diameter of the casing 18 of the cylindrical roller 10 is conically widened toward the outside in its two marginal zones 18a, 18b.

As may be seen from FIG. 2, a band of laundry 21 is continually fed into the roller drainage press 10, 11 by means of a conveyor belt 22 and after passage it is continually moved onward by means of another conveyor belt 23. As seen in FIG. 1, the laundry band 21 is narrower than the steel roller 10 and the rubber counterpressure roller 11. The rubber counterpressure roller 11 is pressed inwardly along the pressing point in the middle area of its pressure surface 13 by the laundry band 21, coupled with the pressing together of the laundry and its subsequent drainage, so that the rubber counterpressure roller 11, at this particular point, contacts steel roller 10 only along its two running flanks 20. There is no slippage of the running flanks 20 of the rubber counterpressure roller 11 at the pressing point. This eliminates any friction wear of the rubber at these points. Furthermore the laundry is pressed gently. The diameter of casing 18 of cylindrical steel roller 10 is conically widened toward the outside in the two marginal zones 18a, 18b of the steel roller; this ensures that the portions of the laundry band 21 which lie toward the marginal zones 18a, 18b will be given a good degree of drainage.

As seen in FIGS. 3 and 4, the roller drainage press 10, 11 has, in front of it, a feeder channel 24 which is conically narrowed in the direction of laundry conveyance 25 and perpendicularly thereto, toward the top. The feeder channel 24 ensures that the laundry band 21 is fed to the roller drainage press 10, 11 in a desired compact ball-shaped strand form, so that the buttons in the interior of the laundry band 21 will be protected against damage. At the same time, hollow spaces in laundry band 21 are closed up and this improves the drainage effect of the press.

What is claimed is:

1. A roller drainage press for laundry comprising:

a cylindrical steel roller 10 having a base portion 18 and conically widened outwardly extending end sections 18a, 18b on both sides of said base portion, each of said sections rising outwardly directly from the base portion, and a doughnut-shaped rubber counterpressure roller filled with compressed air, said steel roller driving said rubber counterpressure roller, said rubber counterpressure roller having a ball-shaped pressure surface having a diameter less than the length of said steel roller which comprises the base portion 18 and the end sections 18a, 18b but greater than the length of said base portion alone,

whereby said rubber roller engages said end sections when said laundry passes between said cylindrical steel roller and said rubber counterpressure roller.

2. The roller drainage press of claim 1 further comprising:

a feeder channel comprising two guide plates positioned laterally on a transport facility to provide a channel laundry, said guide plates having their ends which are perpendicular to the direction of the transport facility and

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furthest from said rollers, separated from each other a greater distance than their ends perpendicular to the direction of the transport facility and closest to said rollers and further said guide plates being inclined towards each other such that their edges parallel to the longitu- 5

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dinal direction of the transport facility and closest to said transport facility are spaced further apart than the edges of said guide plates parallel to the direction of the transport facility and furthest from said transport facility.

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