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3,318,115

APPARATUS FOR CONTINUOUSLY LEADING TEXTILES INTO OR  
OUT OF A PRESSURE-TREATING CHAMBER

Filed Jan. 29, 1965

2 Sheets-Sheet 1

FIG 1

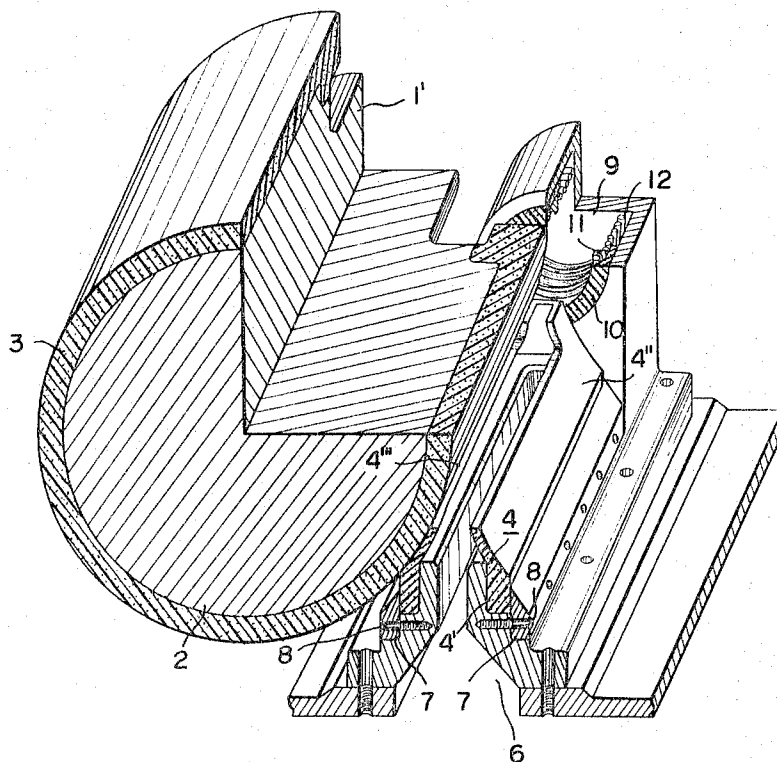
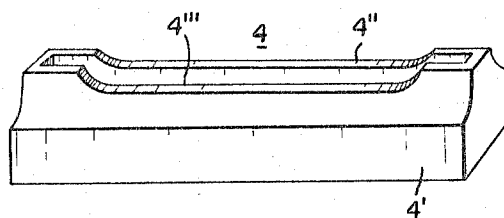


FIG 4



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FIG 2

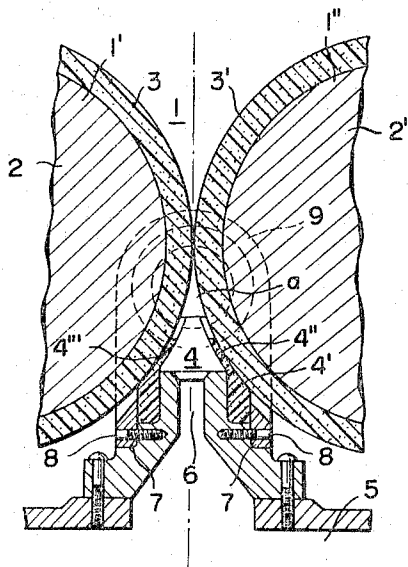


FIG 5

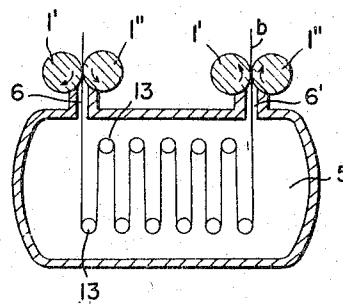
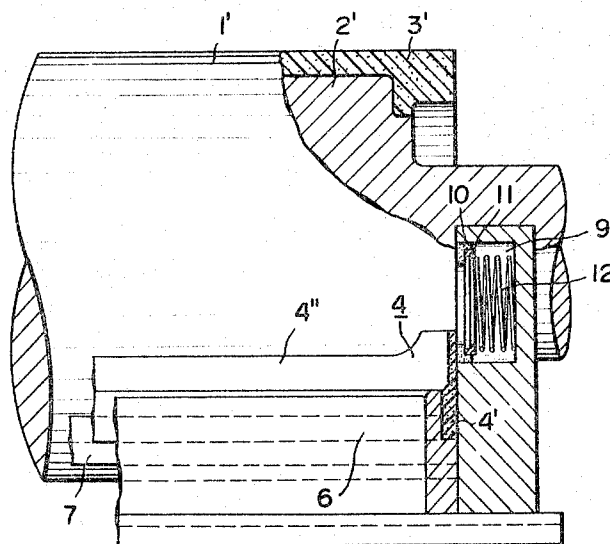


FIG 3



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APPARATUS FOR CONTINUOUSLY LEADING  
TEXTILES INTO OR OUT OF A PRESSURE-  
TREATING CHAMBERSeitaro Fujihashi, Kyoto, Japan, assignor to Kyoto Ma-  
chinery Company, Ltd., Kyoto, Japan, a corporation  
of Japan

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Claims priority, application Japan, May 18, 1964,  
39/38,346

1 Claim. (Cl. 68—5)

This invention relates to improvements in an apparatus for continuously leading textiles into and out of a pressure-treating chamber filled with a dyeing solution, bleaching solution, steam or any other treating fluid to treat the textiles with such fluid.

An object of the present invention is to provide an apparatus of a simple construction for leading textiles in and out whereby it is made possible to continuously lead textiles into and out of a pressure-treating chamber in a substantially perfectly air-tight or liquid-tight state.

An embodiment of the present invention shall be explained with reference to the accompanying drawings in which:

FIGURE 1 is a partly sectioned perspective view of an embodiment of the present invention;

FIGURE 2 is a vertically sectioned view of the same;

FIGURE 3 is a partly sectioned side view of the same;

FIGURE 4 is a perspective view of a part of the same;

FIGURE 5 is a vertically sectioned sketch of a pressure-treating chamber provided with the apparatus of the present invention.

In the drawings, 1 is a feeding roll device consisting of two rolls 1' and 1'' pressed against each other. Said rolls 1' and 1'' are respectively made by applying coatings 3 and 3' made of such soft elastic substance as elastic rubber to the peripheral surfaces of roll bodies 2 and 2' made, for example, of a metal. 4 is an air-tight or liquid-tight tube made of such soft elastic substance as elastic rubber and, as clear in FIGURE 4, formed to be of a truncated tapered cross-section of which the peripheral edge 4' of the opening at the lower end is air-tightly or liquid-tightly fixed to the peripheral wall of each of a textile inlet port 6 and outlet port 6' of a pressure-treating chamber 5 with a fixture 7 and many screws 8 so that said tube may be inserted between both rolls 1' and 1'' mentioned above. An air-tight or liquid-tight pressure chamber 9 is formed at each end of each of the above mentioned textile inlet port 6 and outlet port 6' and contains an air-tight or liquid-tight ring 10 made of such soft elastic substance as elastic rubber and pressed against the peripheral edge at each end of the space *a* of a substantially triangular cross-section formed between both rolls 1' and 1'' mentioned above and a coiled spring 12 pressing said air-tight or liquid-tight ring 10 against the end surfaces of both rolls 1' and 1'' through a ring-shaped pressing fixture 11. Said air-tight or liquid-tight ring 10 is to be pressed against the end surfaces of both rolls 1' and 1'' also by the fluid pressure in the pressure-treating chamber 5.

In the apparatus of the present invention, as shown in FIGURE 5, when a textile *b* to be treated is inserted between both rolls 1' and 1'' of the feeding roll device 1 and the rolls are rotated in the directions indicated by the respective arrows, the textile *b* will be led into the pressure-treating chamber 5 through the textile inlet port 6, will be guided by many guide rolls 13, will thus advance

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zigzag within the pressure-treating chamber 5 while being dyed, bleached, steamed or otherwise treated with a pressure fluid and will be let out of the pressure-treating chamber 5 through the textile outlet port 6' after the completion of this treatment. When said textile *b* is led into and out of the pressure-treating chamber 5, both side walls 4' and 4'' of the above mentioned air-tight or liquid-tight tube 4 of a truncated tapered cross-section will be strongly pressed against the respective peripheral walls of both rolls 1' and 1'' opposed to each other by the fluid pressure in the pressure-treating chamber 5 and at the same time each air-tight or liquid-tight ring 10 mentioned above will be pressed against the end surfaces of both rolls 1' and 1'' by the fluid pressure in said pressure-treating chamber 5 and pressure chamber 9 and the resiliency of the coiled spring 12 so that the above mentioned space *a* of a substantially triangular cross-section may be kept air-tight or liquid-tight at both ends. With these operations, the textile *b* will be continuously led into and out of the pressure-treating chamber 5 through the textile inlet port 6 and outlet port 6', respectively, of the pressure-treating chamber 5 in a substantially perfectly air-tight or liquid-tight state.

In the present invention, with such simple construction and operations, textiles can be led into and out of the pressure-treating chamber in a substantially perfectly air-tight or liquid-tight state. Therefore, textiles can be led into and out of the treating chamber without impairing the air-tightness or liquid-tightness of the pressure-fluid-treating chamber.

What is claimed is:

An apparatus for continuously leading textiles into and out of a pressure-treating chamber comprising a feeding roll device comprising two rolls pressed against each other and set in front of each of a textile inlet port and outlet port of a pressure-treating chamber, a fluid-tight tube of a truncated tapered cross-section made of a soft elastic substance and connected at the base end to each of the textile inlet port and outlet port, both side walls opposed to each other at the free end of said fluid-tight tube being pressed against the respective peripheral surfaces opposed to each other of both rolls of said feeding roll device by a fluid pressure in said pressure-treating chamber, and a fluid-tight ring made of a soft elastic substance and set in a pressure chamber provided at each end of each of said textile inlet port and outlet port and communicating with said pressure-treating chamber, said ring being pressed against the end surfaces of both rolls of said feeding roll device, so that a textile to be treated may be led into and out of said pressure-treating chamber through both rolls of each of said feeding roll devices, said fluid-tight tubes and said textile inlet port and outlet port.

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IRVING BUNEVICH, *Primary Examiner*.