

[54] **APPARATUS FOR WET TREATMENT OF WARP-ROPE OR BOARD-SHAPED TEXTILE GOODS**

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[56] **References Cited**

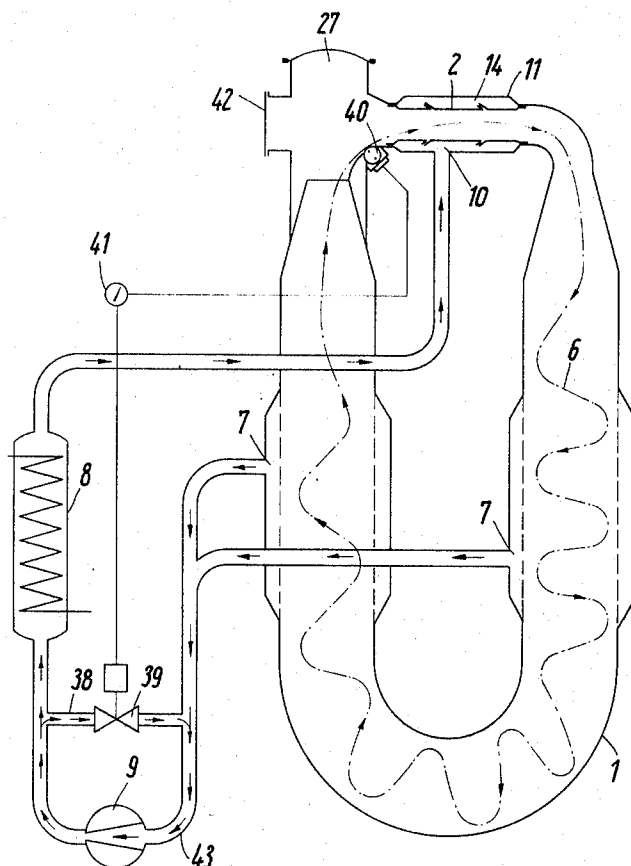
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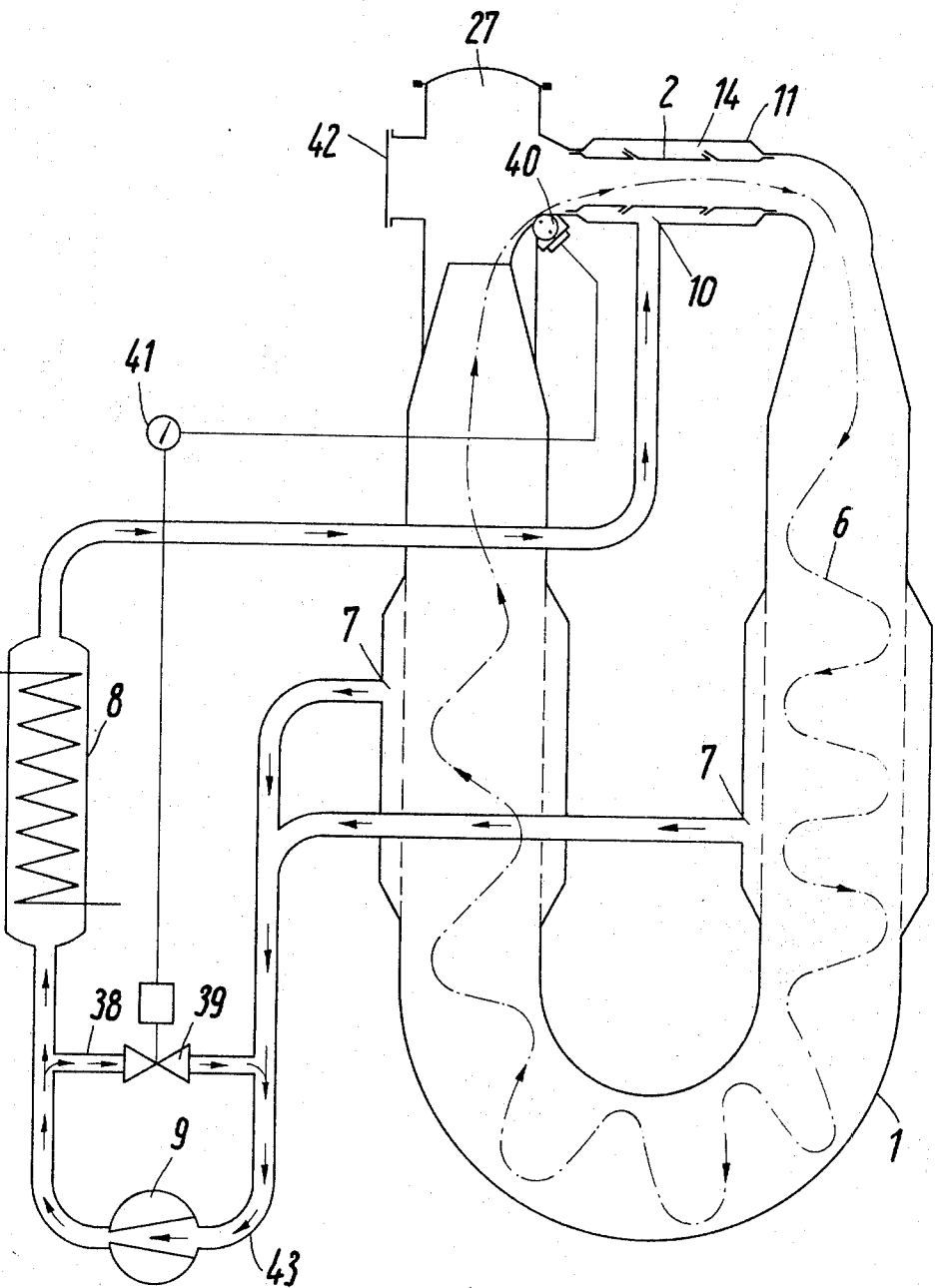
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[57] **ABSTRACT**

An apparatus for wet treatment of warp-rope, or board-shaped textile goods, which comprises a U-shaped tube having at least two leg members, to constitute a treatment container. A drive set is provided which connects the leg members, and is adapted to circulate therein the textile goods. A liquid pump feeds liquid to the drive set and has a suction side and a pressure side. A connection conduit is disposed between the suction side and the pressure side of the pump, and a control member is provided in the connection conduit and serves the control of the quantity of the liquid to be fed.

4 Claims, 1 Drawing Figure





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APPARATUS FOR WET TREATMENT OF WARP-ROPE OR BOARD-SHAPED TEXTILE GOODS

The present invention relates to an apparatus for wet treatment of warp-rope or board-shaped textile goods, in general, and to such apparatus, wherein the textile goods are transported with the help of the treatment liquid by means of the treatment container. The treatment container is a U-shaped tube, the arms of which are connected together by means of a drive set likewise spanning over a half circle, in particular.

It has been found in practical operation, that the speed of the textile goods, which is produced by the drive set, can be very different.

Reasons therefor are different weight of the textile goods per 1m², different fiber structure, different fiber treatment, different fabrics and knits and/or different width of the goods.

It has been further found, that the weight of the even-running quality of the whole lot can be very different relative to the maximum possible charge weight. If the maximum possible charge weight is not obtained, the textile goods, which run with the maximum speed of the goods, are damaged. If the fabrics and knits of wool and their mixtures are treated with the maximum speed of the goods, in addition matting of the wool can be caused.

It is one object of the present invention to provide an apparatus for wet treatment of warp-rope or board-shaped textile goods, wherein the drawbacks of the known structures are eliminated.

It is another object of the present invention to provide an apparatus for wet treatment of warp-rope or board-shaped textile goods, wherein a connection conduit, with a control member built-in the connection conduit and serving the control of the liquid quantity to be fed, is provided between the suction-conduit and the pressure conduit of a feeding pump. Control members, used in accordance with the present invention, are of conventional nature and do not require, therefore, a closer description.

The control of the feeding quantity by the control member makes possible a variation of the pushing force and, thereby, a variation of the speed of the goods.

It is yet another object of the present invention to provide an apparatus for wet treatment of warp-rope or board-shaped textile goods, wherein, in intimate connection with the just described object, a speed meter of the goods is inserted inside of the drive set. In accordance with the present invention an indication- and control-device for the measuring of speed for the setting of the control member of the pump is provided.

The textile rope is thereby guided over a roller, the rotation of which emits a signal, over a magnetic field and a magnetic switch, corresponding with the speed of the goods on an indication instrument and transmits the signal by means of a suitable control means onto the control member of the feeding pump.

Speedometers, indicators and control means are conventional instruments and do not require a detailed description.

Finally, the access to the drive set is formed as a speed-closure-cover. By this arrangement, it is possible to exchange the drive set within a short time period.

If the apparatus consists of several treatment containers, the latter is disposed in parallel arrangement

with the feeding pump, in order to secure a uniform treatment of the textile goods in each of the treatment containers such, that the succession of the connections of the treatment containers is reversed on the suction side of the feeding pump and that on the pressure side.

With these and other objects in view which will become apparent in the following detailed description, the present invention, which is shown by example only, will be clearly understood in connection with the accompanying drawing, in which the only Figure is a schematic showing of the apparatus designed in accordance with the present invention.

Referring now to the drawing, the apparatus of the present invention comprises a treatment container completely filled with treatment liquid, which container comprises a U-shaped tube 1 having two leg members and including a drive set 2 connecting the leg members of the U-shaped tube 1. Textile goods 6 to be treated circulates in the drive set 2. In order to assure that during the filling of the treatment container with the textile goods all air is displaced, a filling device 27 is provided at the highest point of the container. The leg members of the U-shaped tube 1 have a liquid outlet 7 each connected with the suction side 43 of a liquid pump 9. The latter presses liquid by means of a heat exchanger 8, into a branch 10 of a tube 11 connecting the leg members of the U-shaped tube 1. A drive set 2 consisting of tube segments and slot rings is arranged in the tube 11. The drive set 2 and the tube 11 are tightly closed relative to each other at their ends, so that an annular chamber 14 is created. The drive set 2 can be built-in and out, respectively, speedily by a speed-closing-cover 42. The speed of the textile goods 6 is recorder by a measuring instrument and fed to an indication-control device 41. The latter compares the measured actual value with the pre-given nominal value. In case of deviations of the measured actual value from the nominal value the indicator-control device resets the control member 39, which is disposed in a connection conduit 38 between the suction- and pressure-conduit of the pump 9, until the actual value coincides with the nominal value. As mentioned above, the instruments 39, 40 and 41 are per se of conventional structure and are well known to men skilled in the art.

While we have disclosed one embodiment of the present invention, it is to be understood, that this embodiment is given by example only and not in a limiting sense.

We claim:

1. An apparatus for wet treatment of warp-rope, or board-shaped textile goods, comprising
 - a U-shaped tube having at least two leg members, to constitute a treatment container,
 - a drive set connecting said leg members, adapted to circulate therein textile goods,
 - a liquid pump feeding liquid to said drive set and having a suction side and a pressure side,
 - a connection conduit disposed between the suction side and the pressure side of said pump, and
 - a control member provided in said connection conduit and serving the control of the quantity of the liquid to be fed.
2. The apparatus, as set forth in claim 1, which includes means for measuring the speed of said textile goods disposed in the flow of the latter.

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3. The apparatus, as set forth in claim 2, which includes
an indication and control means operatively connected with said control member for exploitation of the speed measurement for the setting of said control member of said pump. 5

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4. The apparatus, as set forth in claim 1, which includes
a speed-closing-cover disposed adjacent said drive and permitting speedy access to the latter.

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