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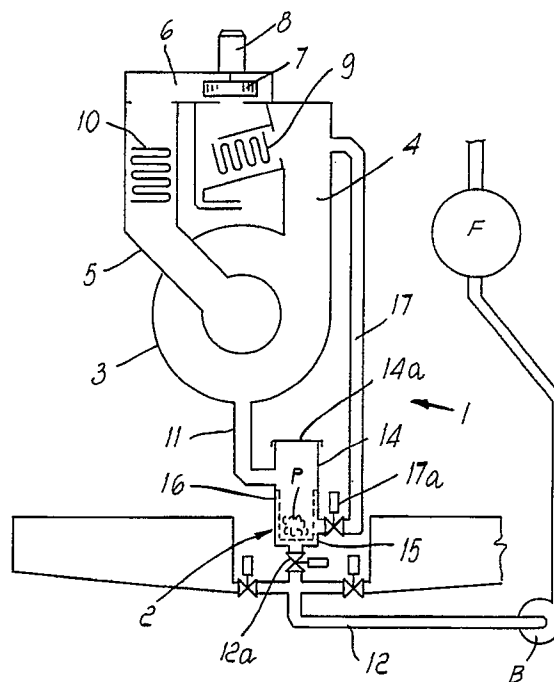
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(54) **Auxiliary circuit for filters in dry-cleaning machines.**

(57) Auxiliary circuit for filters in dry-cleaning machines, comprising a duct (17) arranged between the base of the filter (2) and the stack (4) which connects the drum (3) to the drying air condensation circuit (5-10); the duct (17) is suitable for providing a circuit for drying the filter chamber and is arranged in parallel to the drying circuit of the washing drum.



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The present invention relates to an auxiliary circuit for filters in dry-cleaning machines.

In dry-cleaning machines, the washing liquid, composed of solvents and water, is removed at the end of each washing cycle toward respective tanks after passing through a filter, known as needle trap filter, which retains the larger solid items entrained by the liquids.

Fluff from the washed fabrics accumulates in said filter, and must be removed periodically in order to restore the filter effectiveness; however, when the accumulated fluff is to be removed, it is impregnated with solvent and therefore cannot be disposed immediately: one must in fact bear in mind that there are specific and stringent rules governing the disposal of waste impregnated with solvents.

Moreover, a certain amount of material which is wet and impregnated with solvents remains in the needle trap between washes, and this is rather negative, particularly when a considerable period of time elapses between one wash and the next.

The aim of the present invention is to obviate the above mentioned disadvantage, i.e. to provide an auxiliary needle trap circuit in dry-cleaning machines which eliminates moisture and solvent from the collected fluff, so as to make the dried fluff easily disposable and so as to avoid the persistence of moisture and solvent inside the machine after the washing cycle is completed.

This aim and other objects are achieved by the present auxiliary circuit for filters in dry-cleaning machines, characterized in that a duct is arranged between the base of the filter and the stack which connects the drum to the drying air condensation circuit, said duct being suitable for providing a circuit for drying the filter compartment which is arranged in parallel to the drying circuit of the washing drum so that the collected fluff is dried, part of the forced air being conveyed, during the drying cycle, so as to pass through the filter and return into the drying circuit for the condensation and separation of the moisture and solvent residuals.

Further peculiarities will become apparent and evident from the detailed description of a preferred but not exclusive embodiment of a circuit according to the invention, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

the only figure is a schematic side view of an auxiliary needle trap circuit arranged in a dry-cleaning machine according to the present invention.

With particular reference to the above figure, the auxiliary circuit for a filter 2, for example a so-called needle trap filter, according to the invention, is generally indicated by the reference numeral 1.

The circuit 1 is installed in a dry-cleaning machine which comprises a washing drum 3, a stack 4 for the outflow of air from the drum and a stack 5 for the inflow of air into said drum; said stacks are mutually connected by a condensation chamber 6 in which a fan 7, driven by a motor 8, operates; an evaporator 9 of a refrigeration device suitable for separating the solvent and the moisture present in the air operates inside the chamber 6, and the condenser 10 of said refrigeration device is installed in the stack 5.

The base of the drum is connected in a known manner by means of a pipe 11 to the needle trap filter 2, which is connected by means of a pipe 12 to a pump B; said pipe 12 is cutoff by an electric valve 12a.

The needle trap filter 2 is constituted, in a known manner, by an upper half-chamber 14 and by a lower half-chamber 15 which are separated by a filtration sector 16; the upper half-chamber is open upward, and its upper inlet is closed by a lid 14a which can be removed for the periodic maintenance of the trap.

The letter P indicates the fluff which collects in the needle trap.

The circuit according to the invention is obtained by connecting the lower half-chamber 15 of the needle trap and the stack 4 by means of a duct 17; thus, during the drying cycle, part of the air forced by the fan 7 can be conveyed through the trap filter 2; moisture and solvent are thus progressively removed from the fluff and are then condensed by 9 and collected.

At the end of the drying cycle, the fluff contained in 2 is therefore perfectly dry; it is thus possible to remove it through the upper opening of the needle trap and dispose it.

Advantageously, a valve 17a can be arranged on the duct 17 and can be actuated either manually or electrically to dry the fluff only when required instead of at the end of each wash.

It has thus been observed that the invention achieves the intended aim.

The invention thus conceived is susceptible to numerous modifications and variations, all of which are within the scope of the inventive concept.

All the details may furthermore be replaced with other technically equivalent ones.

In practice, the materials employed, as well as the shapes and dimensions, may be any according to the requirements, without thereby abandoning the scope of the protection of the following claims.

Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the scope of each element

identified by way of example by such reference signs.

Claims

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1. Auxiliary circuit for filters in dry-cleaning machines, characterized in that a duct (17) is arranged between the base of the filter (2) and the stack (4) which connects the drum (3) to the drying air condensation circuit (6-10), said duct (17) being suitable for providing a circuit for drying the filter chamber (2) and being arranged in parallel to the drying circuit (4,5) of the washing drum (3), so that the collected fluff is dried, part of the forced air being conveyed during the drying cycle so as to pass through the filter (2) and return into the drying circuit for the condensation and separation of the moisture and solvent residuals.
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2. Auxiliary circuit according to claim 1, characterized in that said duct is cutoff by a valve (17a).

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