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(54) **Texturizing device for air texturizing yarns**

(57) A device for air texturizing yarns comprises a ceramics material body through which is slidably driven

at least a yarn to be air texturized, characterized in that the ceramics material body is continuously rotated during the texturizing process.

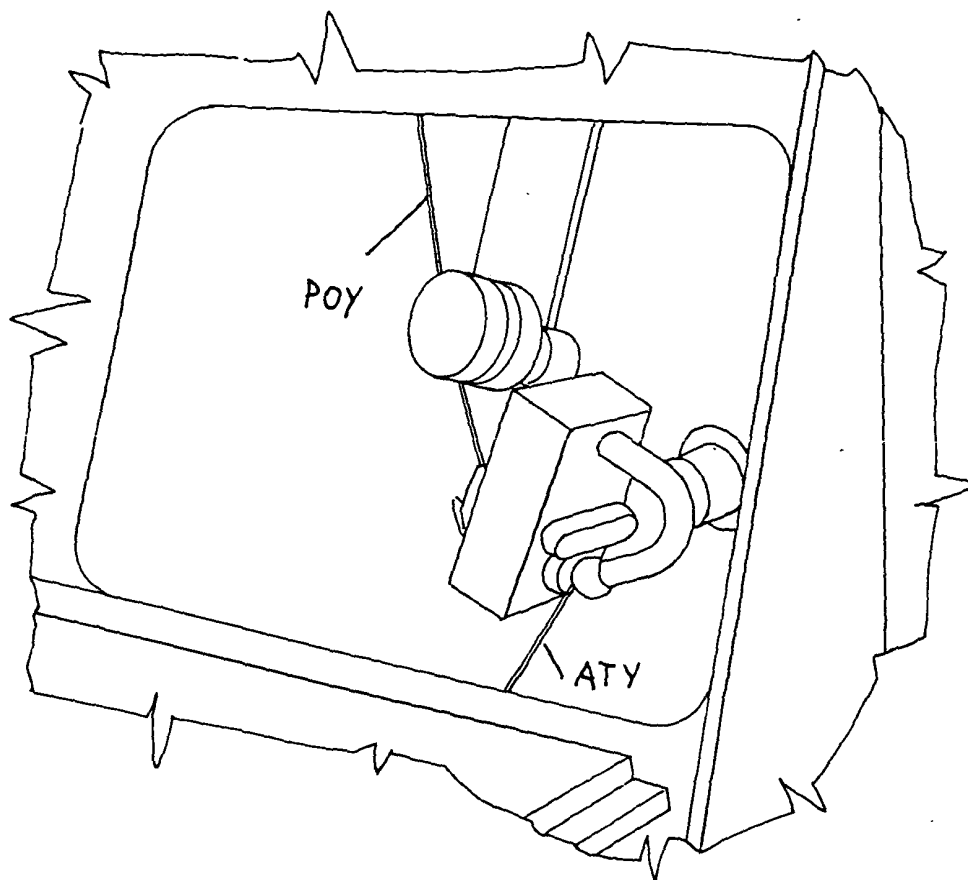


FIG 1 PRIOR ART

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Description

[0001] The present invention relates to a texturizing device for air texturizing yarns.

[0002] As is known, air texturizing of a synthetic yarn allows to start from a yarn "POY" (Pre - Oriented Yarn), to provide an "ATY" (Air-Jet Textured Yarn), including a plurality of small "loops" providing the obtained yarn with a desired handle and physical aspect, which are typical of such a yarn.

[0003] The machine for performing the texturizing process, can also process simultaneously two components, one called the core component and the other called the effect component.

[0004] The POY yarn or yarns are stretched or drawn between two heated godet rollers, which are moistened by water and subjected to a pressurized air flow by a specially designed "air-jet assembly".

[0005] The main part of the machine is the so-called "taslanization box", which holds both the moistening device and the air-jet assembly, as is schematically shown in figure 1.

[0006] The air-jet assembly substantially comprise a ceramics material, which, however, has the drawback that it is covered by dirt at the yarn passage region, thereby generating quality and waste problems, and compelling the operator to frequently stop the machine for disassembling and cleaning the air-jet assembly, with a consequent decrease of the production yield.

SUMMARY OF THE INVENTION

[0007] Accordingly, the aim of the present invention is to provide such an air texturizing device, which overcomes the above mentioned drawbacks of the prior art.

[0008] Within the scope of the above mentioned aim, a main object of the present invention is to provide such a texturizing device which can also be applied to existing conventional yarn texturizing machines.

[0009] Yet another object of the present invention is to provide such a texturizing device which is very simple construction wise and unexpensive, both from the production standpoint and the installation standpoint, as well as in managing or controlling the texturizing machine, during the operation thereof.

[0010] Yet another object of the present invention is to provide such a yarn texturizing device, which is very reliable and safe in operation.

[0011] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a texturizing device for air texturizing yarns, comprising a ceramics material body, through which is slidably driven at least a yarn to be air texturized, characterized in that said ceramics material body is held in a rotary motion during the texturizing process.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative, example, in the accompanying drawings, where:

Figure 1 is a schematic perspective view of a "taslanization" box according to the prior art;

Figure 2 is a further perspective view, as partially broken away, of a "ceramics" element;

Figure 3 is a diagram illustrating an air texturizing process;

Figure 4 illustrates a simplified diagram of an air texturizing process;

Figure 5 is a perspective view of a taslanization box including a texturizing device according to the present invention;

Figure 6 is an enlarged-scale view of the texturizing device shown in the preceding figure;

Figure 7 is a front view schematically illustrating its gear elements of the texturizing device shown in the preceding figures;

Figure 8 is a side view schematically illustrating the gear elements and motor of the device shown in the preceding figures; and

Figure 9 is a schematic view of the texturizing device comprising a nautical speedometer cable.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] With reference to the number references of the above mentioned figures, the texturizing device according to the present invention, which has been generally indicated by the reference number 1, can be used in a so-called "taslanization box" 2 of a texturizing machine for air texturizing yarns.

[0014] The device 1 comprises a ceramics body 3, therethrough are slidably driven one or more yarns 4 to be texturized by air supplied through side ducts 5 to provide an air texturized yarn 6.

[0015] According to the invention, the ceramics material body 3, during the texturizing process, is held in a rotary motion, in order to prevent dirt from accumulating at the outer region 7 of the texturized yarn.

[0016] The rotary movement of the ceramics material body 3 can be obtained, for example, by a rotary motor 9 adapted to rotate the ceramics material body 3 by means of a gear assembly or train 8, the gear elements of which are advantageously made of a brass material.

[0017] Since the working environment of the texturizing device is a very aggressive one, because of the presence of nebulized water, finishing oils and pressurized air, it may be preferable to omit the motor and gear elements; thus, inside the mentioned box is provided a speedometer cable 10 to provide rotary movement,

adapted to transmit the rotary movement from the motor 9, arranged outside the box, to the ceramics material body 3.

[0018] Preferably, the mentioned cable passes through the box wall by a gas-type of coupling 11. 5

[0019] It has been found that the invention fully achieves the intended aim and objects.

[0020] In fact, the invention provides an improved air texturizing device, the ceramics material body of which is held continuously in rotation, thereby said body will provide a self-cleaning effect. 10

[0021] Accordingly, the texturizing device according to the invention allows to reduce the maintenance or servicing operations, while greatly improving the quality of the texturized yarn made thereby. 15

[0022] In practicing the invention, the used materials, as well as the contingent size and shapes, can be any, according to requirements and the status of the art.

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Claims

1. A texturizing device for air texturizing yarns, comprising a ceramics material body, therethrough is slidably driven at least a yarn to be air texturized, **characterized in that** said ceramics material body is held in rotary motion during a texturizing process. 25

2. A texturizing device, according to claim 1, **characterized in that** said ceramics material body is rotatively driven by a rotary motor which rotatively drives said ceramics material body through a gear train. 30

3. A texturizing device, according to claim 1, **characterized in that** said ceramics material body is rotatively driven by a rotary motor arranged outside a box casing holding said ceramics material body, through a flexible cable operatively coupling said rotary motor to said ceramics material body. 35 40

4. A texturizing device, according to claim 3, **characterized in that** said flexible cable comprises a nautical speedometer cable. 45

5. A texturizing device, according to claim 3, **characterized in that** said cable passes through the wall of said box by a gas type of coupling. 50

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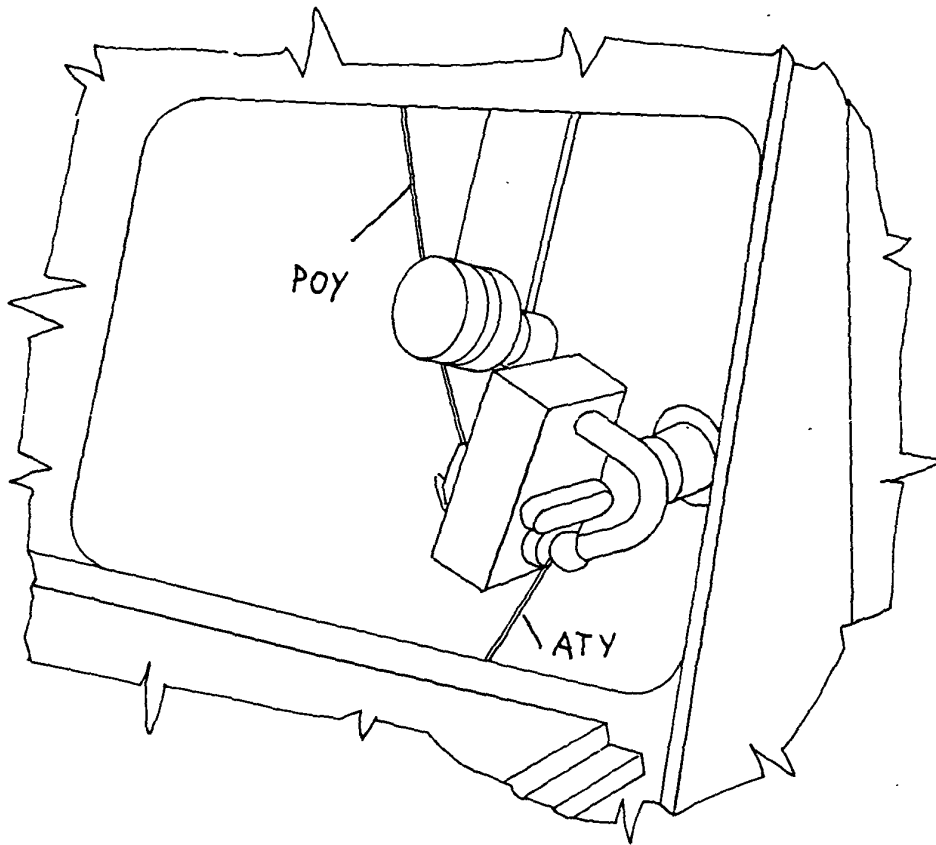


FIG 1 PRIOR ART

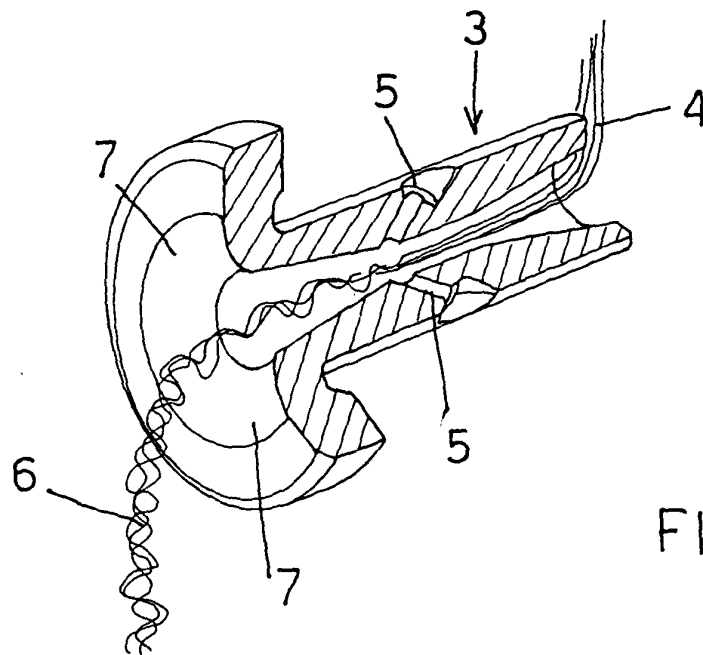
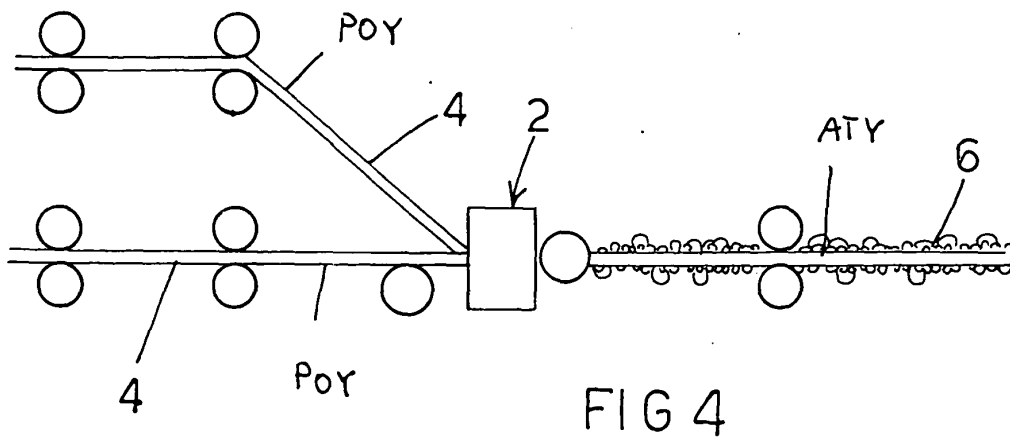
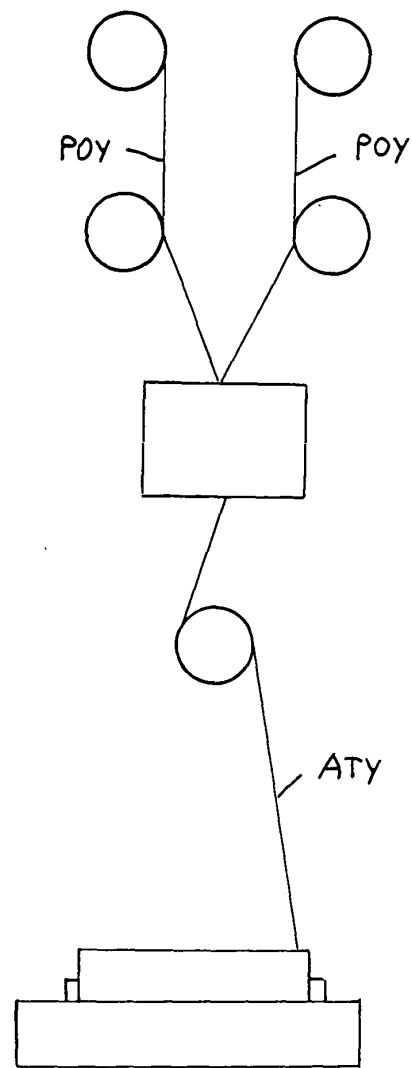
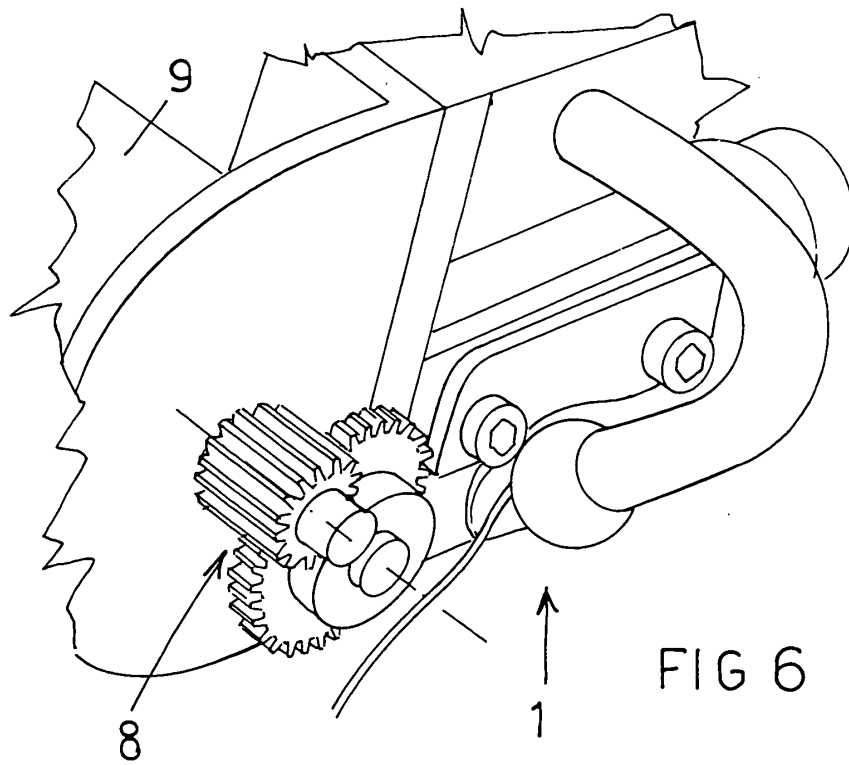
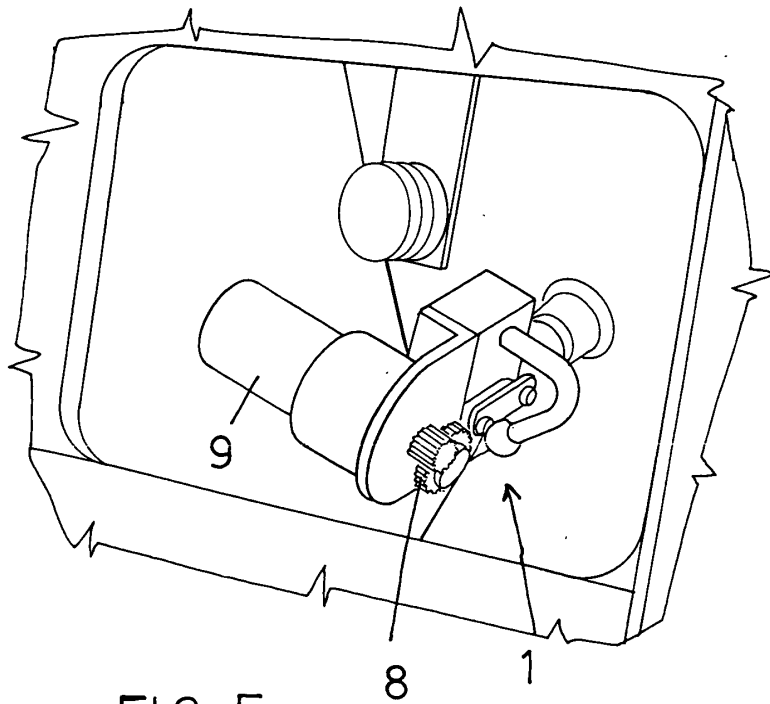


FIG 2





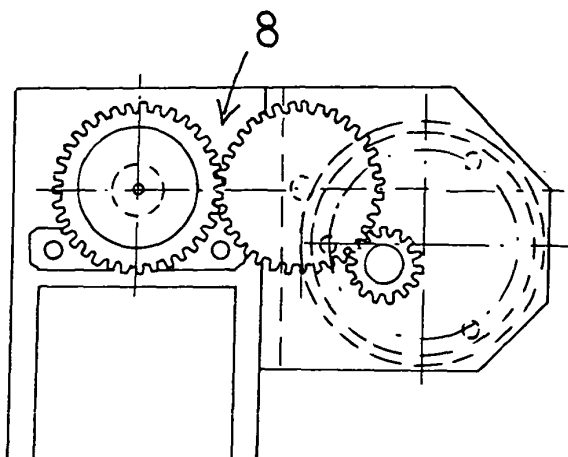


FIG 7

FIG 8

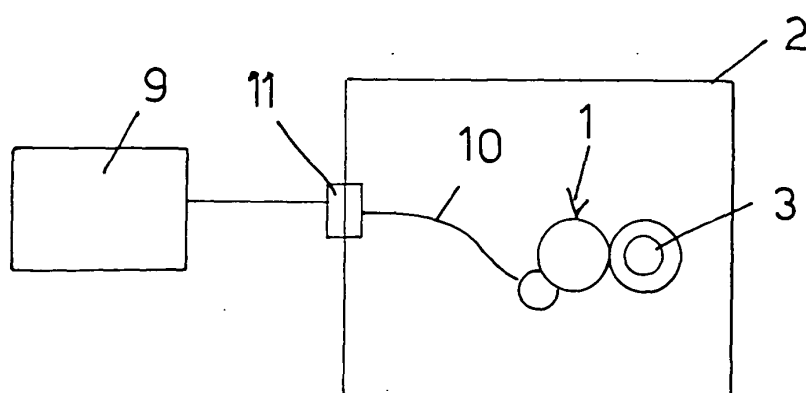
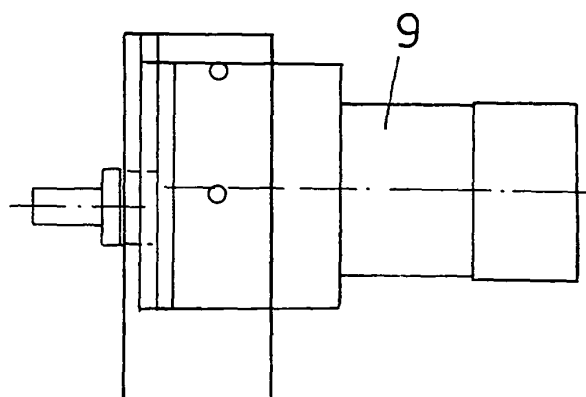


FIG 9



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Application Number
EP 03 02 2079

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 8 October 2004	Examiner V Beurden-Hopkins, S
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 03 02 2079

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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