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PNEUMATIC SEPARATOR FOR SPINNING FRAMES

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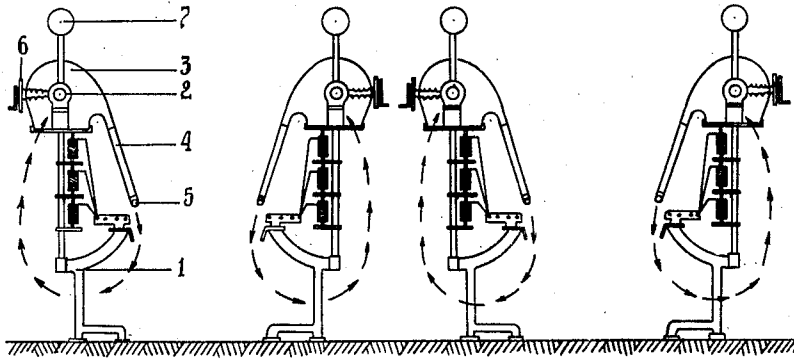


Fig. 1.

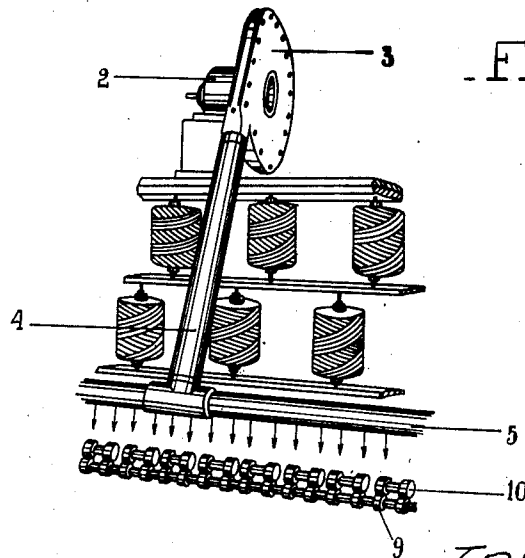


Fig. 2.

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UNITED STATES PATENT OFFICE.

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PNEUMATIC SEPARATOR FOR SPINNING FRAMES.

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The present invention relates to improvements in and relating to installations comprising a relatively great number of winders or throstle-frames provided with pneumatic anti-marrying devices such as are described in applicant's U. S. Patent 1,040,224.

In the known arrangements of this type, the pneumatic anti-marrying devices of the different winders or frames of the installation are supplied with moistened air by means of a single blower from which the air is distributed to the different winders through suitable conduits.

It follows that all the winders which work generally on threads of different quality, are all supplied with air at the same pressure and the same degree of moisture and that the air of the hall supplied by means of a single blower to the different apparatus, returns afterwards to it and produces a return-current towards the blower.

That great draught of returning air prevents the maintaining of a more intense moisture in certain parts of the room according to the quality of the treated wool at these spots.

The present invention has for its object to obviate these inconveniences by suppressing more particularly the foresaid great draught of returning-air.

To this end, each winder or each throstle-frame is provided with an independent apparatus for producing the moistened compressed air.

In the case of a winder, the invention provides in the midst of each fly, on the left and on the right of the head stock, an electric motor acting on a blower or an air-pump directly connected to the conduit distributing the air currents between the threads.

In order to vary the degree of moisture according to the nature of the thread treated by the winder, the moisting apparatus acts on the air drawn in by each air-pump or blower, to humect it at a given amount.

Other details and characteristics will appear by the description of the drawings showing by way of example a form of embodiment of the invention.

Fig. 1 is a schematical side view of an apparatus with four winders.

Fig. 2 is a perspective view of the upper central part of one of the winders.

The apparatus schematically represented at Fig. 1 comprises four winders 1, means being disposed at the upper part of each of

said winders for producing the moistened compressed air necessary for supplying the anti-marrying element.

Said means comprise an electric motor 2 driving a blower 3 discharging in a conduit 4 directly connected to the tube 5 disposed along the winder, and which delivers jets of air assuring the isolation of the winder-threads as known.

The pressure of the air supplied by the blower depends on the motor speed which can be varied by means of the controller 6 of the motor.

The moisture of the air is realized by means of moistening elements of any known type, which supply pulverized water, moistened air or air saturated with water in the inlet of the blower. In Fig. 1, the moistening elements are shown schematically by 7.

It is obvious that the blower may be replaced by an air-pump or the like.

As indicated by the arrows, air supplied by the blower of a winder circulates according to a closed circuit and thus it is possible to control the pressure and the moisture of the air acting on the threads of a winder independently of the adjacent winder. It is to be noted that winders are apparatus of great encumbrance.

Fig. 2 shows a perspective view of a winder comprising an electric motor 2 and a blower 3 supplying in a conduit 4 and then in a tube 5 which delivers jets of air acting on the threads passing between the cylinders 9 and 10, the cylinders 10 being applied against the grooves of the cylinder 9 by suitable means (not shown).

What we claim is:

1. In a plant comprising a plurality of continuous spinning frames for combed wools arranged in one chamber, a pneumatic separating device preventing doubling of the threads; and means for circulating pure moist air in a closed independent circuit and acting on the threads of each continuous spinning frame.

2. In a plant comprising a plurality of continuous spinning frames for combed wools arranged in one chamber, a pneumatic separating device preventing doubling of the threads; and on each continuous spinning frame a pump forcing moist air between the threads and sucking in pure moist air fed to the vicinity of the spinning frame.

3. In a plant comprising a plurality of continuous spinning frames for combed

wools arranged in one chamber, a pneumatic separating device preventing doubling of the threads; and on each continuous spinning frame a pump, a humidifier fitting into the
5 intake opening of the pump, a pipe connected with the latter to feed pure moist air between the threads; an electric motor actuat-

ing the pump whose intake sucks in pure moist air in the vicinity of the spinning frame. 10

In testimony whereof we have signed our names to this specification.

IVAN LINON.

JOSEPH DETHIER.