Title (en)

Circular needling machine whereby a fibrous web is supplied by means of a conveyor and a vertical chute

Title (de)

Kreisförmige Nadelmaschine wobei einer Faserstoffbahn durch ein Förderband und eine vertikale Rutsche zugeführt wird

Title (fr)

Machine d'aiguilletage circulaire à alimentation en nappe fibreuse par un convoyeur et une goulotte verticale

Publication

EP 2339055 A1 20110629 (FR)

Application

EP 10195878 A 20101220

Priority

FR 0959406 A 20091222

Abstract (en)

The machine for circularly needling a textile structure formed from a helical fibrous layer (106), comprises a needling table placed under a table (100) for supplying a fibrous sheet to the needle. The supply needle comprises a circular conveyor (102) centered on a vertical axis, and is disposed in the fibrous layer. The conveyor has a radial slot sealed in it for continuously rolling the fibrous web disposed on the conveyor. The slot is sealed in the conveyor towards a straight duct that extends vertically between the conveyor and a tray centered on the vertical axis (104) of the conveyor. The machine for circularly needling a textile structure formed from a helical fibrous layer (106), comprises a needling table placed under a table (100) for supplying a fibrous sheet to the needle. The supply needle comprises a circular conveyor (102) centered on a vertical axis, and is disposed in the fibrous layer. The conveyor has a radial slot sealed in it for continuously rolling the fibrous web disposed on the conveyor. The slot is sealed in the conveyor towards a straight duct that extends vertically between the conveyor and a tray centered on the vertical axis (104) of the conveyor, where the support plate includes a unit for rotating the fibrous web around the vertical axis. The needling table comprises a guiding plate centered on vertical axis and movable vertically according to the support plate between a low position of operation in which it is based on the support plate and a raised position to release in which it is positioned above the support plate. The straight duct has a secured portion to the feed table and another secured portion to the plate for guiding the needling table, where the portions are adapted to translate one inside the other during the vertical movements of the guide plate. The unit for rotating the fibrous web includes two pairs of tapered rollers angularly spaced from each other, and is intended to come into contact with the fibrous web feed on the needling table. The conical roller is connected to the guiding plate of the needling table, and disposed on outlet of the straight duct. The supply roller further comprises a roller disposed in the conveyor and angularly intercalated between the slot and inlet of the duct. A unit is arranged for evacuation of the textile structure apart from the support plate of the needling table, and comprises an arm controller equipped with an articulated rod. The needling table comprises a unit for cutting fibrous layer. The circular conveyor of the supply table comprises two curved portions each present in the form of semi-disc and disposed side by side. The slot is formed by a space connected between two portions of the conveyor.

Abstract (fr)

L'invention concerne une machine d'aiguilletage (10) circulaire d'une structure textile formée à partir d'une nappe fibreuse hélicoïdale, comprenant une table d'aiguilletage (200) disposée sous une table (100) d'alimentation en nappe fibreuse hélicoïdale à aiguilleter. La table d'alimentation comprend un convoyeur circulaire (102) centré sur un axe vertical (104) et sur lequel est destiné à être disposée une nappe fibreuse hélicoïdale (106) à aiguilleter, le convoyeur ayant une fente radiale (120) débouchant sous le convoyeur circulaire pour dérouler en continu la nappe fibreuse disposée sur le convoyeur, la fente débouchant sous le convoyeur vers une goulotte (400) droite qui s'étend verticalement entre le convoyeur et un plateau support de la table d'aiguilletage de façon à reprendre la nappe déroulée du convoyeur et l'amener sur la table d'aiguilletage, le plateau support ayant des moyens d'entraînement en rotation de la nappe fibreuse autour de l'axe vertical.

IPC 8 full level

D04H 18/02 (2012.01)

CPC (source: EP US)

D04H 18/02 (2013.01 - EP US)

Citation (applicant)

WO 02088449 A1 20021107 - MESSIER BUGATTI [FR], et al

Citation (search report)

- [I] WO 02088449 A1 20021107 - MESSIER BUGATTI [FR], et al
- [I] CA 2238835 C 20060328 - SNECMA [FR], et al

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EP2813610A1; FR3007043A1; FR3072693A1; EP3450606A1; FR3070696A1; EP3450605A1; FR3070695A1; US9303343B2; US10781543B2; US11193223B2; US11725318B2

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