

Title (en)
DEVICE AND METHOD FOR PREPARING CONTINUOUS NANOFIBROUS YARNS AND BUNDLES FROM ELECTROSPUN FIBERS AND FIBRILS

Title (de)
VORRICHTUNG UND VERFAHREN ZUR HERSTELLUNG KONTINUIERLICHER NANOFASERGARNE UND BÜNDEL AUS ELEKTROGESPONNENEN FASERN UND FIBRILLEN

Title (fr)
DISPOSITIF ET PROCÉDÉ DE PRÉPARATION DE FILS NANOFIBREUX CONTINUS ET DE FAISCEAUX À PARTIR DE FIBRILLES ET DE FIBRES ÉLECTROFILÉES

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Application
EP 15774983 A 20150908

Priority
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Abstract (en)
[origin: GB2529894A] Apparatus for preparing a continuous nanofibrous yarn comprising an electrospinning chamber 1 with at least one first opening 3 in the upper region of the chamber to receive a gas and a second opening 14 in the bottom region of said chamber for discharging the gas and the yarn 7; means for creating helical movement of the gas 6 within the chamber; means for introducing a plurality of nanofibres into said chamber, wherein said nanofibres are twisted together by said helical movement of gas; and means for continuously removing said yarn from said chamber through the second opening 14. The chamber may be shaped as an inverted cone, a bicone or cylinder; and have a negative pressure within the chamber created via the use of a fan 2 or vacuum pump around the base chamber which preferably creates a horizontal gas flow below the second opening. Alternatively the low pressure can be created by the use of a compressed air across the opening to create a venture effect. The means for introducing the nanofibres are via oppositely charged nozzles 5, and the yarn is preferably wound onto a roller 13. Alternatively the nanofibres are collected on a core yarn (16, fig 3b) that is pulled through the electrospinning chamber.

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