

Title (en)  
NEEDLE BOARD

Title (de)  
NADELBRETT

Title (fr)  
PLANCHE A AIGUILLES

Publication  
**EP 3165660 A1 20170510 (DE)**

Application  
**EP 15193390 A 20151106**

Priority  
EP 15193390 A 20151106

Abstract (en)  
[origin: US2017130381A1] The needle board for use in a needling machine for needling a flat textile material comprises first needle rows and second needle rows, wherein the first needle rows and the second needle rows are arranged inclined with respect to a longitudinal direction of the needle board, which longitudinal direction corresponds to a direction in which the flat textile material to be needled is conveyed in the needling machine. The first needle rows are arranged at a first angle to the longitudinal direction, and the second needle rows are arranged at a second angle to the longitudinal direction. An absolute value of the second angle is different from an absolute value of the first angle.

Abstract (de)  
Das Nadelbrett, das zur Verwendung in einer Nadelmaschine zum Nadeln eines textilen Flächengebildes dient, weist eine Mehrzahl von Nadelreihen (6, 7) auf, die schräg zu einer Längsrichtung (L) des Nadelbretts, die einer Förderrichtung des zu vernadelnden textilen Flächengebildes in der Nadelmaschine entspricht, angeordnet sind. Dabei ist ein Betrag des Winkels (°) zweiter Nadelreihen (7) zur Längsrichtung (L) des Nadelbretts verschieden zu dem Betrag des Winkels (±) erster Nadelreihen (6) zur Längsrichtung (L) des Nadelbretts.

IPC 8 full level  
**D04H 18/00** (2012.01); **D04H 18/02** (2012.01)

CPC (source: CN EP US)  
**D04H 18/00** (2013.01 - EP US); **D04H 18/02** (2013.01 - CN EP US)

Citation (search report)  
• [A] EP 2138616 A1 20091230 - DILO KG MASCHF OSKAR [DE]  
• [A] EP 2918719 A1 20150916 - DILO KG MASCHF OSKAR [DE]

Cited by  
EP3744889A1; US11208746B2; US11384460B2; EP3896206A1; EP3896207A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3165660 A1 20170510; EP 3165660 B1 20180523**; CN 107012594 A 20170804; CN 107012594 B 20190709; US 2017130381 A1 20170511; US 9994983 B2 20180612

DOCDB simple family (application)  
**EP 15193390 A 20151106**; CN 201610973989 A 20161104; US 201615342745 A 20161103