

Title (en)  
METHOD AND APPARATUS FOR MANUFACTURING BRUSH WARE

Publication  
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Application  
**EP 89109137 A 19890520**

Priority  
DE 3820372 A 19880615

Abstract (en)  
[origin: EP0346646A2] Brushware, of which the bristle ends on the side used are rounded and lie in a contour deviating from the surface of the bristle bearer, are manufactured by the method that the bristles are pressed with their ends on the side used with axial displacement against a negative mould corresponding to the contour and are attached by their opposite ends to a bristle bearer. In order to shape individual bristles, bristle bundles or an entire set of bristles and, at the same time to round the ends of the bristles on the side used in an effective and even manner, provision is made for the bristles to be clamped at a distance from their ends on the side used lying in a flat plane, for their ends on the side used to be rounded mechanically or chemically, subsequently to be released from the clamping and then to be shaped against the negative mould. Furthermore, an apparatus for carrying out this method is described.

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IPC 8 full level  
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**A46B 3/06** (2013.01 - EP US); **A46B 9/02** (2013.01 - EP US); **A46D 3/045** (2013.01 - EP US)

Citation (search report)  
• [AD] US 2227126 A 19401231 - LESTER COOKE HEReward  
• [AD] US 2488873 A 19491122 - EDGAR MAYNARD CHARLES

Cited by  
EP1449458A1; BE1015374A3; WO9911156A1; WO9907255A1; AU693595B2; EP0972464A1; EP0972465A1; DE19738256A1; DE19738256C2; CN108430265A; BE1023106B1; DE10030811A1; DE10030811C2; DE10017465B4; AU710801B2; US5722106A; US6199242B1; EP1839528A3; EP0567672A1; AU659943B2; EP0568055A1; AU744909B2; US6372163B1; WO2017076839A1; US10405642B2; WO0103544A1; WO9321796A1; WO9119437A1; WO2017076660A1; US7854036B2; USRE47468E; WO0010425A1; US6290302B1; US6290303B1; US8046864B2; US7641287B2; US6220672B1; EP2886081A1; EP3305245A1; EP2130454A1; EP2526815A2; US8534769B2; US9173480B2; WO2006005216A1; EP2263851A2; WO9837787A1; WO9739649A1; EP3370571B1; TWI698197B; WO0224026A1; US11219303B2; EP4042902A1

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