

Title (en)

Method and device for connecting adjacent objects equipped with holes to each other

Title (de)

Verfahren und Vorrichtung zum Verbinden von untereinander dicht benachbarten durchlöcherten Gegenständen

Title (fr)

Procédé et dispositif pour connecter entre eux des objets adjacents équipés de trous

Publication

**EP 1314674 A3 20030917 (EN)**

Application

**EP 02079021 A 20020930**

Priority

FI 20012280 A 20011122

Abstract (en)

[origin: EP1314674A2] A method is disclosed for connecting adjacent objects (1) such as paper rolls to each other, the method comprising the step of inserting a bushing (3) through the center bores of at least two adjacent paper rolls. The method is implemented by way of moving the parts of the bushing (3) formed by at least two parts in the bore of the objects relative to each other, whereby the parts are guided by the mating division surfaces (A, B) of the bushings, at least one of the mating surfaces having a spiraling shape, in the longitudinal axis direction of the bushing so that the outer diameter (U) of the bushing increases thus causing the bushing to expand tight in the center bores of the objects (1). The invention also concerns a device for connecting objects (1) to each other. <IMAGE>

IPC 1-7

**B65H 75/18**; **B65D 21/02**; **B65D 85/672**

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

- [A] GB 2045210 A 19801029 - CIBA GEIGY AG
- [A] WO 0130679 A1 20010503 - NITTO DENKO CORP [JP], et al
- [A] US 5704478 A 19980106 - BORN NORBERT [DE]
- [A] US 5377831 A 19950103 - CROOKS DAVID M [US]
- [A] GB 1232242 A 19710519
- [A] DE 2157776 A1 19730530 - SCHICK GUENTHER DR ING
- [A] PATENT ABSTRACTS OF JAPAN vol. 018, no. 079 (M - 1557) 9 February 1994 (1994-02-09)

Cited by

EP1733982A1; WO2006118523A1; US8302897B2; US8695801B2

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