

Title (en)
Method and Apparatus for cutting up to a predetermined depth

Title (de)
Verfahren und Vorrichtung zum Schneiden bis auf eine vorbestimmte Schnitttiefe

Title (fr)
Procédé ainsi que dispositif pour couper jusqu'à une profondeur déterminée

Publication
EP 1162044 A3 20021113 (DE)

Application
EP 01106306 A 20010315

Priority
DE 10026572 A 20000530

Abstract (en)
[origin: EP1162044A2] The apparatus to cut a soft and flexible material (12) e.g. textile fabrics or leather and the like, which is spread out on a cutting underlay (14), has a cutting tool (16) which cuts through it by a given cutting depth (42). The cutting mechanism is moved over the fabric workpiece with height settings (54,56) which automatically take the height of the underlay, stored in a height setting control unit (22). The fabric/leather cutting apparatus scans the height settings stored in the control unit, which show the level of given points on the underlay surface (24), as height reference points along the cutter movement plane (50), to give the shifting positions for the cutter as it moves along the cutting path. The cutter is powered by an electromotor (20). The cutter height is set automatically according to the cutting resistance, when the level of the underlay surface differs from the stored height setting as the cutter attempts to penetrate the underlay and the resistance differs from a nominal value. The current supply for the electromotor is controlled by a constant current unit. When the motor current changes through an alteration in the cutting resistance, an automatic counter action is effected by a height correction setting to the cutter. The height levels are registered by a sensor which is moved along the underlay surface to mimic the cutter movements, with the readings stored automatically in the memory (25) by addresses, by reading or scanning. The sensor is part of a control system, which moves it along a cutting line from a stored pattern cutting program. The cutter is moved along the fabric/leather workpiece on the underlay by a coordinate control system, with a height level setting stored in memory for each coordinate. An Independent claim is included for a fabric/leather cutting apparatus, where the cutting tool is moved along a path parallel to the underlay, with height settings for reference points on the underlay surfaces to maintain a set cutting depth through the workpiece material.

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B26D 3/085 (2013.01)

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• [XY] EP 0351223 A1 19900117 - GFM HOLDING AG [AT]
• [YA] US 3760997 A 19730925 - BIER D
• [YA] DE 19718436 A1 19981105 - BULLMER SPEZIALMASCHINEN GMBH [DE]
• [A] DE 19645986 A1 19980528 - BULLMER SPEZIALMASCHINEN GMBH [DE]

Cited by
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