

Title (en)

METHOD AND APPARATUS FOR HIGH-SPEED LACING OF AN ARTICLE

Title (de)

VERFAHREN UND VORRICHTUNG ZUM SCHNÜREN EINES ARTIKELS BEI HOHER GESCHWINDIGKEIT

Title (fr)

PROCEDE ET APPAREIL SERVANT A EFFECTUER LA FIXATION TRES RAPIDE D'UN CORDON A UN ARTICLE

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Application

EP 99920138 A 19990429

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Abstract (en)

[origin: WO9956693A1] An apparatus (100) for high-speed attachment of a cord (150) to a piece of receiving material (160) is characterized by one or more pins (210) which engage the cord, pierce the receiving material and draw the cord through the receiving material from the first side to a second side thereof so that open loops are formed in the cord on the second side of the receiving material. The pins may be implemented as push pin (212) and spreader pin (214) pairs movably mounted relative to each other and adapted to grasp the cord and penetrate the receiving material. The loops (155) are formed as the push pin and spreader pin move relative to each other. The apparatus further comprises a floating shuttle (310), not attached to the frame (110) of the apparatus but supported by a series of gear assemblies (316, 320). The pins move relative to the shuttle in a single direction causing the shuttle to engage an end portion of the cord (150A), drawing the cord through the open loops (155A-C) so as to complete the lacing stitch of the cord through the receiving material. The apparatus operates without any significant reciprocating motion, resulting in a process that can attach a cord to a piece of receiving material at extremely high speeds. The floating shuttle may be applied in any situation where a strand of material such as cord, thread, wire, or fiber is to be attached to a receiving piece of material.

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