

Title (en)
KNITTING MACHINE WITH RADIAL KNITTING NEEDLES

Title (de)
STRICKMASCHINE MIT RADIAL-STRICKNADELN

Title (fr)
MACHINE A TRICOTER A AIGUILLES A TRICOTER RADIALES

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Application
EP 96927488 A 19960828

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Abstract (en)
[origin: WO9708374A1] The flat and circular type knitting machines as known hereinbefore are characterized by the knitting needles moving linearly, being arranged in a straight line and held on a flat needle bed or arranged in a circle on a rotating cylinder, actuated by a cam, a disk or an actuator. The knitting machine of the present invention introduces a new form, a new manner of moving and a new guiding system of a knitting needle. According to the present invention there is provided a knitting machine comprised of a plurality of knitting needles (2), each of them having a curved profile and by its form representing an arc of a circle having its centre in a needle axle (6), which corresponds to a needle bed of the knitting machine of the previous constitution, around which it can make an angular motion in the loop forming process. Therefore this knitting needle is called a radial knitting needle (RKN). To each RKN can be associated one actuator (3), in such a way that the RKN is mechanically attached to a rotor of an actuator at a distance from the centre of rotation equal to the radius of the RKN, whereby the actuators are the rotary direct current motors with a common magnetic flux of stator (30) of all the actuators and the rotors (40) shaped as a section of a circle, on which arc is firmly supported the RKN. In order to exactly position the rotor (40), i.e., the RKN, there is provided a position controller capable of positioning the actuator to any position according to a predetermined knitting plan, within the central angle of the RKN. The knitting machine of the present invention opens new opportunities for creative knitting designs, especially fully fashioned knitted fabric, increases the speed of knitting, and reduces the manufacturing costs.

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