

Title (en)

Numerically controlled electro-magnetical needle selection device for three positions on circular-knitting machines with alternating movement.

Title (de)

Numerisch gesteuerte elektromagnetische Nadelauswahlvorrichtung für drei Stellungen an Rundstrickmaschinen mit hin- und hergehender Bewegung.

Title (fr)

Dispositif de sélection électromagnétique à commande numérique des aiguilles à trois positions pour métiers à tricoter circulaires avec mouvement alternatif.

Publication

**EP 0343123 A2 19891123 (FR)**

Application

**EP 89830207 A 19890511**

Priority

IT 941188 A 19880517

Abstract (en)

To make the numerically controlled electromagnetic selection of needles with three positions, that is to say "floating" point, "retaining" point and "cast-off" point, in each of the directions of rotation of the needle cylinder of a circular knitting machine with alternating movement for producing socks with a "marquetry" design, there are used: - a cylinder 1 with needles 2 and keys 4 and with pusher jacks 6 equipped with a heel 7, 8 at the two ends and subject to a rear centrifugal spring 10; - two oscillating selectors 11, 12 superposed vertically and arranged symmetrically relative to the horizontal separating line, each with a convexity towards the corresponding pusher jack 6 and with three outwardly directed heels, two of these 15, 17, corresponding to the ends, being juxtaposed respectively with a pressure cam 25, 26 and with a spacing ring 18, and the third, which is intermediate, forming the anchorage by magnetic attraction; and for each supply: - two electromagnets 21, 22 arranged superposed vertically for the selection of the said oscillating selectors 11, 12, the simultaneous deactivation of which determines the lower position of the needle for the floating point; - a ring 18 for spacing the oscillating selectors 11, 12 in relation to the said electromagnets 21, 22 in the attracted position and rotating in conformity with the needle cylinder; - a cam 31 for controlling the pusher jacks 6 when the lower oscillating selector 11 is deactivated in order to obtain the intermediate position of the needle for the retaining point; - a cam 30 for controlling the keys 4 when the two oscillating selectors 11, 12 are activated, to obtain the upper position of the needle for the cast-off point. <??>With such a selection device, it is possible to reduce the diameter of the needle cylinder to less than 4" with a fineness higher than 120 needles, and to work at a speed higher than that allowed at the present time. <IMAGE>

IPC 1-7

**D04B 15/78**

IPC 8 full level

**D04B 15/78** (2006.01); **D04B 15/82** (2006.01)

CPC (source: EP US)

**D04B 9/36** (2013.01 - EP); **D04B 9/38** (2013.01 - EP); **D04B 15/78** (2013.01 - EP US)

Cited by

SG89268A1; EP0814187A3; EP0496133A1; US5205139A; EP0487152A1; US5241288A

Designated contracting state (EPC)

DE ES FR GB GR IT

DOCDB simple family (publication)

**EP 0343123 A2 19891123**; **EP 0343123 A3 19911030**; CS 275163 B2 19920219; CS 8902923 A3 19920219; IT 1222246 B 19900905; IT 8809411 A0 19880517; JP H0214052 A 19900118; US 4989425 A 19910205

DOCDB simple family (application)

**EP 89830207 A 19890511**; CS 292389 A 19890516; IT 941188 A 19880517; JP 12412389 A 19890517; US 35102389 A 19890512