

Title (en)
Blind stitch sewing machine

Title (de)
Blindstichnähvorrichtung

Title (fr)
Machine à coudre à point invisible

Publication
EP 1182287 A2 20020227 (DE)

Application
EP 01120143 A 20010821

Priority
DE 10040807 A 20000821

Abstract (en)

The loop catcher is carried in bearings to reciprocate transversely across the path of motion of the circularly-curved needle (40). The unit (14) causing relative motion between sewing head (10) and sewn material (90), is so constructed that the seam formed, runs at least approximately in the direction of the path of motion of the needle (40). Preferred features: A foot (60) holding the material down is located on the carrier (20), having a slot corresponding with needle motion. The foot is height-adjustable on the carrier. The catcher is a pin fastened to a swinging lever mounted to pivot on the carrier and connected to a drive. The needle drive is a reversible motor, geared to the needle shaft. The drive includes a timing belt running on pinions of the drive motor and needle shaft. A further version of the needle drive employs an eccentric. A cam drives the catcher and a reversible motor drive is included. The carrier translates in a frame of the sewing head, for back and forth parallel adjustment relative to the movement between sewn material and sewing head. A guide prevents undesired side motion following penetration of the material by the needle. The guide is an annular groove in a roller. The curved needle has a support contacting its convex exterior during at least part of its stroke. This is a roller on a bearing with its axis parallel to the needle curve axis, and having a groove accepting the needle. It is adjustable between a position contacting the needle, and a position avoiding it. The roller is carried on a swinging lever coupled to co-ordinate with needle motion, between these two positions. The foot and a separate cutter, have co-operating cutting edges; that on the foot being at least one of the slot edges. Foot and blade swing relative to one another about an axis perpendicular to the footplate surface. Cutter or footplate is arranged on a tube, and the complementary component is arranged on a rod passing through the tube, coupled to a drive for pivoting.

Abstract (de)

Blindstichnähvorrichtung umfassend einen Nähkopf (10) mit einem Träger (20), einer an dem Träger (20) drehbar gelagerten Nadelwelle (34), die mit einem radial von ihr abstehenden Nadelhalter (36) zur Halterung einer bogenförmig um die Achse (38) der Nadelwelle (34) gekrümmten Nadel (40) verbunden ist, einen Nadelantrieb (56, 58, 44, 42) zum Hin- und Herbewegen der Nadel (40), einen an dem Träger (20) beweglich gelagerten Schlingenfänger (74) zur Aufnahme einer beim Zurückziehen der Nadel (40) durch das Nähgut gebildeten Fadenschlinge, einen Fängerantrieb zum Bewegen des Schlingenfängers (74) in zeitlicher Koordination mit der Bewegung der Nadel (40), und Mittel (14) zum Erzeugen einer Relativbewegung zwischen dem Nähkopf (10) und dem Nähgut, dadurch gekennzeichnet, daß der Schlingenfänger (74) für eine Hin- und Herbewegung quer zur Bewegungsbahn der Nadel (40) gelagert ist und daß die Mittel (14) zum Erzeugen einer Relativbewegung zwischen dem Nähkopf (10) und dem Nähgut so ausgebildet sind, daß die gebildete Naht mindestens annähernd in Richtung der Bewegungsbahn der kreisbogenförmig gekrümmten Nadel (40) verläuft. <IMAGE>

IPC 1-7
D05B 1/24

IPC 8 full level
D05B 1/24 (2006.01)

CPC (source: EP US)
D05B 1/24 (2013.01 - EP US)

Cited by
CN105662501A; CN102625672A; EP3875652A1

Designated contracting state (EPC)
DE ES FR GB IT

DOCDB simple family (publication)
EP 1182287 A2 20020227; EP 1182287 A3 20021002; EP 1182287 B1 20071017; DE 10040807 A1 20020321; DE 10040807 B4 20040715; DE 50113143 D1 20071129; US 2002035955 A1 20020328; US 6470814 B2 20021029

DOCDB simple family (application)
EP 01120143 A 20010821; DE 10040807 A 20000821; DE 50113143 T 20010821; US 93421601 A 20010821