

Title (en)
AUTOMATIC NEEDLE THREAD SUPPLY CONTROL SYSTEM

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EP 0265267 B1 19910522 (EN)

Application
EP 87309359 A 19871022

Priority
JP 25133386 A 19861022

Abstract (en)
[origin: EP0265267A2] An automatic needle thread supply control system having a pair of clamping members (152A) disposed between the needle thread supply source and the needle thread take-up member (138), for clamping and releasing the needle thread (114). The moment when the clamping members start moving apart from each other and the period in which the clamping members are held apart from each other are controlled by control means according to the thickness of the work fabric or the thickness of the needle thread. While the clamping members are separated from each other, the needle thread is supplied from the needle thread supply source without restraint as the work fabric is fed. The needle thread is thus supplied under a tension conforming to the type of the work fabric in tightening the needle thread. During the free supply of the needle thread, the thread take-up member is held at the uppermost position, and hence the needle thread of an amount corresponding to the needle thread demand of the shuttle is supplied properly. After the supply of the needle thread has been accomplished, the clamping members are engaged to clamp the needle thread to prevent the excessive supply of the needle thread, while the thread take-up member starts its motion in phase with the vertical reciprocatory motion of the needle. To control the motion of the clamping members according to the thickness of the needle thread instead of the thickness of the work fabric, the control means is provided with proportional control means for engaging and for disengaging the clamping members at a speed proportional to the rotating speed of the arm shaft (128) of the sewing machine,

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