

Title (en)  
Looper mechanism of buttonholing machine

Title (de)  
Greifermechanismus einer Knopflochstichnähmaschine

Title (fr)  
Mécanisme boucleur de machine à boutonnieres

Publication  
**EP 2189564 B1 20110615 (EN)**

Application  
**EP 09176579 A 20091120**

Priority  
JP 2008296573 A 20081120

Abstract (en)  
[origin: EP2189564A1] The invention relates to a looper mechanism (10) of a buttonholing machine (1). The looper mechanism (10) includes two loopers (11, 12) which catch a sewing thread to form a loop, two spreaders (20, 30) which expand the loop of the sewing thread, a looper base (60) which is supported below a sewing needle (3) so as to be turnable about a centerline extending in a vertical direction (Z), a looper mount (70) on which the loopers (11, 12) and the spreaders (20, 30) are mounted and which is swingably supported on the looper base (60) such that the loopers (11, 12) and the spreaders (20, 30) move toward and away from the up-down movement path of the sewing needle (3), and a spreader cam (40) which is swingably supported on the looper base (60) to give a rotation movement to each of the spreaders (20, 30) to expand the loop. The looper mechanism (10) is characterized by further comprising a lubricant oil feeding member (90) which is brought into contact with the contact portion (23, 33) of each of the spreaders (20, 30) in accordance with the swinging of the looper mount (70) to provide a lubricant oil to the contact portion (23, 33), wherein the lubricant oil feeding member (90) is fixedly equipped on the looper base (60).

IPC 8 full level  
**D05B 3/06** (2006.01); **D05B 71/00** (2006.01)

CPC (source: EP KR)  
**D05B 3/06** (2013.01 - EP KR); **D05B 57/06** (2013.01 - KR); **D05B 71/00** (2013.01 - EP KR)

Cited by  
US11578440B2; WO2020106494A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)  
**EP 2189564 A1 20100526; EP 2189564 B1 20110615**; AT E513076 T1 20110715; CN 101736534 A 20100616; CN 101736534 B 20130619; JP 2010119645 A 20100603; JP 5241445 B2 20130717; KR 101698062 B1 20170119; KR 20100056989 A 20100528

DOCDB simple family (application)  
**EP 09176579 A 20091120**; AT 09176579 T 20091120; CN 200910221545 A 20091120; JP 2008296573 A 20081120; KR 20090112559 A 20091120