

Title (en)

MACHINE TOOL, IN PARTICULAR FOR MACHINING TOROIDAL WORKPIECES ON ALL SIDES

Title (de)

WERKZEUGMASCHINE, INSbesondere FÜR EINE ALLSEITIGE BEARBEITUNG VON TORISCHEN WERKSTÜCKEN

Title (fr)

MACHINE-OUTIL, EN PARTICULIER, POUR L'USINAGE DE PIÈCES À USINER TOROÏDALES SUR TOUS LES CÔTÉS

Publication

EP 4117856 A1 20230118 (DE)

Application

EP 21707973 A 20210224

Priority

- DE 102020203185 A 20200312
- EP 2021054532 W 20210224

Abstract (en)

[origin: WO2021180472A1] The invention relates to a machine tool comprising: a Z-axis slide (2) having a main spindle (20) for a machining tool (21) rotating about a spindle axis (23); a main machine body (10), on which the Z-axis slide (2) is arranged; a machining table (3) having a machining plane (30), a clamping device (31) for clamping a workpiece (7), and a first drive (5), which is arranged in a housing (34) and which is designed to rotate the clamping device (31) of the machining table (3) about an axis of rotation (B); a support element (4), which is arranged on a pivot axis housing (35) and on which the machining table (3) is arranged, the support element (4) being a substantially L-shaped cantilever hinged at one end; a three-axis linear movement system having a first linear axis Y, a second linear axis Z and a third linear axis X, to enable a relative movement between the Z-axis slide (2) together with the main spindle (20) and the machining table (3); a second drive (6), which is designed to enable the support element (4) and the machining table (3) to pivot about a pivot axis (A), the support element (4) having a first limb (41) and a second limb (42), and the machining table (3) together with the housing (34) being arranged at the free end of the first limb (41) on the first limb (41) such that the support element (4) and the housing (34) form a substantially U-shaped unit and an interstice (8) remains between the second limb (42) and the housing (34), into which interstice a toroidal workpiece (7) clamped against the clamping device (31) can protrude and can be rotated about the axis of rotation (B) with the aid of the first drive (5).

IPC 8 full level

B23Q 1/01 (2006.01); **B23Q 1/54** (2006.01)

CPC (source: EP US)

B23Q 1/015 (2013.01 - EP US); **B23Q 1/4876** (2013.01 - US); **B23Q 1/488** (2013.01 - EP); **B23Q 1/5406** (2013.01 - EP US)

Designated contracting state (EPC)

AL 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 RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

DE 102020203185 A1 20210916; CN 115279546 A 20221101; EP 4117856 A1 20230118; JP 2023517936 A 20230427;
JP 7559077 B2 20241001; TW 202135971 A 20211001; TW I783397 B 20221111; US 2023099331 A1 20230330; WO 2021180472 A1 20210916

DOCDB simple family (application)

DE 102020203185 A 20200312; CN 202180020580 A 20210224; EP 2021054532 W 20210224; EP 21707973 A 20210224;
JP 2022554476 A 20210224; TW 110107690 A 20210304; US 202117909895 A 20210224