

Title (en)  
GRINDING MACHINE AND METHOD FOR GRINDING WORKPIECES THAT HAVE AXIAL BORES AND PLANAR EXTERNAL SURFACES TO BE MACHINED ON BOTH SIDES

Title (de)  
SCHLEIFMASCHINE UND VERFAHREN ZUM SCHLEIFEN VON AXIALEN BOHRUNGEN UND BEIDSEITIG ZU BEARBEITENDE PLANE AUSSENFLÄCHEN AUFWEISENDEN WERKSTÜCKEN

Title (fr)  
MEULEUSE ET PROCÉDÉ DE MEULAGE DE PIÈCES COMPORTANT DES ALÉSAGES AXIAUX ET DES SURFACES EXTÉRIEURES PLANES À USINER DES DEUX CÔTÉS

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Application  
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Abstract (en)  
[origin: WO2015128210A1] The invention provides a grinding machine for the complete machining of workpieces, in particular gearwheels for transmissions, on both planar sides and within a central bore on one and the same machine, and a method which is carried out on the grinding machine. The grinding machine has a workpiece headstock and two grinding headstocks, wherein the first grinding headstock has two grinding spindles with in each case one grinding wheel for grinding the first and second planar and also the non-planar external surfaces, and the second grinding headstock has a grinding spindle having a grinding wheel for grinding the central bore in the workpiece. The second grinding headstock additionally has, in an equipment unit, a clamping device, in particular in the form of a mandrel, which clamps the workpiece in the bore once grinding of the bore has been completed. The grinding machine is thus configured such that first of all the bore and the first planar and any non-planar external surface that is present are ground on the one side of the workpiece, wherein the bore and the first external surface are ground at least temporally in parallel, this being followed by the clamping of the workpiece by way of the clamping device in the bore. Thereupon, the clamping by the workpiece headstock is released such that the now released second planar external surface can be ground in one and the same grinding machine with one of the grinding wheels of the first headstock. The clamping with the clamping device attached to the second grinding headstock thus takes place in that the central axis of the clamping device is aligned exactly with the central axis of the workpiece headstock, with the result that clamping in a precise position is achieved even in the case of changing clamping in the grinding machine.

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