

Title (en)  
Method of polishing and polishing machine

Title (de)  
Verfahren zum Polieren und Poliermaschine

Title (fr)  
Procédé et machine de polissage

Publication  
**EP 1386694 B2 20130109 (DE)**

Application  
**EP 03025546 A 20010111**

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Abstract (en)  
[origin: WO0156740A1] The invention relates to a polishing head for a polishing machine, especially for polishing optical surfaces. The inventive polishing head comprises a polishing plate that is linked with a rotation-driven primary shaft. Said polishing plate (7) is hinged on the primary shaft (7) so as not to rotate. The hinged, rotationally fixed connection can be established by means of a hexagonal ball joint. Said hinged connection allows the polishing plate to rotate and simultaneously follow the surface (41) of the work piece (39) to be polished so that the polishing lining (5) always rests on the largest area possible of the surface (41).

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Citation (opposition)  
Opponent :  
• EP 0567894 A1 19931103 - LOH ENGINEERING AG [CH]  
• DE 29803158 U1 19980806 - SCHNEIDER GMBH & CO KG [DE]  
• DE 2252503 A1 19740509 - LOH KG OPTIK W  
• DE 69416943 T2 19990826 - COBURN OPTICAL IND [US]  
• GB 1011741 A 19651201 - PHILIPS ELECTRONIC ASSOCIATED  
• JP S63232948 A 19880928 - CANON KK  
• WO 9700155 A1 19970103 - OPTICAL GENERICS LTD [GB], et al  
• DE 4442181 C1 19951026 - LOH OPTIKMASCHINEN AG [DE]  
• DE 68903661 T2 19930624 - BERTIN & CIE [FR]  
• DE 2742307 A1 19780323 - PERKIN ELMER CORP  
• US 3968598 A 19760713 - OGAWA HARUO  
• EP 0835722 A1 19980415 - NIPPON KOGAKU KK [JP]  
• DE 68924819 T2 19960502 - ALLERGAN INC [US]  
• PROF. DR.-ING. RASCHER/PROF. DR. RER. NAT. SPERBER: "IFHEM-Innovatives Fertigungskonzept für High Tech-Flächen", REDAKTION MASCHINENBAU FH DEGGENDORF FORSCHUNGSBERICHT 2002

Cited by  
DE102012216724A1; DE102017102094B4; DE102017102094A1; DE102005052314A1; EP1779967A3; US8056453B2; JP2007125690A

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