Title (en)

METHOD FOR COLD SIZING A ROUND WORKPIECE HAVING MULTIPLE DIAMETERS

Publication

EP 0114108 B1 19881207 (EN)

Application

EP 84300204 A 19840113

Priority

US 45832583 A 19830117

Abstract (en)

[origin: EP0284824A2] A method and apparatus (12) for cold sizing a round workpiece (14) having round surfaces of cylindrical shapes that are coaxial about a central axis A of the workpiece and have different diameters. A support (54,55) rotatably mounts the workpiece (14) about its central axis A between a pair of die assemblies (24a, 24b) which are spaced from each other. Each die assembly (24a,24b) includes a plurality of dies (56,58,60,62) that are respectively aligned with the round surfaces (46,48,50,52) of the workpiece (14). Movement of the die assemblies in opposite directions as each other engages sizing surfaces (66,68,70,72) of the dies with the aligned round surfaces of the workpiece to pressure size the workpiece surfaces. In one embodiment of the sizing apparatus (12), the dies assemblies (24a, 24b) have elongated shapes and are moved rectilinearly in a parallel relationship to each other to perform the sizing. Another rotary embodiment of the sizing apparatus (12') includes rotary die assemblies (24a',24b') mounted by associated spindles (85) whose rotation likewise pressure sizes the round workpiece surfaces. Both embodiments of the sizing apparatus are disclosed as including forming projections for forming projections for forming projections such as splines (82) and/or a helical thread (84) on the sized surfaces of the workpiece.

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