

CPC**COOPERATIVE PATENT CLASSIFICATION****B23H**

WORKING OF METAL BY THE ACTION OF A HIGH CONCENTRATION OF ELECTRIC CURRENT ON A WORKPIECE USING AN ELECTRODE WHICH TAKES THE PLACE OF A TOOL; SUCH WORKING COMBINED WITH OTHER FORMS OF WORKING OF METAL (processes for the electrolytic or electrophoretic production of coatings, electroforming, or apparatus therefor [C25D](#); processes for the electrolytic removal of material from objects [C25F](#); manufacturing printed circuits using precipitation techniques to apply the conductive material to form the desired conductive pattern [H05K 3/18](#))

NOTE

This subclass covers the working of metal described as "electroerosion"

B23H 1/00

Electrical discharge machining, i.e. removing metal with a series of rapidly recurring electrical discharges between an electrode and a workpiece in the presence of a fluid dielectric

B23H 1/02

- . Electric circuits specially adapted therefor, e.g. power supply, control, preventing short circuits or other abnormal discharges

B23H 1/022

- . . {for shaping the discharge pulse train ([B23H 1/024](#) takes precedence)}

B23H 1/024

- . . {Detection of, and response to, abnormal gap conditions, e.g. short circuits (preventing short circuits or other abnormal discharges by altering machining parameters using adaptive control [B23H 7/16](#))}

B23H 1/026

- . . {Power supply protection, e.g. detection of power switch breakdown}

B23H 1/028

- . . {for multiple gap machining}

B23H 1/04

- . Electrodes specially adapted therefor or their manufacture ([B23H 9/00](#) takes precedence)

B23H 1/06

- . . Electrode material

B23H 1/08

- . Working media

B23H 1/10

- . Supply or regeneration of working media

B23H 3/00

Electrochemical machining, i.e. removing metal by passing current between an electrode and a workpiece in the presence of an electrolyte

B23H 3/02

- . Electric circuits specially adapted therefor, e.g. power supply, control, preventing short circuits

B23H 3/04

- . Electrodes specially adapted therefor or their manufacture ([B23H 9/00](#) takes precedence)

B23H 3/06

- . . Electrode material

B23H 3/08

- . Working media

B23H 3/10

- . Supply or regeneration of working media

B23H 5/00

Combined machining

B23H 5/02

- . Electrical discharge machining combined with electrochemical machining

- B23H 5/04 . Electrical discharge machining combined with mechanical working
- B23H 5/06 . Electrochemical machining combined with mechanical working, e.g. grinding or honing
- B23H 5/08 . . Electrolytic grinding
- B23H 5/10 . Electrodes specially adapted therefor or their manufacture ([B23H 1/04](#), [B23H 3/04](#) take precedence)
- B23H 5/12 . Working media
- B23H 5/14 . Supply or regeneration of working media

- B23H 7/00** **Processes or apparatus applicable to both electrical discharge machining and electrochemical machining**
- B23H 7/02 . Wire-cutting
- B23H 7/04 . . Apparatus for supplying current to working gap; Electric circuits specially adapted therefor
- B23H 7/06 . . Control of the travel curve of the relative movement between electrode and workpiece
- B23H 7/065 . . . {Electric circuits specially adapted therefor}
- B23H 7/08 . . Wire electrodes
- B23H 7/10 . . . Supporting, winding or electrical connection of wire-electrode
- B23H 7/101 {Supply of working media}
- B23H 7/102 {Automatic wire threading}
- B23H 7/104 {Wire tension control}
- B23H 7/105 {Wire guides}
- B23H 7/107 {Current pickups}
- B23H 7/108 {Used wire disposal devices}
- B23H 7/12 . Rotating-disc electrodes
- B23H 7/14 . Electric circuits specially adapted therefor, e.g. power supply {([B23H 3/02](#) takes precedence)}
- B23H 7/16 . . for preventing short circuits or other abnormal discharges {by altering machining parameters using adaptive control}
- B23H 7/18 . . for maintaining or controlling the desired spacing between electrode and workpiece
- B23H 7/20 . . for programme-control, e.g. adaptive ([programme-control systems in general G05B 19/00](#))
- B23H 7/22 . Electrodes specially adapted therefor or their manufacture ([B23H 7/08](#), [B23H 7/12](#), [B23H 9/00](#) take precedence)
- B23H 7/24 . . Electrode material
- B23H 7/26 . Apparatus for moving or positioning electrode relatively to workpiece; Mounting of electrode
- B23H 7/265 . . {Mounting of one or more thin electrodes}
- B23H 7/28 . . Moving electrode in a plane normal to the feed direction, e.g. orbiting
- B23H 7/30 . . Moving electrode in the feed direction ([B23H 7/32](#) takes precedence)
- B23H 7/32 . . Maintaining desired spacing between electrode and workpiece {e.g. by means of particulate material}
- B23H 7/34 . Working media

B23H 7/36	<ul style="list-style-type: none"> Supply or regeneration of working media
B23H 7/38	<ul style="list-style-type: none"> Influencing metal working by using specially adapted means not directly involved in the removal of metal, e.g. ultrasonic waves, magnetic fields or laser irradiation
B23H 9/00	Machining specially adapted for treating particular metal objects or for obtaining special effects or results on metal objects (heat treatment by cathodic discharge C21D 1/38)
B23H 9/001	<ul style="list-style-type: none"> {Disintegrating}
B23H 9/003	<ul style="list-style-type: none"> {Making screw-threads or gears}
B23H 9/005	<ul style="list-style-type: none"> {Machining elongated bodies, e.g. rods}
B23H 9/006	<ul style="list-style-type: none"> {Cavity sinking (B23H 9/14 takes precedence)}
B23H 9/008	<ul style="list-style-type: none"> {Surface roughening or texturing}
B23H 9/02	<ul style="list-style-type: none"> Trimming or deburring {(B23H 9/003 takes precedence)}
B23H 9/04	<ul style="list-style-type: none"> Treating surfaces of rolls
B23H 9/06	<ul style="list-style-type: none"> Marking or engraving
B23H 9/08	<ul style="list-style-type: none"> Sharpening
B23H 9/10	<ul style="list-style-type: none"> Working turbine blades or nozzles
B23H 9/12	<ul style="list-style-type: none"> Forming parts of complementary shape, e.g. punch-and-die
B23H 9/14	<ul style="list-style-type: none"> Making holes
B23H 9/16	<ul style="list-style-type: none"> .. using an electrolytic jet
B23H 9/18	<ul style="list-style-type: none"> Producing external conical surfaces or spikes (B23H 9/08 takes precedence)
B23H 11/00	Auxiliary apparatus or details, not otherwise provided for
B23H 11/003	<ul style="list-style-type: none"> {Mounting of workpieces, e.g. working-tables}
B23H 11/006	<ul style="list-style-type: none"> {Electrical contacts or wires (B23H 7/10 takes precedence)}
B23H 2200/00	Specific machining processes or workpieces
B23H 2200/10	<ul style="list-style-type: none"> for making bearings
B23H 2200/20	<ul style="list-style-type: none"> for making conical bores
B23H 2200/30	<ul style="list-style-type: none"> for making honeycomb structures
B23H 2300/00	Power source circuits or energization
B23H 2300/10	<ul style="list-style-type: none"> Pulsed electrochemical machining
B23H 2300/12	<ul style="list-style-type: none"> .. Positive and negative pulsed electrochemical machining
B23H 2300/20	<ul style="list-style-type: none"> Relaxation circuit power supplies for supplying the machining current, e.g. capacitor or inductance energy storage circuits
B23H 2300/22	<ul style="list-style-type: none"> .. Circuits using or taking into account line impedance to shape the discharge pulse
B23H 2400/00	Moving mechanisms for tool electrodes
B23H 2400/10	<ul style="list-style-type: none"> for rotating the electrode
B23H 2500/00	Holding and positioning of tool electrodes
B23H 2500/20	<ul style="list-style-type: none"> Methods or devices for detecting wire or workpiece position

B23H 2600/00

Machining conditions

B23H 2600/10

. Switching of machining conditions during machining

B23H 2600/12

. . Switching from rough cutting to finish machining