COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING
(NOTES omitted)

SHAPING

B24 GRINDING; POLISHING
(NOTE omitted)

B24D TOOLS FOR GRINDING, BUFFING, OR SHARPENING (tools for grinding or polishing optical surfaces on lenses or surfaces of similar shape B24B 13/01; grinding heads B24B 41/00; manufacture of abrasive or friction articles or shaped materials containing macromolecular substances C08J5/14; polishing compositions C09G 1/00; abrasives C09K 3/14)

NOTES
1. This subclass covers grinding tools for working on any material
2. Tools for grinding, buffing or sharpening, specially designed for a particular purpose, which purpose is provided for in a single other place, are classified in that place, e.g. B23F 21/02

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

3/00 Physical features of abrasive bodies, or sheets, e.g. abrasive surfaces of special nature; Abrasive bodies or sheets characterised by their constituents (composition of friction linings F16D 69/02)
3/001 . . . [the constituent being used as supporting member]
3/002 . . . [Flexible supporting members, e.g. paper, woven, plastic materials]
3/004 . . . [with special coatings]
3/005 . . . [the constituent being used during pre- or after-treatment (B24D 3/348 takes precedence)]
3/007 . . . [the constituent being used as bonding agent between different parts of an abrasive tool]
3/008 . [Abrasive bodies without external bonding agent]
3/02 . . . the constituent being used as bonding agent
3/04 . . . and being essentially inorganic
3/06 . . . metallic [or mixture of metals with ceramic materials, e.g. hard metals, "cermets", cements]
3/08 . . . for close-grained structure, e.g. using metal with low melting point
3/10 . . . for porous or cellular structure, e.g. for use with diamonds as abrasives
3/12 . . . water-setting, e.g. concrete
3/14 . . . ceramic, i.e. vitrified bondings [ (mixture with metals B24D 3/06)]
3/16 . . . for close-grained structure, i.e. of high density
3/18 . . . for porous or cellular structure
3/20 . . . and being essentially organic
3/22 . . . Rubbers [synthetic or natural]
3/24 . . . for close-grained structure [ (B24D 3/002 takes precedence)]
3/26 . . . for porous or cellular structure
3/28 . . . Resins [or natural or synthetic macromolecular compounds (B24D 3/22 takes precedence)]
3/285 . . . [Reaction products obtained from aldehydes or ketones]
3/30 . . . for close-grained structure
3/32 . . . for porous or cellular structure
3/34 . . . characterised by additives enhancing special physical properties, e.g. wear resistance, electric conductivity, self-cleaning properties
3/342 . . . [incorporated in the bonding agent]
3/344 . . . [the bonding agent being organic]
3/346 . . . [utilised during polishing, or grinding operation]
3/348 . . . [utilised as impregnating agent for porous abrasive bodies (after-treatments in general B24D 3/005)]

Bonded abrasive wheels

5/00 Bonded abrasive wheels, or wheels with inserted abrasive blocks, designed for acting only by their periphery; Bushings or mountings therefor
5/002 . Wheels in one piece
5/004 . with reinforcing means
5/006 . with inserted abrasive blocks, e.g. segmental (zonally graded B24D 5/14)
5/063 . . . [with segments embedded in a matrix which is rubbed away during the grinding process]
5/066 . . . [with segments mounted axially one against the other]
5/08 . . . with reinforcing means
5/10 . . . with cooling provisions, e.g. with radial slots
5/12 . . . Cut-off wheels
5/123 . . . [having different cutting segments]
5/126 . . . [having an internal cutting edge]
5/14 . . . Zonally-graded wheels; Composite wheels comprising different abrasives
5/16 . . . Bushings; Mountings
Bonded abrasive wheels

5/165 . . . (Balancing means)

7/00 Bonded abrasive wheels, or wheels with inserted abrasive blocks, designed for acting otherwise than only by their periphery, e.g. by the front face; Bushings or mountings therefor
7/005 . . (for cutting spherical surfaces) 7/02 . . Wheels in one piece 7/04 . . . with reinforcing means 7/06 . . . with inserted abrasive blocks, e.g. segmental (zonally-graded B24D 7/14) 7/063 . . . [with segments embedded in a matrix which is rubbed away during the grinding process] 7/066 . . . (Grinding blocks; their mountings or supports) 7/08 . . . with reinforcing means 7/10 . . . with cooling provisions 7/12 . . . with apertures for inspecting the surface to be abraded 7/14 . . . Zonally-graded wheels; Composite wheels comprising different abrasives 7/16 . . Bushings; Mountings 7/18 . . Wheels of special form (if specially designed for a particular purpose provided for in a single other class, that class takes precedence; [saw cylinders having their cutting rim equipped with abrasive particles for working stone or glass B28D 1/041]) 7/183 . . . (Wheels or drums as machine elements F16)

9/00 Wheels or drums supporting in exchangeable arrangement a layer of flexible abrasive material, e.g. sandpaper (wheels or drums as machine elements F16)
9/003 . . . (Wheels having flaps of flexible abrasive material supported by a flexible material) 9/006 . . . (Tools consisting of a rolled strip of flexible material) 9/02 . . Expansible drums for carrying flexible material in tubular form, e.g. expanded by centrifugal force 9/04 . . Rigid drums for carrying flexible material 9/06 . . . able to be stripped-off from a built-in delivery spool 9/08 . . Circular back-plates for carrying flexible material 9/085 . . . (Devices for mounting sheets on a backing plate) 9/10 . . . with suction means for securing the material

11/00 Constructional features of flexible abrasive materials; Special features in the manufacture of such materials

13/00 Wheels having flexibly-acting working parts, e.g. buffing wheels; Mountings therefor
13/005 . . . (with whetting leather) 13/007 . . . [having a crank handle] 13/008 . . . [with reciprocating whetstones] 13/009 . . . (using moulds or presses) 13/017 . . . (by electrolytic deposition) 13/027 . . . (by impregnation) 13/036 . . . (by winding up abrasive bands) 13/045 . . . [by stacking sheets of abrasive material] 13/054 . . . [by impressing abrasive powder in a matrix] 13/057 . . . (by bonding an abrasive layer with a non-removable backing) 13/06 . . . the flaps or strips being individually attached 13/08 . . . comprising annular or circular sheets packed side by side 13/085 . . . [comprising flaps with a circular sheet on each side] 13/10 . . . comprising assemblies of brushes 13/12 . . . comprising assemblies of felted or spongy material, e.g. felt, steel wool, foamed latex 13/14 . . . acting by the front face 13/142 . . . [Wheels of special form] 13/145 . . . [having a brush-like working surface] 13/147 . . . [comprising assemblies of felted or spongy material; comprising pads surrounded by a flexible material] 13/16 . . . comprising pleated flaps or strips 13/18 . . . with cooling provisions 13/20 . . . Mountings for the wheels 15/00 Hand tools or other devices for non-rotary grinding, polishing, or stopping
15/02 . . rigid; with rigidly-supported operative surface 15/023 . . . [using in exchangeable arrangement a layer of flexible material] 15/026 . . . [able to be stripped-off from a built-in delivery spool] 15/04 . . resilient; with resiliently-mounted operative surface 15/045 . . . [Glove-shaped abrasive devices] 15/06 . . specially designed for sharpening cutting edges 15/061 . . . [for electric shaving blades] 15/063 . . . [for grinding shears, scissors] 15/065 . . . [for sharpening both knives and scissors] 15/066 . . . [for sharpening skate blades, i.e. blades having two sharp edges defined by three surfaces intersecting in pairs at an angle of substantially 90°] 15/068 . . . [for sharpening ski edges, i.e. sharp edges defined by two surfaces intersecting at an angle of substantially 90°] 15/08 . . . of knives; of razors 15/081 . . . [with sharpening elements in interengaging or in mutual contact] 15/082 . . . . [the elements being rotatable] 15/084 . . . . [the sharpening elements being fitted to knife sheaths, holders or handles] 15/085 . . . . [with reciprocating whetstones] 15/087 . . . . [having a crank handle] 15/088 . . . . [with whetting leather] 15/10 . . . of safety-razor blades (devices with mechanically-operated parts B24B 3/50) 15/105 . . . . [Holders therefor]

18/00 Manufacture of grinding tools (or other grinding devices), e.g. wheels, not otherwise provided for
18/009 . . . . . using moulds or presses] 18/0018 . . . . . [by electrolytic deposition] 18/0027 . . . . . [by impregnation] 18/0036 . . . . . [by winding up abrasive bands] 18/0045 . . . . . [by stacking sheets of abrasive material] 18/0054 . . . . . [by impressing abrasive powder in a matrix]
| 18/0063 | by extrusion |
| 18/0072 | using adhesives for bonding abrasive particles or grinding elements to a support, e.g. by gluing |
| 18/0081 | of wire-reinforced grinding tools |
| 18/009 | Tools not otherwise provided for |
| 99/00 | Subject matter not provided for in other groups of this subclass ((B28D 1/124 takes precedence)) |
| 99/005 | Segments of abrasive wheels |

| 2201/00 | Bushings or mountings integral with the grinding wheel |
| 2203/00 | Tool surfaces formed with a pattern |
| 2205/00 | Grinding tools with incorporated marking device |