

# CPC COOPERATIVE PATENT CLASSIFICATION

## B PERFORMING OPERATIONS; TRANSPORTING

(NOTES omitted)

### SEPARATING; MIXING

**B07** **SEPARATING SOLIDS FROM SOLIDS; SORTING** (separation in general [B01D](#); wet separating processes, sorting by processes using fluent material in the same way as liquid [B03](#); using liquids [B03B](#), [B03D](#); sorting by magnetic or electrostatic separation of solid materials from solid materials or fluids, separation by high voltage electric fields [B03C](#); centrifuges or vortex apparatus for carrying out physical processes [B04](#); sorting peculiar to particular materials or articles and provided for in other classes, [see the relevant classes](#))

**B07B** **SEPERATING SOLIDS FROM SOLIDS BY SIEVING, SCREENING, OR SIFTING OR BY USING GAS CURRENTS; OTHER SEPARATING BY DRY METHODS APPLICABLE TO BULK MATERIAL, e.g. LOOSE ARTICLES FIT TO BE HANDLED LIKE BULK MATERIAL** (combinations of dry separating apparatus with wet separating apparatus [B03B](#); hand sorting, postal sorting, sorting by switching or other devices actuated in response to detection or measurement of some feature of articles or samples of material [B07C](#))

#### NOTE

In this subclass any sorting or grading of bulk material or loose articles fit to be handled like bulk material results automatically from the construction of the apparatus and properties of the material, e.g. by a trap opening under an object of a certain minimum weight, by an aperture of graduated size. Sorting of articles is included in so far as the same conditions apply, e.g. sorting of timber by passing it over successively longer openings; the articles may or may not be orientated for the purpose of sorting.

#### WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[B07B 1/32](#)

covered by

<b>1/00</b>	<b>Sieving, screening, sifting, or sorting solid materials using networks, gratings, grids, or the like</b> {(ash-sifters for domestic stoves or ranges <a href="#">F24B 15/007</a> )}	1/26	. . . with additional axial or radial movement of the drum
1/005	. {Transportable screening plants}	1/28	. Moving screens not otherwise provided for, e.g. swinging, reciprocating, rocking, tilting or wobbling screens
1/02	. Hand screens	1/282	. . {their jiggling movement being a closed or open curvilinear path in a plane perpendicular to the plane of the screen and parrallel or transverse to the direction of conveyance}
1/04	. Stationary flat screens	1/284	. . {with unbalanced weights}
1/06	. Cone or disc shaped screens	1/286	. . {with excentric shafts}
1/08	. Screens rotating within their own plane		
1/10	. Screens in the form of endless moving bands		
1/12	. Apparatus having only parallel elements		
1/14	. . Roller screens		
1/145	. . . {the material to be screened moving along the axis of the parallel elements}		
1/15	. . . using corrugated, grooved or ribbed rollers		
1/155	. . . . {the rollers having a star shaped cross section}	1/288	. . {Tumbling screens}
1/16	. . the elements being movable and in other than roller form	1/30	. . jiggling or moving to-and-fro {within their own plane} in or approximately in {or transverse to} the direction of conveyance
1/18	. Drum screens	1/34	. . jiggling or moving to-and-fro perpendicularly or approximately perpendicular to the plane of the screen
1/185	. . {provided with exchangeable sieve panels}		
1/20	. . Stationary drums with moving interior agitators	1/343	. . . {with mechanical drive elements other than electromagnets}
1/22	. . Revolving drums		
1/24	. . . with fixed or moving interior agitators		

#### NOTE

Group [B07B 1/40](#) takes precedence over groups [B07B 1/30](#)-[B07B 1/38](#)

- 1/346 . . . {with electromagnets}
- 1/36 . . jiggling or moving to-and-fro in more than one direction
- 1/38 . . oscillating in a circular arc in their own plane; Plansifters
- 1/40 . . Resonant vibration screens
- 1/42 . Drive mechanisms, regulating or controlling devices, or balancing devices, specially adapted for screens
- 1/44 . . Balancing devices
- 1/46 . Constructional details of screens in general; Cleaning or heating of screens
- 1/4609 . . {constructional details of screening surfaces or meshes}
- 1/4618 . . . {Manufacturing of screening surfaces}
- 1/4627 . . . {Repairing of screening surfaces}
- 1/4636 . . . {Regulation of screen apertures}
- 1/4645 . . . {Screening surfaces built up of modular elements}
- 1/4654 . . . {Corrugated Screening surfaces}
- 1/4663 . . . {Multi-layer screening surfaces}
- 1/4672 . . . {Woven meshes}
- 1/4681 . . . {Meshes of intersecting, non-woven, elements}
- 1/469 . . . {Perforated sheet-like material}
- 1/48 . . Stretching devices for screens
- 1/485 . . . {Devices for alternately stretching and sagging screening surfaces}
- 1/49 . . . stretching more than one screen or screen section by the same or different stretching means
- 1/50 . . Cleaning
- 1/52 . . . with brushes or scrapers
- 1/522 . . . . {with brushes}
- 1/524 . . . . . {the brushes being rotating}
- 1/526 . . . . {with scrapers}
- 1/528 . . . . . {the scrapers being rotating}
- 1/54 . . . with beating devices
- 1/55 . . . with fluid jets
- 1/56 . . Heated screens
- 1/58 . . . heated by heated fluid
- 1/60 . . . heated by flame heating
- 1/62 . . . heated by direct electric heating

#### Separating solids from solids using gas currents

- 4/00** **Separating solids from solids by subjecting their mixture to gas currents (using tables or jigs [B03B 4/00](#))**
- 4/02 . while the mixtures fall
- 4/025 . . {the material being slingered or fled out horizontally before falling, e.g. by dispersing elements}
- 4/04 . . in cascades
- 4/06 . . using revolving drums
- 4/08 . while the mixtures are supported by sieves, screens, or like mechanical elements
- 7/00** **Selective separation of solid materials carried by, or dispersed in, gas currents (sieves or filters for separating dispersed particles from gases or vapours [B01D](#))**
- 7/01 . using gravity
- 7/02 . by reversal of direction of flow
- 7/04 . by impingement against baffle separators

- 7/06 . by impingement against sieves
- 7/08 . using centrifugal force ([centrifuges B04B](#); [cyclones B04C](#))
- 7/083 . . generated by rotating vanes, discs, drums, or brushes
- 7/086 . . generated by the winding course of the gas stream
- 7/0865 . . . {using the coanda effect of the moving gas stream}
- 7/10 . . having air recirculating within the apparatus
- 7/12 . with pulsating air currents
- 9/00** **Combinations of apparatus for screening or sifting or for separating solids from solids using gas currents; General arrangement of plant, e.g. flow sheets**
- 9/02 . Combinations of similar or different apparatus for separating solids from solids using gas currents
- 11/00** **Arrangement of accessories in apparatus for separating solids from solids using gas currents**
- 11/02 . Arrangement of air or material conditioning accessories
- 11/04 . Control arrangements
- 11/06 . Feeding or discharging arrangements
- 11/08 . Cleaning arrangements

#### Other separating, e.g. grading, resulting automatically from the construction of the apparatus used and properties of the material concerned; Combinations

- 13/00** **Grading or sorting solid materials by dry methods, not otherwise provided for; Sorting articles otherwise than by indirectly controlled devices ([grading eggs A01K 43/04](#))**
- 13/003 . {Separation of articles by differences in their geometrical form or by difference in their physical properties, e.g. elasticity, compressibility, hardness}
- 13/006 . {Sorting molded pieces and runners}
- 13/02 . Apparatus for grading using pockets for taking out particles from aggregates
- 13/04 . according to size
- 13/05 . . using material mover cooperating with retainer, deflector or discharger ([B07B 13/065](#) - [B07B 13/075](#) take precedence)
- 13/065 . . Apparatus for grading or sorting using divergent conveyor belts or cables
- 13/07 . . Apparatus in which aggregates or articles are moved along or past openings which increase in size in the direction of movement
- 13/072 . . . {the openings being rollers with a divergent axis and the material moving substantially along the rollers axis}
- 13/075 . . Apparatus comprising moving article - receiving openings, the size of which varies as they move
- 13/08 . according to weight ([B07B 13/10](#) takes precedence)
- 13/10 . using momentum effects
- 13/11 . . involving travel of particles over surfaces which separate by centrifugal force or by relative friction between particles and such surfaces, e.g. helical sorters
- 13/113 . . . {shaking tables (for wet separating [B03B 5/04](#); tables with water impulse [B03B 5/70](#); pneumatic tables [B03B 4/02](#); moving screens [B07B 1/28](#))}

13/116 . . . {stratification of dry granular material  
on a continuously travelling surface, e.g.  
belt conveyor (vanner for wet separation  
[B03B 5/08](#))}

13/14 . Details or accessories

13/16 . . Feed or discharge arrangements

13/18 . . Control

**15/00** **Combinations of apparatus for separating solids  
from solids by dry methods applicable to bulk  
material, e.g. loose articles fit to be handled like  
bulk material (using wet methods [B03B 7/00](#); using  
gas currents [B07B 9/00](#))**

---

**2201/00** **Details applicable to machines for screening using  
sieves or gratings**

2201/02 . Fastening means for fastening screens to their  
frames which do not stretch or sag the screening  
surfaces

2201/04 . Multiple deck screening devices comprising one or  
more superimposed screens

**2220/00** **Type of materials being separated**

2220/02 . Plastics

2220/04 . Batteries

**2230/00** **Specific aspects relating to the whole [B07B](#)  
subclass**

2230/01 . Wet separation

2230/04 . The screen or the screened materials being subjected  
to ultrasonic vibration