

# CPC COOPERATIVE PATENT CLASSIFICATION

**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.

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|-------|--|--------|---|
| 1/00  | Sieving, screening, sifting, or sorting solid materials using networks, gratings, grids, or the like {(ash-sifters for domestic stoves or ranges <a href="#">F24B 15/007</a> )}      | 1/34   | . . jiggling or moving to-and-fro perpendicularly or approximately perpendicularly to the plane of the screen |
| 1/005 | . {Transportable screening plants}   | 1/343  | . . . {with mechanical drive elements other than electromagnets}  |
| 1/02  | . Hand screens   | 1/346  | . . . {with electromagnets}   |
| 1/04  | . Stationary flat screens  | 1/36   | . . jiggling or moving to-and-fro in more than one direction  |
| 1/06  | . Cone or disc shaped screens  | 1/38   | . . oscillating in a circular arc in their own plane; plansifters   |
| 1/08  | . Screens rotating within their own plate  | 1/40   | . . Resonant vibration screens  |
| 1/10  | . Screens in the form of endless moving bands  | 1/42   | . Drive mechanisms, regulating or controlling devices, or balancing devices, specially adapted for screens    |
| 1/12  | . Apparatus having only parallel elements  | 1/44   | . . Balancing devices   |
| 1/14  | . . Roller screens   | 1/46   | . Constructional details of screens in general; Cleaning or heating of screens                                |
| 1/145 | . . . {the material to be screened moving along the axis of the parallel elements}   | 1/4609 | . . {constructional details of screening surfaces or meshes}  |
| 1/15  | . . . using corrugated, grooved or ribbed rollers  | 1/4618 | . . . {Manufacturing of screening surfaces}   |
| 1/155 | . . . . {the rollers having a star shaped cross section}   | 1/4627 | . . . {Repairing of screening surfaces}   |
| 1/16  | . . the elements being movable and in other than roller form   | 1/4636 | . . . {Regulation of screen apertures}  |
| 1/18  | . Drum screens   | 1/4645 | . . . {Screening surfaces built up of modular elements}   |
| 1/185 | . . {provided with exchangeable sieve panels}  | 1/4654 | . . . {Corrugated Screening surfaces}   |
| 1/20  | . . Stationary drums with moving interior agitators  | 1/4663 | . . . {Multi-layer screening surfaces}  |
| 1/22  | . . Revolving drums  | 1/4672 | . . . {Woven meshes}  |
| 1/24  | . . . with fixed or moving interior agitators  | 1/4681 | . . . {Meshes of intersecting, non-woven, elements}   |
| 1/26  | . . . with additional axial or radial movement of the drum   | 1/469  | . . . {Perforated sheet-like material}  |
| 1/28  | . Moving screens not otherwise provided for, e.g. swinging, reciprocating, rocking, tilting or wobbling screens  | 1/48   | . . Stretching devices for 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} | 1/485  | . . . {Devices for alternately stretching and sagging screening surfaces}                                     |
| 1/284 | . . {with unbalanced weights}  | 1/49   | . . . stretching more than one screen of screen section by the same or different stretching means             |
| 1/286 | . . {with excentric shafts}  | 1/50   | . . Cleaning  |
|       | <b>NOTE</b>  | 1/52   | . . . with brushes or scrapers  |
|       | Group <a href="#">B07B 1/40</a> takes precedence over groups <a href="#">B07B 1/30</a> - <a href="#">B07B 1/38</a>   | 1/522  | . . . . {with brushes}  |
| 1/288 | . . {Tumbling screens}   | 1/524  | . . . . . {the brushes being rotating}  |
| 1/30  | . . jiggling or moving to-and-fro {within their own plane} in or approximately in {or transverse to} the direction of conveyance   | 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](#))**

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#### **2200/00** **Dummy title**

#### **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