

# CPC COOPERATIVE PATENT CLASSIFICATION

## E01H STREET CLEANING; CLEANING OF PERMANENT WAYS; CLEANING BEACHES; DISPERSING {OR PREVENTING} FOG IN GENERAL {CLEANING STREET OR RAILWAY FURNITURE OR TUNNEL WALLS} (cleaning in general [B08B](#))

- 1/00 Removing undesirable matter from roads or like surfaces, with or without moistening of the surface** (for snow or ice [E01H 5/00](#); cleaning tramway rails [E01H 8/00](#); obstruction removers on vehicles [B60R 19/00](#); in combination with application of bitumen or the like [E01C 19/16](#); in combination with application of traffic line [E01C 23/16](#); {Sweeping apparatus, particularly for lawns [A01G 1/12](#); Removing undesirable matter from floors and similar surfaces [A47L 5/00](#) - [A47L 13/00](#)})
- 1/001 . {Treatment of dispersed oil or similar pollution on roads, for instance devices for applying treating agents (hydraulic loosening or removal of liquids [E01H 1/10](#); from surface of open water [E02B 15/04](#)})
- 1/003 . {Upkeep of road sides along the pavement, for instance cleaning devices particularly for side strips (control of undesirable vegetation [E01H 11/00](#); mowers for embankments [A01D 34/86](#); soil working [E02F](#); trimming pavement edges [E01C 23/09](#)})
- 1/005 . {Mobile installations, particularly for upkeeping in situ road or railway furniture, for instance road barricades, traffic signs; Mobile installations particularly for upkeeping tunnel walls (built-in cleaning devices [E21D 11/003](#)})
- 1/006 . {Specially adapted for removing excrements (hand implements [E01H 1/12](#)})
- 1/008 . . {in situ treatment of excrements}
- 1/02 . Brushing apparatus, {e.g. with auxiliary instruments for mechanically loosening dirt} ({[E01H 1/003](#), [E01H 1/005](#), [E01H 1/006](#) and [E01H 1/08](#) - [E01H 1/14](#) take precedence; {loosening by means of gas jets or streams [E01H 1/0818](#), [E01H 1/0872](#); with brushes functioning under vacuum or combined with independent suction nozzles [E01H 1/0827](#); loosening by means of liquid streams [E01H 1/101](#); mechanical loosening instruments other than brushes [E01H 1/105](#); for railway tracks [E01H 8/00](#)}; brushes in general [A46B](#); {for floors or similar surfaces [A47L 11/22](#), [A47L 11/24](#)})
- 1/04 . . taking- up the sweepings, e.g. for collecting, for loading {(with dust collector; [E01H 1/0854](#) takes precedence; suction machines with brushes [E01H 1/0845](#), [E01H 1/0872](#); taking- up devices with other mechanical loosening instruments [E01H 1/106](#)})
- 1/042 . . . {the loading means being an endless belt or an auger}
- 1/045 . . . {the loading means being a rotating brush with horizontal axis ([E01H 1/042](#) takes precedence)}
- 1/047 . . . {Collecting apparatus characterised by the hopper or by means for unloading the hopper}
- 1/05 . . with driven brushes ([E01H 1/04](#) takes precedence {rotary brushes for snow removal [E01H 5/092](#)})
- 1/053 . . . {having vertical axes}
- 1/056 . . . {having horizontal axes}
- 1/08 . Pneumatically dislodging or taking-up undesirable matter {or small objects} ({[E01H 1/006](#) and [E01H 1/005](#) take precedence; } suction cleaners in general [A47L 5/00](#) - [A47L 9/00](#); {sucking-off liquids or semi-liquids [E01H 1/108](#)}); Drying by heat only or by streams of gas (permanently-installed heating or blowing devices [E01C 11/26](#); heating or drying for road- building or repairing [E01C 23/14](#); {devices for melting snow or ice in situ [E01H 5/10](#), [E01H 8/08](#); for scorching undesirable vegetation [E01H 11/00](#)}); Cleaning by projecting abrasive particles (sand-blasting in general [B24C](#); {roughening of road surfaces [E01C 23/08](#); cleaning of road joints [E01C 23/0906](#)})
- 1/0809 . . {Loosening or dislodging by blowing (with steam [E01H 1/10](#) combined with suction [E01H 1/0863](#); removing snow by blowing [E01H 5/106](#); removing fog by blowing [E01H 13/00](#); cleaning rails by blowing [E01H 8/105](#), [E01H 8/125](#); cleaning joints in road construction by blowing [E01C 23/0906](#)); Drying by means of gas streams (by heat only [E01H 1/08](#); combined with snow or ice melting [E01H 5/10](#), [E01H 5/106](#), [E01H 5/108](#)})
- 1/0818 . . . {in apparatus with mechanical loosening or feeding instruments, e.g. brushes, scrapers (brushing devices per se [E01H 1/02](#), other loosening devices per se [E01H 1/105](#)})
- 1/0827 . . {Dislodging by suction; Mechanical dislodging-cleaning apparatus with independent or dependent exhaust, e.g. dislodging-sweeping machines with independent suction nozzles (combined with blowing [E01H 1/0872](#)); Mechanical loosening devices working under vacuum}
- 1/0836 . . . {Apparatus dislodging all of the dirt by suction (liquids or semi-liquids [E01H 1/108](#); combined with loosening by blowing [E01H 1/0863](#); for cleaning rails [E01H 8/105](#), [E01H 8/125](#); removing snow by suction [E01H 5/106](#), [E01H 8/08](#)); Suction nozzles (independent suction nozzles in mechanical dislodging-cleaning devices [E01H 1/0827](#); suction and blowing nozzles [E01H 1/0863](#)})
- 1/0845 . . . . {with mechanical loosening or feeding instruments for the dirt to be sucked- up, e.g. brushes, scrapers (brushing installations per se [E01H 1/02](#); other loosening devices per se [E01H 1/105](#)})

1/0854	. . . {Apparatus in which the mechanically dislodged dirt is partially sucked-off, e.g. dislodging- sweeping apparatus with dirt collector in brush housing or dirt container (mechanical dislodging machines with independent suction nozzles <a href="#">E01H 1/0827</a> ; combined with blowing and suction <a href="#">E01H 1/0872</a> )}	1/1213	. . . { <a href="#">in situ</a> treatment of excrements}
1/0863	. . {Apparatus loosening or removing the dirt by blowing and subsequently dislodging it at least partially by suction (liquids or semi-liquids <a href="#">E01H 1/108</a> ); Combined suction and blowing nozzles}	2001/122	. . {Details}
1/0872	. . . {with mechanical loosening or feeding instruments for the dirt to be removed pneumatically, e.g. brushes, scrapers (brushing installations <a href="#">per se</a> <a href="#">E01H 1/02</a> ; other loosening devices <a href="#">per se</a> <a href="#">E01H 1/105</a> )}	2001/1226	. . . {characterised by way of removing material}
2001/0881	. . {Details for pneumatically dislodging or removing not related to the mouth-piece}	2001/1233	. . . . {by pressing a tool in the material to be removed}
2001/089	. . . {Suction-effect created through blowing, e.g. using the venturi effect}	2001/124	. . . . {Glove-like means}
1/10	. Hydraulically loosening or dislodging undesirable matter (stationary flushing devices <a href="#">E01H 3/04</a> ); Raking or scraping apparatus (hand implements <a href="#">E01H 1/12</a> ); {Removing liquids or semi-liquids e.g., absorbing water, sliding-off mud (removing pneumatically <a href="#">E01H 1/08</a> ; steam-cleaning <a href="#">E01H 11/00</a> )}	2001/1246	. . . . {Double or multiple closing means making horizontal sliding movement (not applied for grabs)}
1/101	. . {Hydraulic loosening or dislodging, combined or not with mechanical loosening or dislodging, e.g. road washing machines with brushes or wipers ( <a href="#">E01H 1/005</a> takes precedence; cleaning rails <a href="#">E01H 8/105</a> , <a href="#">E01H 8/125</a> ; applying liquids in general <a href="#">E01H 3/00</a> ; scrubbing machines for floors or similar surfaces <a href="#">A47L 11/26</a> - <a href="#">A47L 11/30</a> )}	2001/1253	. . . . {by using shoes to remove the material}
1/103	. . . {in which the soiled loosening or washing liquid is removed, e.g. by suction (removing liquids in general <a href="#">E01H 1/108</a> )}	2001/126	. . . . {the implement being for single use but not glove-like}
1/105	. . {Raking, scraping or other mechanical loosening devices, e.g. for caked dirt (loosening ice or hard snow <a href="#">E01H 5/12</a> ; working the road surface <a href="#">E01C 23/08</a> ); Apparatus for mechanically moving dirt on road surfaces, e.g. wipers for evacuating mud (wipers as accessories for road washing machines <a href="#">E01H 1/101</a> ; of devices for removing liquids or semi-liquids <a href="#">E01H 1/108</a> ; of snow scrapers for evacuating wet snow <a href="#">E01H 5/06</a> ; wipers for spreading bitumen or the like <a href="#">E01C 19/16</a> , <a href="#">E01C 19/178</a> )}	2001/1266	. . . {having lighting means}
1/106	. . . {in which the loosened or dislodged dirt is picked up, e.g. shoveling carts ( <a href="#">E01H 1/108</a> takes precedence)}	2001/1273	. . . {having a dog leash}
1/108	. . {Removing liquids or semi- liquids, e.g. absorbing rain water, sucking-off mud (in road washing machines <a href="#">E01H 1/103</a> ; in snow melting <a href="#">E01H 5/108</a> ; applying absorbing agents on oil or the like <a href="#">E01H 1/001</a> ; constructional measures for draining roads <a href="#">E01C 11/224</a> )}	2001/128	. . . {having means for storing bags or the like}
1/12	. Hand implements, e.g. litter pickers ({blowing or suction instruments <a href="#">E01H 1/08</a> ; spraying instruments <a href="#">E01H 1/101</a> }; rakes <a href="#">A01D 7/00</a> ; {brushes or brooms <a href="#">A46B</a> , <a href="#">A46D</a> ; floor scrapers <a href="#">A47L 13/02</a> ; floor squeegees <a href="#">A47L 13/11</a> )}	2001/1286	. . . . {storing used bags}
1/1206	. . {for picking up excrements (manure or urine pouches for animal husbandry <a href="#">A01K 23/00</a> )}	2001/1293	. . . {Walking cane or the like, i.e. implements allowing handling while in an upright position}
		1/14	. Removing by magnetic effect ({general household magnetic cleaning implements <a href="#">A47L 13/41</a> ; as equipment for road vehicles <a href="#">B60R 19/00</a> )}
		3/00	<b>Applying liquids to roads or like surfaces, e.g. for dust control; Stationary flushing devices (combined with removal of undesirable matter <a href="#">E01H 1/00</a>; spray heads, other outlets <a href="#">B05B</a>; {applying hot water for melting snow <a href="#">E01H 5/10</a>; applicators for melting liquids <a href="#">E01H 10/00</a>; weed destruction <a href="#">E01H 11/00</a>)}</b>
		3/02	. Mobile apparatus, e.g. watering-vehicles (vehicle features <a href="#">B60P 3/22</a> ; {moistening combined with the removal of undesirable matter <a href="#">E01H 1/00</a> ; mobile flushing or washing installations <a href="#">E01H 1/101</a> } applying liquid materials for road paving materials <a href="#">E01C 19/16</a> {applying curing agents on concrete roads <a href="#">E01C 23/03</a> ; applying marking-out agents <a href="#">E01C 23/16</a> ; Road moistening devices in cleaning machines <a href="#">per se</a> ; mobile apparatus specially adapted for applying liquid or semi-liquid thawing materials <a href="#">E01H 10/007</a> )}
		3/04	. Fixed devices, e.g. permanently- installed flushing means ({fixed applicators for defrosting agents <a href="#">E01H 10/00</a> ; fixed flushing installations for tramway rails <a href="#">E01B 21/02</a> ; built-in irrigation devices for sports grounds <a href="#">E01C 13/02</a> }; hydrants <a href="#">E03B 9/00</a> )
		4/00	<b>Working on surfaces of snow or ice in order to make them suitable for traffic or sporting purposes, e.g. by compacting snow (production of artificial snow <a href="#">F25C 3/04</a>)</b>
		4/02	. for sporting purposes, e.g. preparation of ski trails; {Construction of artificial surfacings for snow or ice sports (construction of ice skating rinks <a href="#">E01C 13/102</a> ); Trails specially adapted for on-the-snow vehicles}, e.g. devices adapted for ski-trails (production of snow or ice for winter sports or similar recreational purposes <a href="#">F25C 3/00</a> )
		4/023	. . {Maintaining surfaces for ice sports, e.g. of skating rinks}
		2004/026	. . {for making half pipes}
		5/00	<b>Removing snow or ice from roads or like surfaces; Grading or roughening snow or ice (by applying de-icing agents <a href="#">E01H 10/00</a>; obstruction removers on vehicles <a href="#">B60R 19/00</a>; sand, gravel or salt spreaders <a href="#">E01C 19/20</a>)</b>

- 5/02 . Hand implements ([E01H 5/04](#), [E01H 5/10](#), [E01H 5/12](#) take precedence {shovels or spades in general [A01B 1/02](#); brooms, brushes [A46B](#)})
- 5/04 . Apparatus propelled by animal or engine power; Apparatus propelled by hand with driven dislodging or conveying {levelling} elements, conveying pneumatically {for the dislodged material} ([E01H 5/10](#), [E01H 5/12](#) take precedence)
- 5/045 . . {Means *per se* for conveying or discharging the dislodged material, e.g. rotary impellers, discharge chutes (dislodging apparatus provided therewith [E01H 5/07](#), [E01H 5/08](#), [E01H 5/104](#), [E01H 5/12](#))}
- 5/06 . . dislodging essentially by non-driven elements, e.g. scraper blades, {snow-plough blades, scoop blades}
- 5/061 . . . {by scraper blades}
- 5/062 . . . {by scraper blades displaceable for shock-absorbing purposes}
- 5/063 . . . {by snow-plough blades tiltable for shock-absorbing purposes}
- 5/065 . . . {characterised by the form of the snow-plough blade, e.g. flexible, or by snow-plough blade accessories ([E01H 5/061](#), [E01H 5/063](#) take precedence)}
- 5/066 . . . . {Snow-plough blade accessories, e.g. deflector plates, skid shoes}
- 5/067 . . . {by side-wing snow-plough blades}
- 5/068 . . . {by backblades (scraper blades mounted on the rear of a tractor [E02F 3/7622](#))}
- 5/07 . . . and conveying dislodged material by driven or pneumatic means {(removing and melting [E01H 5/104](#); picking-up installations scraping off dirt [E01H 1/105](#))}
- 5/073 . . . . {by belt or chain conveyors (dislodging by means of elements secured to endless belts or chains [E01H 5/08](#))}
- 5/076 . . . . {by rotary or pneumatic conveying means, e.g. impeller wheels (dislodging by rotary means [E01H 5/09](#))}
- 5/08 . . dislodging essentially by driven elements, {(e.g. vibrated; removing and melting [E01H 5/104](#); with heated instruments [E01H 5/10](#))}
- 5/09 . . . the elements being rotary or moving along a closed circular path, e.g. rotary cutter, digging wheels
- 5/092 . . . . {Brushing elements}
- 5/094 . . . . {about vertical or substantially vertical axes}
- 5/096 . . . . {about axes parallel or substantially parallel to the direction of clearing}
- 5/098 . . . . {about horizontal or substantially horizontal axes perpendicular or substantially perpendicular to the direction of clearing}
- 5/10 . by application of heat {for melting snow or ice, whether cleared or not, combined or not with clearing or removing mud or water, e.g. burners for melting *in situ*, heated clearing instruments} ({drying by heat [E01H 1/0809](#); melting by application of defrosting agents [E01H 10/00](#); weed scorching devices which can also melt snow [E01H 11/00](#);} stationary blowing or paving heating means [E01C 11/26](#));} {Cleaning snow by blowing or suction only}
- 5/102 . . {Self-contained devices for melting dislodged snow or ice, e.g. built-in melting chambers, movable melting tanks (combined with removing devices [E01H 5/104](#))}
- 5/104 . . {Removing devices for dislodging snow or ice; followed by melting the removed material (removing by suction only and subsequent melting [E01H 5/106](#))}
- 5/106 . . {Clearing snow or ice exclusively by means of rays or streams of gas or steam, or by suction with or without melting ([E01H 5/108](#) takes precedence; drying by means of gas streams, blowing- off dirt [E01H 1/0809](#); sucking-off dirt [E01H 1/0827](#))}
- 5/108 . . {Devices for melting snow or ice *in situ* and removing subsequently for the mud or melting water (melting *in situ* [E01H 5/10](#); by means of hot gases or steam [E01H 5/106](#); removing water or mud [E01H 1/108](#))}
- 5/12 . Apparatus or implements specially adapted for breaking, disintegrating, or loosening layers of ice or hard snow {with or without clearing or removing ([E01H 5/10](#) takes precedence); Roughening ice or hard snow by means of tools (by means of gritting materials [E01H 10/00](#); roughening or breaking-up pavements [E01C 23/08](#), [E01C 23/12](#))}
- 6/00 Apparatus equipped with, or having provisions for equipping with, both elements {for especially} removal of refuse or the like and elements for removal of snow or ice ([E01H 8/10](#) takes precedence)**
- 8/00 Removing undesirable matter from the permanent way of railways; Removing undesirable matter from tramway rails ([E01H 1/00](#) - [E01H 6/00](#) take precedence; {controlling vegetation [E01H 11/00](#); removing ballast from rails or sleepers [E01B 27/023](#); removing, cleaning the ballast itself [E01B 27/04](#), [E01B 27/06](#))}**
- 8/02 . Methods or apparatus for removing ice or snow from railway tracks, e.g. using snow-ploughs {Devices for dislodging snow or ice which are carried or propelled by tramway vehicles} (operating only on rails or flange grooves [E01H 8/10](#));} {Moving or removing ballast; ([E01B 27/02](#), [E01B 27/04](#) take precedence; removing snow or ice in general [E01H 5/00](#))}
- 8/04 . . essentially by non-driven elements {Clearing instruments, e.g. scraping blades, scoop plates (with oscillating or vibrating tools [E01H 8/06](#); with heated instruments or combined with melting [E01H 8/10](#); ballast ploughs [E01B 27/025](#); track clearing devices [B61F 19/06](#))}
- 8/06 . . essentially by driven tools {clearing instruments, e.g. rotary cutting tools or brushes (with heated instruments or combined with melting [E01H 8/08](#); for spreading or redistributing ballast [E01B 27/026](#))}
- 8/08 . . by application of heat, {e.g. by means of heated clearing instruments, melting *in situ*} ({weed scorching devices which may also melt snow [E01H 11/00](#);} heated track [E01B 19/00](#));} {Clearing devices which melt the dislodged snow; Clearing exclusively by means of rays or streams or gas or stream, or by suction}

## E01H

- 8/10
  - Removing undesirable matter from rails, flange grooves, or the like {railway parts}, e.g. removing ice from contact rails, removing mud from flange grooves (heating, blowing, or fluid-applying devices installed in the track [E01B 19/00](#); built-in draining devices for rails [E01B 21/02](#); removing ballast from rails [E01B 27/04](#))
- 8/105
  - . {Pneumatically or hydraulically loosening, removing or dislodging undesirable matter, e.g. removing by blowing, flushing, suction; Application of melting liquids; Loosening or removing by means of heat, e.g. cleaning by plasma torches, drying by burners ([E01H 8/125](#) takes precedence; drying, blowing or liquid-applying devices incorporated in the permanent way [E01B 19/00](#); heating or cooling rails during construction or maintenance [E01B 31/18](#); wetting or lubricating rails [B61K 3/00](#); plasma torches [H05H 1/26](#))}
- 8/12
  - . specially adapted to grooved rails, flange-ways, or like {parts of the permanent way, e.g. level crossings or switches}
- 8/125
  - . . {Pneumatically or hydraulically loosening, removing or dislodging undesirable matter, e.g. removing by blowing, suction or flushing (flushing devices incorporated in tramway tracks [E01B 21/02](#)); Loosening or removing by means of heat (built-in heating, blowing or liquid applying devices for switches [E01B 7/24](#))}
- 10/00
 

**Improving gripping of ice-bound or other slippery traffic surfaces, e.g. using gritting or thawing materials {Roadside storage of gritting or solid thawing materials; Permanently installed devices for applying gritting or thawing materials; Mobile apparatus specially adapted for treating wintry roads by applying liquid, semi-liquid or granular materials}** (roughening ice by means of tools [E01H 5/12](#); applying de-icing agents to rails [E01H 8/10](#); thawing materials [C09K 3/18](#); by constructional features [E01C 11/24](#); {apparatus for distributing granular materials for road building purposes [E01C 19/20](#); treatment of dispersed oil or similar pollution on roads [E01H 1/001](#)})
- 10/002
  - {Roadside storage of gritting or solid thawing materials, e.g. grit or salt bins}
- 10/005
  - {Permanently-installed devices for applying gritting or thawing materials, e.g. for preading grit, for spraying de-icing liquids}
- 10/007
  - {Mobile apparatus specially adapted for preparing or applying liquid or semi-liquid thawing material or spreading granular material on wintry roads}
- 11/00
 

**Control of undesirable vegetation on roads {or similar surfaces} or permanent ways of railays, {e.g. devices for scorching weeds or for applying herbicides}** (destruction of undesirable vegetation in general [A01M 7/00](#) - [A01M 15/00](#), [A01M 21/00](#); weeding involving working the ballast [E01B 27/00](#); mowers for embankments [A01D 34/86](#); hedge shearing machines [A01G 3/04](#)); **Applying liquids, e.g. water, weed-killer bitumen, to permanent ways** (specially to rails [E01H 8/10](#) {[E01H 8/105](#), [E01H 8/125](#)}; for preserving sleepers [E01B 31/20](#))
- 12/00
 

**Cleaning beaches {or sandboxes}**
- 12/002
  - {Treatment in situ ([E01H 12/006](#) takes precedence)}
- 12/004
  - {using floating devices}
- 12/006
  - {Oil removal}
- 12/008
  - {cleaning sandboxes}
- 13/00
 

**Dispersing {or preventing} fog in general, e.g. on roads, on airfields** {(condensing atmospheric humidity in general [A01G 15/00](#); obtaining drinking water from atmospheric humidity [E03B 3/28](#); heating or blowing devices for keeping roads or the like free from snow or ice [E01C 11/26](#))}
- 15/00
 

**Removing undesirable matter, e.g. rubbish, from the land, not otherwise provided for** (gatherers for removing stones, roots or the like from the soil [A01B 43/00](#))