

E02 HYDRAULIC ENGINEERING; FOUNDATIONS; SOIL-SHIFTING**E02F DREDGING; SOIL-SHIFTING** (winning peat E21C 49/00)

This subclass covers:

- primarily equipment for excavating or loosening earth or for moving loose earth;
- equipment for working similarly on other materials and similar equipment for loading or unloading materials.

GENERAL WORKING METHODS	1/00	MACHINES FOR SPECIAL PURPOSES OR	
HAND-OPERATED MACHINES OR		THEIR SPECIAL DETAILS	5/00
APPARATUS FOR GENERAL USE	3/02	EQUIPMENT FOR CONVEYING OR	
MECHANICALLY-DRIVEN MACHINES OR		SEPARATING EXCAVATED MATERIAL.....	7/00
APPARATUS FOR GENERAL USE OR		GENERAL DETAILS	9/00
THEIR SPECIAL DETAILS	3/04		
1/00 General working methods with dredgers or soil-shifting machines (methods for making embankments E02D 17/18; methods for mining E21C)		3/38	Cantilever beams; Dipper-arms; Bucket-arms [4]
3/00 Dredgers; Soil-shifting machines (for special purposes E02F 5/00; other machines or apparatus for mining E21C; tunnelling E21D)		3/39	with telescopic arms [4]
3/02 . hand-operated		3/40	Dippers; Buckets [4]
3/04 . mechanically-driven		3/407	with ejecting device [4]
3/06 . . with digging screws		3/413	with grabbing device (grab equipment for cranes B66C) [4]
3/08 . . with digging elements on an endless chain (conveyers B65G)		3/42	Drives for dippers, buckets, dipper-arms or bucket-arms [4]
3/10 . . . with tools that only loosen the material		3/43	Control of dipper or bucket position; Control of sequence of drive operations [4]
3/12 . . . Component parts		3/46 . . .	with reciprocating digging or scraping elements moved by cables or hoisting ropes [4]
3/14 Buckets; Chains; Guides for buckets or chains; Drives for chains		3/47 . . .	with grab buckets (grab equipment for cranes B66C) [4]
3/16 Safety or control devices (safety devices in general F16P; controlling in general G05)		3/48 . . .	Drag-lines
3/18 . . with digging wheels turning round an axis		3/50 . . .	with buckets or other digging elements moved along a rigid guideway
3/20 . . . with tools that only loosen the material		3/52 . . .	Cableway excavators (cable cranes B66C)
3/22 . . . Component parts		3/54 . . .	Cable scrapers
3/24 Digging wheels; Digging elements of wheels; Drives for wheels		3/56	with hand-controlled scraper or other digging elements
3/26 Safety or control devices (safety devices in general F16P; controlling in general G05)		3/58 . . .	Component parts
3/28 . . with digging tools mounted on a dipper- or bucket-arm, e.g. dippers, buckets [4]		3/60	Buckets, scrapers, or other digging elements
3/30 . . . with a dipper-arm pivoted on a cantilever beam		3/627 . . .	Devices to connect beams or arms to a tractor or similar self-propelled machine [4]
3/32 working downwardly and towards the machine, e.g. with backhoes		3/633 . . .	Drives therefor [4]
3/34 . . . with bucket-arms directly pivoted on the frames of tractors or self-propelled machines [4]		3/64 . . .	Bucket cars, i.e. having scraper bowls [4]
3/342 Buckets emptying overhead (E02F 3/348 E02F 3/358 take precedence) [4]		3/65 . . .	Component parts, e.g. drives, control devices [4]
3/345 Buckets emptying side-ways (E02F 3/348 E02F 3/358 take precedence) [4]		3/76 . . .	Graders, bulldozers, or the like with scraper plates or ploughshare-like elements (soil working A01B); Levelling devices [4]
3/348 Buckets emptying into a collecting or conveying device [4]		3/78 . . .	with rotating digging elements
3/352 Buckets movable along a fixed guide [4]		3/80 . . .	Component parts
3/355 Buckets connected to the rear end of a tractor [4]		3/815	Blades; Levelling tools [4]
3/358 Bucket-arms pivoted on a turntable being part of a tractor frame [4]		3/84	Drives or control devices therefor
3/36 . . . Component parts		3/85	Applications of hydraulic or pneumatic systems
		3/88 . . .	with arrangements acting by a sucking or forcing effect, e.g. suction dredgers (pumps in general F04)
		3/90 . . .	Component parts, e.g. drives, control devices

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- 3/92 . . . Digging elements, e.g. suction heads
- 3/94 . . . Apparatus for separating stones from the dredged material
- 3/96 . . with arrangements for alternate use of different digging elements
- 5/00 Dredgers or soil-shifting machines for special purposes**
- 5/02 . for digging trenches or ditches (agricultural ploughs for working ridges A01B 13/02)
- 5/04 . . with digging screws
- 5/06 . . with digging elements mounted on an endless chain
- 5/08 . . with digging wheels turning round an axis
- 5/10 . . with arrangements for reinforcing trenches or ditches; with arrangements for making or assembling conduits or for laying conduits or cables (laying pipes per se F16L 1/00; making pipes in situ F16L 1/038; laying electric cables per se H02G 1/06) **[6]**
- 5/12 . . with equipment for back-filling trenches or ditches (E02F 5/10 takes precedence) **[3]**
- 5/14 . . Component parts for trench excavators, e.g. indicating devices
- 5/16 . Machines for digging other holes in the soil (earth drilling E21)
- 5/18 . . for horizontal holes
- 5/20 . . for vertical holes
- 5/22 . for making embankments; for back-filling (in combination with trench excavators E02F 5/12)
- 5/24 . . Depositing dredged material in mounds
- 5/26 . . Combined conveying-bridges and dredgers
- 5/28 . for cleaning watercourses or other waters
- 5/30 . Auxiliary apparatus, e.g. for thawing, cracking, blowing-up, or other preparatory treatment of the soil
- 5/32 . . Rippers **[4]**

- 7/00 Equipment for conveying or separating excavated material** (barges adapted for carrying-away material from floating dredgers B63B 35/28)
- 7/02 . Conveying equipment mounted on a dredger (conveyers in general B65G)
- 7/04 . Loading devices mounted on a dredger (loading devices in general B65G)
- 7/06 . Delivery chutes or screening plants mounted on a dredger (separating equipment in general B03; delivery chutes in general B65G)
- 7/10 . Pipe-lines for conveying excavated materials (pipes in general F16L; pipe-line systems F17D)
- 9/00 Component parts of dredgers or soil-shifting machines, not restricted to one of the kinds covered by groups E02F 3/00 E02F 7/00** (laying-out or take-up devices for trailing electric cables B66C) **[3]**
- 9/02 . Travelling gear (for motor vehicles B60B, B60G; undercarriages for locomotives or railroad cars B61F; track-laying vehicles B62D; for cranes B66C)
- 9/04 . . Walking gears moving the dredger forward step-by-step
- 9/06 . Floating substructures as supports
- 9/08 . Superstructures; Supports for superstructures
- 9/10 . . Supports for movable superstructures mounted on travelling or walking gears or on other superstructures
- 9/12 . . . Slewing or traversing gears (roller and ball bearings F16C)
- 9/14 . Booms; Cable suspensions
- 9/16 . Cabins, platforms, or the like for the driver (for cranes B66C 13/54)
- 9/18 . Counterweights
- 9/20 . Drives; Control devices (gearing in general F16H; controlling in general G05; electric multi-motor drives H02K, H02P)
- 9/22 . . Hydraulic or pneumatic drives
- 9/24 . Safety devices
- 9/26 . Indicating devices
- 9/28 . Small metalwork for digging elements, e.g. teeth