

## SECTION E — FIXED CONSTRUCTIONS

### E02 HYDRAULIC ENGINEERING; FOUNDATIONS; SOIL-SHIFTING

#### E02F DREDGING; SOIL-SHIFTING (winning peat E21C 49/00)

##### Note(s)

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.

##### Subclass index

GENERAL WORKING METHODS.....	1/00
HAND-OPERATED MACHINES OR APPARATUS FOR GENERAL USE.....	3/02
MECHANICALLY-DRIVEN MACHINES OR APPARATUS FOR GENERAL USE OR THEIR SPECIAL DETAILS.....	3/04
MACHINES FOR SPECIAL PURPOSES OR THEIR SPECIAL DETAILS.....	5/00
EQUIPMENT FOR CONVEYING OR SEPARATING EXCAVATED MATERIAL.....	7/00
GENERAL DETAILS.....	9/00

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<b>1/00</b>	<b>General working methods with dredgers or soil-shifting machines</b> (methods for making embankments E02D 17/18; methods for mining E21C)	3/348	• • • •	Buckets emptying into a collecting or conveying device <b>[4]</b>
		3/352	• • • •	Buckets movable along a fixed guide <b>[4]</b>
<b>3/00</b>	<b>Dredgers; Soil-shifting machines</b> (for special purposes E02F 5/00; other machines or apparatus for mining E21C; tunnelling E21D)	3/355	• • • •	Buckets connected to the rear end of a tractor <b>[4]</b>
3/02	• hand-operated	3/358	• • • •	Bucket-arms pivoted on a turntable being part of a tractor frame <b>[4]</b>
3/04	• mechanically-driven	3/36	• • • •	Component parts
3/06	• • with digging screws	3/38	• • • •	Cantilever beams; Dipper-arms; Bucket-arms <b>[4]</b>
3/08	• • with digging elements on an endless chain (conveyors B65G)	3/39	• • • •	• with telescopic arms <b>[4]</b>
3/10	• • • with tools that only loosen the material	3/40	• • • •	Dippers; Buckets <b>[4]</b>
3/12	• • • Component parts	3/407	• • • •	• with ejecting device <b>[4]</b>
3/14	• • • • Buckets; Chains; Guides for buckets or chains; Drives for chains	3/413	• • • •	• with grabbing device (grab equipment for cranes B66C) <b>[4]</b>
3/16	• • • • Safety or control devices (safety devices in general F16P; controlling in general G05)	3/42	• • • •	Drives for dippers, buckets, dipper-arms or bucket-arms <b>[4]</b>
3/18	• • with digging wheels turning round an axis	3/43	• • • •	• Control of dipper or bucket position; Control of sequence of drive operations <b>[4]</b>
3/20	• • • with tools that only loosen the material	3/46	• • •	with reciprocating digging or scraping elements moved by cables or hoisting ropes <b>[4]</b>
3/22	• • • Component parts	3/47	• • •	with grab buckets (grab equipment for cranes B66C) <b>[4]</b>
3/24	• • • • Digging wheels; Digging elements of wheels; Drives for wheels	3/48	• • •	Drag-lines
3/26	• • • • Safety or control devices (safety devices in general F16P; controlling in general G05)	3/50	• • •	with buckets or other digging elements moved along a rigid guideway
3/28	• • with digging tools mounted on a dipper- or bucket-arm, e.g. dippers, buckets <b>[4]</b>	3/52	• • •	Cableway excavators (cable cranes B66C)
3/30	• • • with a dipper-arm pivoted on a cantilever beam	3/54	• • •	Cable scrapers
3/32	• • • working downwardly and towards the machine, e.g. with backhoes	3/56	• • • •	with hand-controlled scraper or other digging elements
3/34	• • • with bucket-arms directly pivoted on the frames of tractors or self-propelled machines <b>[4]</b>	3/58	• • •	Component parts
3/342	• • • • Buckets emptying overhead (E02F 3/348-E02F 3/358 take precedence) <b>[4]</b>	3/60	• • • •	Buckets, scrapers, or other digging elements
3/345	• • • • Buckets emptying side-ways (E02F 3/348-E02F 3/358 take precedence) <b>[4]</b>	3/627	• • •	Devices to connect beams or arms to a tractor or similar self-propelled machine <b>[4]</b>

- 3/633 • • • Drives therefor [4]
- 3/64 • • Bucket cars, i.e. having scraper bowls [4]
- 3/65 • • • Component parts, e.g. drives, control devices [4]
- 3/76 • • Graders, bulldozers, or the like with scraper plates or ploughshare-like elements (soil working A01B); Levelling devices [4]
- 3/78 • • • with rotating digging elements
- 3/80 • • • Component parts
- 3/815 • • • • Blades; Levelling tools [4]
- 3/84 • • • • Drives or control devices therefor
- 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
- 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 (conveyors 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