Claims

1. A device for removing sea bed,
having a conveying line (1) that is at least partially surrounded by sea water and through which removed sea bed (16) can be transported to the surface (O) in the conveying direction,
characterized
in that the conveying line (1) comprises an emergency emptying means (4) by which removed sea bed (16) moving counter to the conveying direction (S) can be discharged from of the conveying line (1) into the sea water.

2. The device according to claim 1, **characterized** in that the emergency emptying means (4) comprises at least one emergency emptying opening (5), which can be optionally opened or closed and through which removed sea bed (16) moving counter to the conveying direction (F) can be laterally discharged from the conveying line (1) into the sea water.

3. The device according to claim 2, **characterized** in that a plurality of emergency emptying openings (5) is provided, preferably disposed as distributed at regular intervals over the length of the conveying line (1).

4. The device according to claim 3, **characterized** in that the openings are spaced every 200 m to 700 m, preferably 400 m to 500 m.

5. The device according to any one of the claims 2 to 4, **characterized** in that a displaceable emergency emptying door (8) is provided at each emergency emptying opening (5) for opening the same toward the interior of the conveying line, such that removed sea bed (16) moving counter to the conveying direction can be discharged by the action of the emergency emptying door (8) though said emergency opening (5) into the sea water.

6. The device according to claim 5, **characterized** in that a water-hydraulically actuated piston/cylinder apparatus (10) is provided for displacing the emergency emptying door (8).

7. The device according to claim 6, **characterized** in that the piston/cylinder apparatus (10) is spring-loaded such that it effects the closed position of the emergency emptying door (8), when no water-hydraulic pressure is applied.

8. The device according to claim 6 or 7, **characterized** in that a water reservoir (20) is envisioned that provides the water-hydraulic pressure.

9. The device according to claim 8, **characterized** in that the water reservoir (20) comprises a hydraulic line (18) with preferably one free end that is sealed by a check valve (37) connecting the piston/cylinder apparatus (10) for the purpose of actuating the same against the force of the spring.

10. The device according to claim 9, **characterized** in that a switching valve (19) is provided between the water reservoir (20) and the hydraulic line (18) that causes the activation of the following switching states:

- Separation of the water reservoir (20) from the hydraulic line (18) by means of a check valve that opens against the water-hydraulic pressure as provided by the water reservoir;

- Connection of the water reservoir (20) with the hydraulic line (18);

- Separation of the water reservoir (20) from the hydraulic line (18) and closing the water reservoir (20), as well as opening of the hydraulic line (18) to the surrounding environment.

Claims

1. A device for removing sea bed,
having a conveying line (1) that is at least partially surrounded by sea water and through which removed sea bed (16) can be transported to the surface (O) in the conveying direction,
wherein the conveying line (1) comprises an emergency emptying means (4) by which removed sea bed (16) moving counter to the conveying direction (S) can be discharged from of the conveying line (1) into the sea water, wherein the emergency emptying means (4) comprises at least one emergency emptying opening (5), which can be optionally opened or closed and through which removed sea bed (16) moving counter to the conveying direction (F) can be laterally discharged from the conveying line (1) into the sea water,
wherein a displaceable emergency emptying door (8) is provided at each emergency emptying opening (5) for opening the same toward the interior of the conveying line, such that removed sea bed (16) moving counter to the conveying direction can be discharged by the action of the emergency emptying door (8) though said emergency opening (5) into the sea water, wherein a water-hydraulically actuated piston/cylinder apparatus (10) is provided for displacing the emergency emptying door (8),
characterized in that a water reservoir (20) is envisioned that provides the water-hydraulic pressure, that the water reservoir (20) comprises a hydraulic line (18) with preferably one free end that is sealed by a check valve (37) connecting the piston/cylinder apparatus (10) for the purpose of actuating the same against the force of the spring, and in that a switching valve (19) is provided between the water reservoir (20) and the hydraulic line (18) that causes the activation of the following switching states:

- Separation of the water reservoir (20) from the hydraulic line (18) by means of a check valve that opens against the water-hydraulic pressure as provided by the water reservoir;

- Connection of the water reservoir (20) with the hydraulic line (18);

- Separation of the water reservoir (20) from the hydraulic line (18) and closing the water reservoir (20), as well as opening of the hydraulic line (18) to the surrounding environment.

2. The device according to claim 1, **characterized** in that a plurality of emergency emptying openings (5) is provided, preferably disposed as distributed at regular intervals over the length of the conveying line (1).

3. The device according to claim 2, **characterized** in that the openings are spaced every 200 m to 700 m, preferably 400 m to 500 m.

4. The device according to one of claims 1 to 3, **characterized** in that the piston/cylinder apparatus (10) is spring-loaded such that it effects the closed position of the emergency emptying door (8), when no water-hydraulic pressure is applied.