illustrated in FIG. 16. The skidding rail Sx is attached from one end to the other end of the lateral girder Xa of the upper platform 21X along the lateral girder Xa of the upper platform 21X.

[0098]

Upper and lower portions of the skidding rail Sx are guided by a bearing plate Bx measuring, for example, about 200 mm × 200 mm. The bearing plate Bx is attached onto a corner upper surface of the lateral girder Ma of the middle frame 21M. Additionally, a holding claw Hx is attached at the same position as the arrangement position of the bearing plate Bx in such a manner as to cover the skidding rail Sx from right and left sides thereof. The holding claw Hx supports the skidding rail Sx from both sides thereof so as to prevent the upper platform 21X from falling when moving in the X direction.

[0099]

As illustrated in FIG. 18, each X movement pinion Px is attached to a drive shaft of each X drive motor Mx, and protrudes at a position facing a rack surface of each X movement rack Rx. The two X movement pinions Px are configured to be respectively meshed with the X movement racks Rx and synchronously driven by the X drive motors Mx so that the upper platform 21X are slidable in the X direction.

[0100]

On the other hand, the linear motion guide mechanism of the lower platform 21Y includes a skidding rail Sy attached onto upper surfaces of the longitudinal girders Ya of the lower platform 21Y along the extending directions of the

unstabilized. Thus, the base control unit 45 continuously executes the posture stabilization control.

[0120]

Specifically, on the basis of the posture detection information of the tilt sensor, the base control unit 45 adjusts a leg length of each support leg 26 so that the posture of the mining station 220 becomes horizontal. By doing this, the mining station 220 can be landed in a stabilized posture in an initial landed state illustrated in FIG. 22D on the seabed. After this, the operator cancels engagement of the hanging rope by an engagement cancellation device (unillustrated) for the hanging rope, and allows the self-standing mining station 220 to form the pit VH on the seabed ore deposit OD to start mining, as illustrated in FIG. 21B. Note that the structures and stabilized sitting method of the management computer and the base control unit 45 including the stabilized sitting control can also be applied to the first and second embodiments described above.

[0121]

Next, a self-travelling method for the mining station 220 of the third embodiment will be described with reference to FIGS. 23 to 33 as appropriate. Herein, as one example, a description will be given of steps for mining a seabed ore deposit OD measuring 40 × 40 m by self-travelling and excavation of the mining station 220, as illustrated in FIG. 23. Note that self-traveling operation of the mining station 220, which will be described below, is performed on the basis of a predetermined program executed by the base control unit

and moves the lower platform 21Y and the middle frame 21M fully in the positive direction of X, as illustrated in (b) of FIG. 31, in the state where the lower platform 21Y and the middle frame 21M are joined together. After that, the four support legs 26 of the lower platform 21Y are extended downward to be each landed. As a result, as illustrated in (c) of FIG. 31, the predetermined region inside the upper and lower platforms 21X and 21Y becomes a third section C illustrated in FIG. 23.

[0128]

(Step 2-5) Hereinbelow, similarly, after completion of the predetermined mining in the third section C, the base control unit 45 releases the support legs 26 of the upper platform 21X from the seabed while keeping the support legs 26 of the lower platform 21Y landed, and then, moves the upper platform 21X and the middle frame 21M fully in the position direction of X, as illustrated in (d) of FIG. 31, in the state where the upper platform 21X and the middle frame 21M are joined together.

[0129]

Next, while keeping the support legs 26 of the upper platform 21X landed, the base control unit 45 releases the support legs 26 of the lower platform 21Y from the seabed, and then, moves the lower platform 21Y and the middle frame 21M fully in the positive direction of X, as illustrated in (e) of FIG. 31, in the state where the lower platform 21Y and the middle frame 21M are joined together. After that, the support legs 26 of the lower platform 21Y are landed. As

a result, as illustrated in (f) of FIG. 31, the predetermined region inside the upper and lower platforms 21X and 21Y becomes a fourth section D illustrated in FIG. 23.

(Step 2-6) In the fourth section D, the base control unit 45 receives a mining start command from the management computer, and then, mines the predetermined region inside the middle frame 21M.

(Step 2-7) Hereinbelow, similarly, the steps (2-4) to (2-6) are repeated for the walking and excavation in the positive direction of X.

[0130]

(Step 3) Travelling and Excavation in Positive Direction of Y

Next, a description will be given of steps of moving in the Y direction from the state of the (Step 2-5) of the (Step 2) described above.

(Step 3-1) When moving the mining station 220 in the Y direction from the state illustrated in (f) of FIG. 31, the base control unit 45 releases the four support legs 26 of the lower platform 21Y from the seabed while keeping the support legs 26 of the upper plat form 21X landed, and then, moves the lower platform 21Y fully in a positive direction of Y, as illustrated in (a) of FIG. 32, in the state where the upper platform 21X and the middle frame 21M are joined together. After that, the four support legs 26 of the lower platform 21Y are landed.

[0131]