piles, and Z-shaped steel sheet piles generally include Larsen-type joint portions (see Patent Literatures 1 and 2). The straight steel sheet piles generally include so-called double-claw-type joint portions; however, Larsen-type joint portions are also used in special cases (see Patent Literature 3).

[Citation List]

[Patent Literature]

[0003]

[PTL 1] Japanese Patent No. 3458109

[PTL 2] Japanese Unexamined Patent Application Publication No. 2009-2110

[PTL ~~2~~3] Japanese Unexamined Patent Application Publication No. 2001-170703

[Summary of Invention]

[Technical Problem]

[0004]

In the case where the U-shaped steel sheet piles are connected to each other to form a steel sheet pile wall, since the joint portions are located in a central region of the formed steel sheet pile wall, the center of gravity of each U-shaped steel sheet pile does not coincide with the center of gravity of the steel sheet pile wall. Accordingly, when the steel sheet pile wall receives load of earth pressure or the like and is subjected to bending force,

toward the inner side of the steel sheet pile by a larger distance than the first curved portion 23 on the first joint portion 5.

Since the second joint portion 9 is provided at the second flange portion 7 with the second curved portion 25 interposed therebetween, the outermost portion of the outer surface of the main claw 13 on the outer side of the steel sheet pile is at a position shifted from the outer surface of the second flange portion 7 toward the inner side by a distance S (see Fig. 3). The distance S is set so as to be greater than or equal to the thickness of the sub-claw 15.

[0027]

When the Z-shaped steel sheet piles 1 having the above-described structure are driven, a Z-shaped steel sheet pile 1 is driven while a joint portion (for example, the first joint portion 5) thereof is engaged with a joint portion (for example, the second joint portion 9) of a Z-shaped steel sheet pile 1 that has already been driven. More specifically, as illustrated in Figs. 2, 3, and 4, the first joint portion 5 and the second joint portion 9 are engaged so that the main claw 13 of the left joint portion is inserted into the joint inner region 21 of the second joint portion 9, and the main claw 13 of the second joint portion 9 is inserted into the joint inner region 21 of the first joint portion 5.

As described above, when the Z-shaped steel sheet piles