Oct. 31, 1933. R. P. PENNOYER 1,933,483

WALL CONSTRUCTION

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Fig. 1.

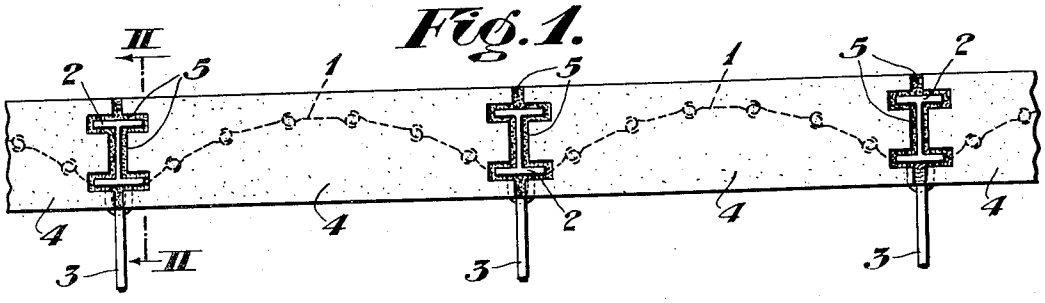


Fig. 2.

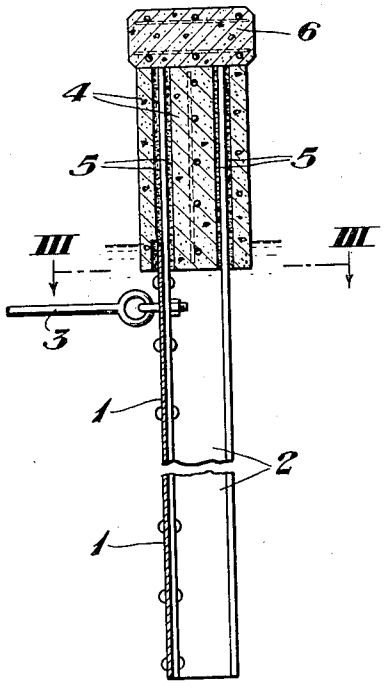


Fig. 4.

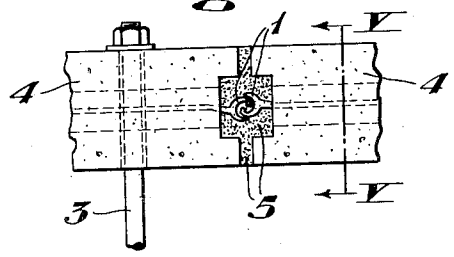


Fig. 5.

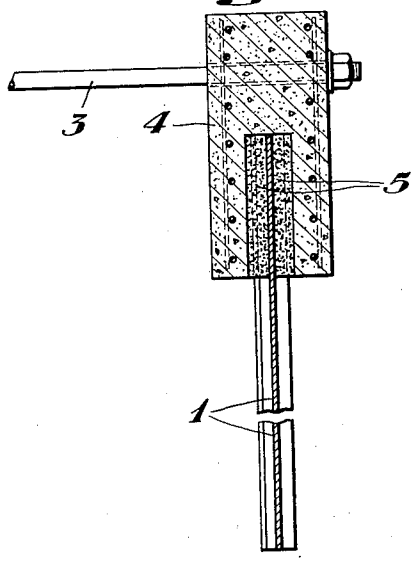
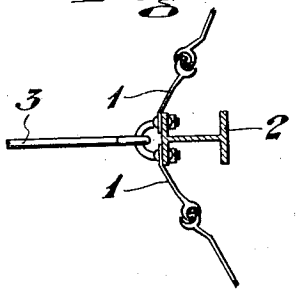


Fig. 3.



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Fig. 6.

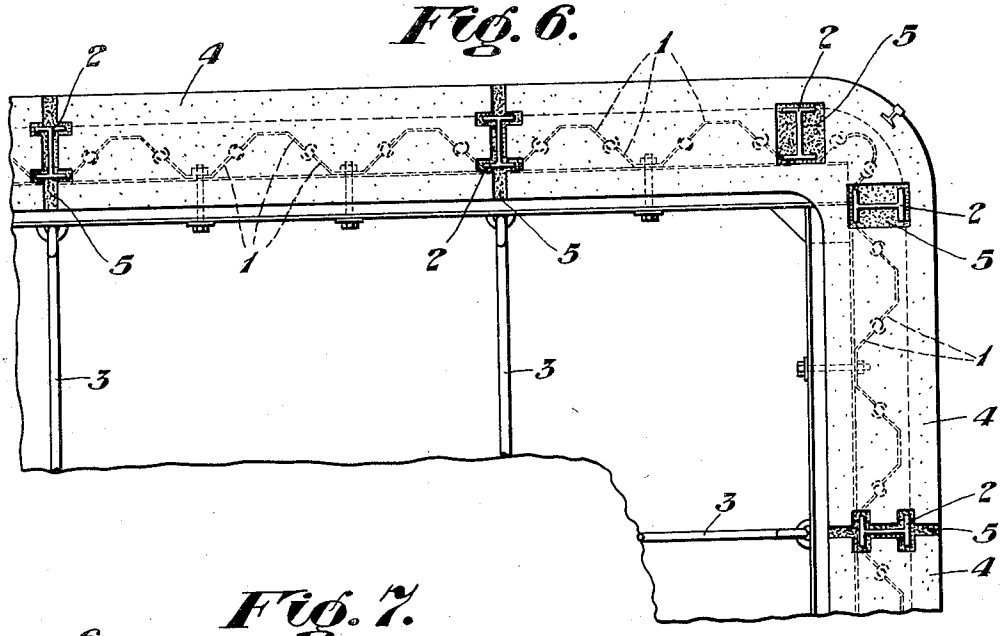
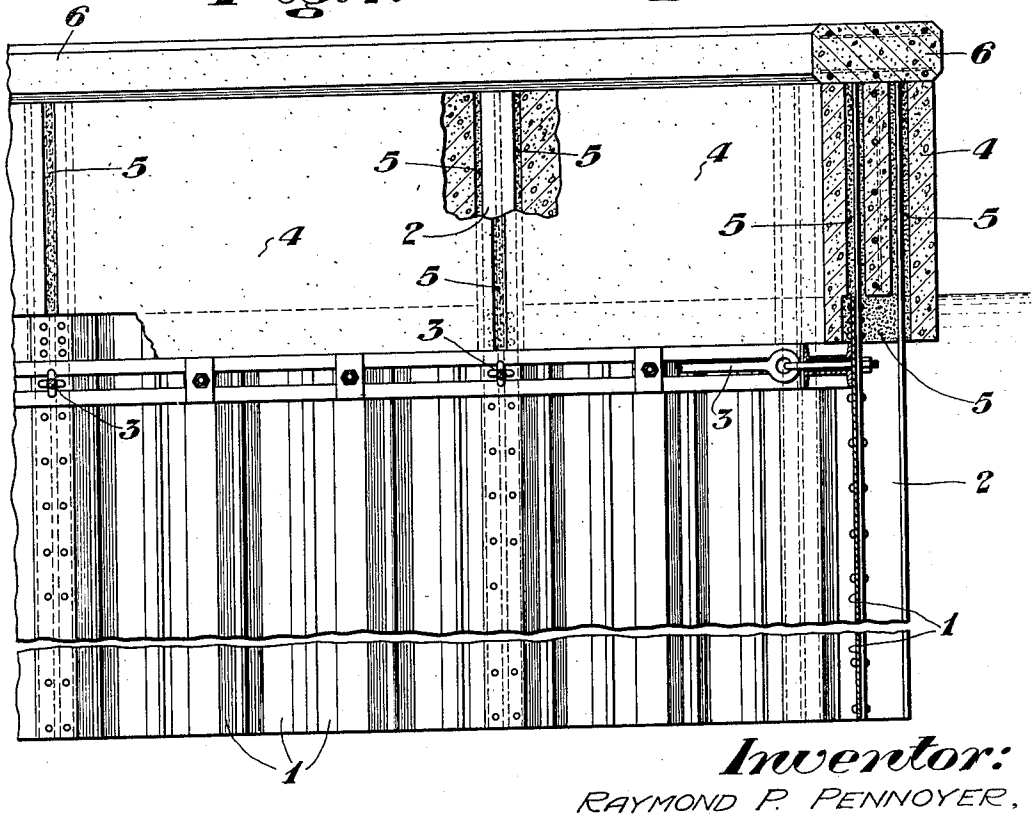


Fig. 7.



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UNITED STATES PATENT OFFICE

1,933,483

WALL CONSTRUCTION

Raymond P. Pennoyer, Pittsburgh, Pa.

Application April 20, 1932. Serial No. 606,475

3 Claims. (Cl. 61—39)

This invention relates to wall constructions and particularly to those consisting of a number of piles sunk into the ground. More specifically, it relates to those constructed of interlocked steel sheet piles, such as are used along water fronts for retaining purposes.

One of the objects is to construct these walls with cement top portions, this being done for appearance, strength and to prevent excessive corrosion of the metal. It might be mentioned that metal piling does not corrode very much when completely submerged but is chiefly affected at the water line where a continual wetting and drying occurs. Other objects will be understood from the following disclosure.

Having reference to the accompanying drawings:

Figure 1 is a horizontal cross-section.

Figure 2 is a cross-section from the line II—II in Figure 1.

Figure 3 is a cross-section from the line III—III in Figure 2.

Figure 4 is a longitudinal cross-section of the invention when king piles are not used.

Figure 5 is a cross-section from the line V—V in Figure 4.

Figure 6 is a top plan of a modification.

Figure 7 is a side elevation of Figure 6.

These drawings show a wall 1 of interlocked steel piling. This wall is strengthened by spaced king or master piles 2 which are fixed to these piles. These king piles extend some distance above the others and, if desired, may be strengthened by anchored tie-bars 3 in the usual manner.

Pre-cast concrete wall sections 4 having recesses in their side edges, which receive the king piles 2, rest on top of the piles 1. It is to be noticed that they are arranged to cover all of the metal piling which is not completely submerged in the water, it being assumed that the wall in this particular instance is being used as a breakwater or the like. These recesses are sufficiently large to permit bonding material 5 to be arranged between the sections and the king piles 2 so that the whole structure is formed into a water-tight unity. Preferably, a pre-cast ledge of concrete 6 is laid on the top of the wall sections 4. The various concrete sections may be supplied with reenforcements, about which they are cast in the making.

In case the wall does not include king piles 2 the concrete sections 4 may be formed with recesses in their bottom edges which receive the interlocked piling 1 so that the wall sections are properly positioned. Also, in the first instance mentioned, in case the tops of the piling 1 are irregularly alined, these recesses may be provided so that the individual piles can extend up into them at varying distances. These bottom recesses are also constructed large enough so that bonding material 5 may be placed between the various wall sections and the piling 6, preventing water creeping between the two.

Although a specific form of this wall construction has been shown and described in accordance with the patent statutes, it is not intended to limit the scope of the invention exactly thereto, except as defined by the following claims.

I claim:

1. A wall comprising a plurality of interlocking steel sheet piling inserted in the ground with king piles spaced therealong and standing above the others, pre-cast concrete wall sections having recesses in their side edges receiving said king piles so their bottom portions are supported by the rest of said piles and bonding material between said sections and piles forming the whole into a water-tight unity.

2. A wall comprising a plurality of interlocking steel sheet piling inserted in the ground with king piles spaced therealong and standing above the others, pre-cast concrete wall sections having recesses in their side edges receiving said king piles and recesses in their bottom edges receiving the tops of the rest of said piles and bonding material between said sections and piles forming the whole into a water-tight unity.

3. A wall comprising a plurality of interlocking steel sheet piling inserted in the ground with king piles spaced therealong and standing above the others, pre-cast concrete wall sections having recesses in their side edges receiving said king piles and recesses in their bottom edges receiving the tops of the rest of said piles and pre-cast concrete ledge sections laid on top of said wall sections.

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