May 2, 1933. J. R. WEMLINGER ET AL 1,907,135

SEA WALL

Filed April 20, 1931 2 Sheets-Sheet 1

Fig. 1.

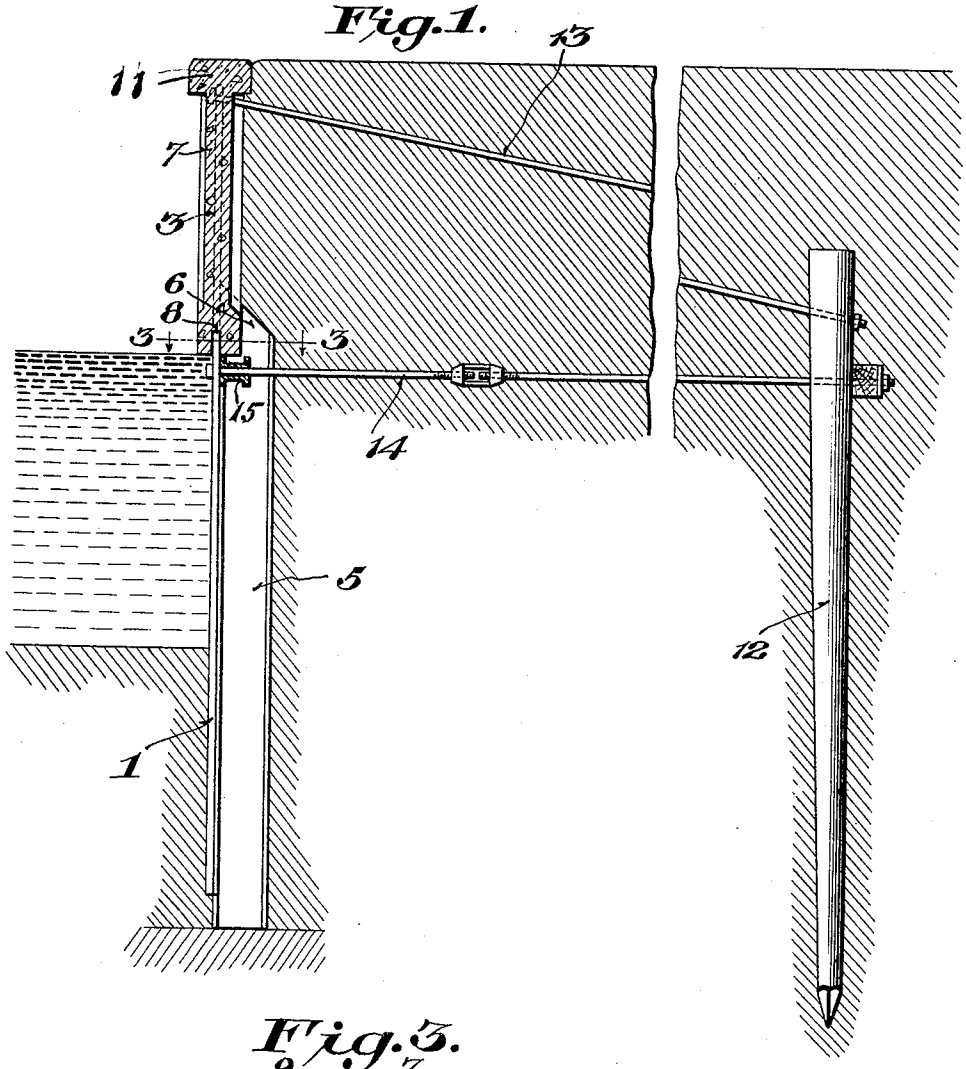
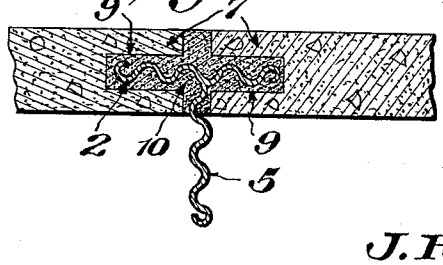


Fig. 3.



Inventors

J. R. Wemlinger;

W. C. Disbrow, Jr.,

By Howard D. Coombs

Attorney

May 2, 1933. J. R. WEMLINGER ET AL 1,907,135

SEA WALL

Filed April 20, 1931 2 Sheets-Sheet 2

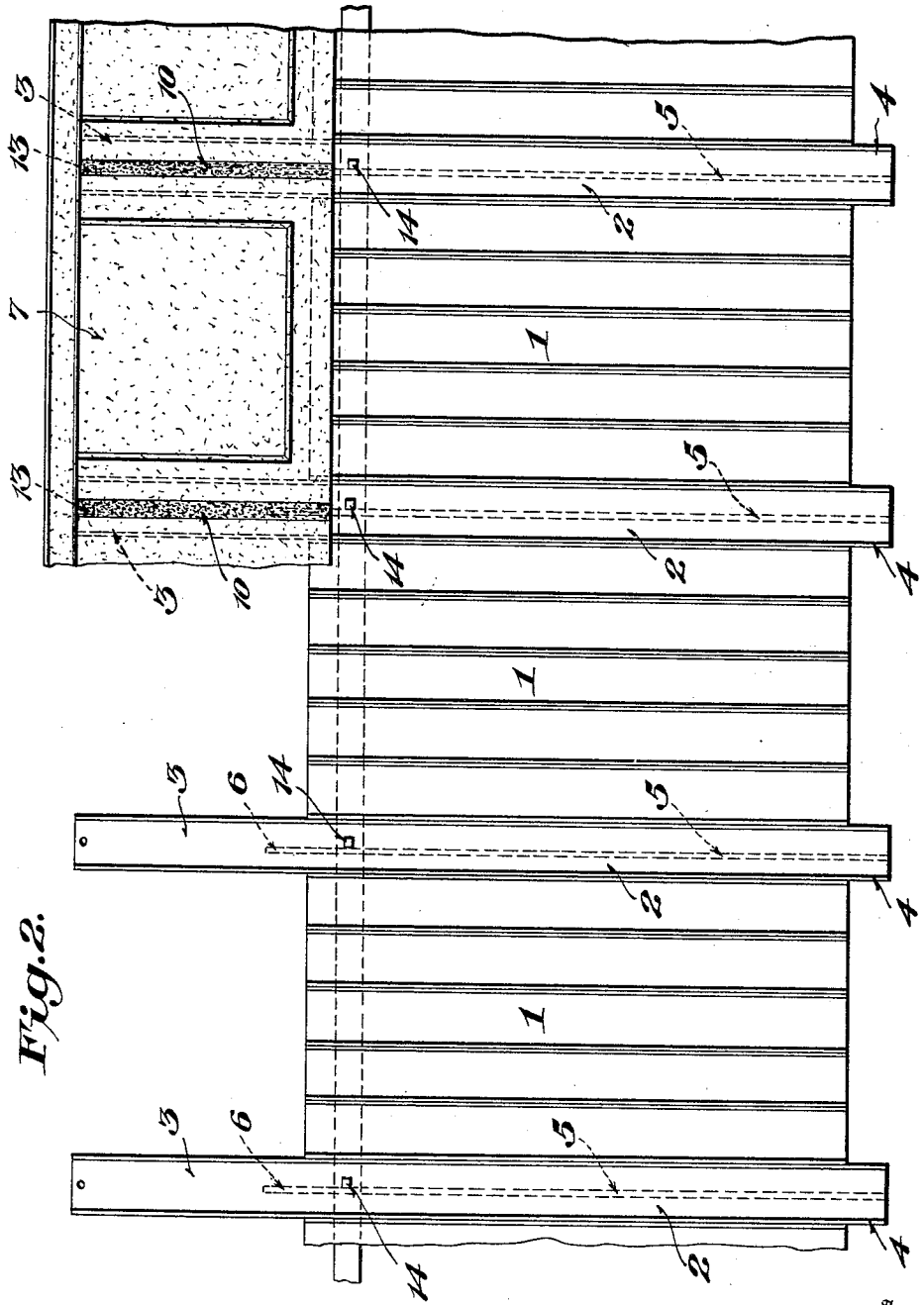


Fig. 2.

Inventors
J. R. Wemlinger,
W. C. Disbrow, Jr.,

By Howard A. Coombs

Attorney

Patented May 2, 1933

1,907,135

UNITED STATES PATENT OFFICE

JULIUS R. WEMLINGER, OF BROOKLYN, NEW YORK, AND WILLIAM C. DISBROW, JR., OF TAMPA, FLORIDA; SAID DISBROW ASSIGNOR TO SAID WEMLINGER

SEA WALL

Application filed April 20, 1931. Serial No. 531,554.

The present invention relates to retaining walls for sea or river shore protection, frequently called sea-walls. The object aimed at is to provide a cheaper and more secure construction than that heretofore used, such as concrete slabs supported on independent piles, and one which will prevent the undermining or washing out of the lower part of the wall.

The improvement consists, generally speaking, in making only the upper portion of the wall, above the mean water level, of concrete, and the lower portion, below the mean water level and extending down below the ground and to bed rock, if possible, of interlocking sheet piling, sections or individual piles of which are extended upwardly above the top of the main body of sheet piling, at regularly spaced intervals, and are interlocked with the concrete slabs. These extended piles, which may be called master piles, are provided, in their lower portions, with rearwardly projecting metal legs, secured thereto by welding or otherwise. Where necessary, anchor piles are driven back of the master piles and are connected thereto by tie-rods. Further details of the improved construction will be brought out in the following detailed description, with reference to the accompanying two sheets of drawings, in which,

Fig. 1 is a cross section of the wall.

Fig. 2 is a front view of the same with the upper concrete part broken away, and

Fig. 3 is a detail of the slab joint in section taken on line 3—3 of Fig. 1.

In these views, the main body of sheet piling 1, which constitutes the lower, underwater portion of the wall, is preferably, but not necessarily of the corrugated type for which the applicant Wemlinger filed an application for patent on February 5, 1931, Ser. No. 513,708. At regularly spaced intervals, a longer pile 2 of the same type is inserted, and these we call the master piles. They comprise an upward extension 3 of considerable length and a downward extension 4, the length of which depends upon the soil or beach conditions. Each of these master piles has secured to it, in its lower portion, corresponding approximately to the depth of the main body of piling 1, a rearwardly projecting leg 5, shown as also of corrugated sheet metal, the tops of said legs being beveled off, as shown at 6, Fig. 1.

On the top of the main body of piling 1, between the extensions 3 of the master piles 2, are set concrete slabs 7, in the bottoms of which are grooves 8 fitting over the top of the main piling 1 and the ends of which are provided with recesses 9 to receive the extensions 3. After the slabs are mounted in place, the said recesses are filled with a cementitious composition, or grout 10, which unites the row of slabs into a continuous waterproof wall and protects the extensions 3 from corrosion. The extensions 3 stop short of the tops of the slabs so as to leave a coping 11.

Back of each extension 3 of the master piles, an anchor pile 12 is, or may be driven, and be connected by tie-rods 13, 14, to the master piles, shortly below the tops and bottoms of the slabs.

We have shown small channel irons 15, secured to the piling above and below the tie-rods 14, for the purpose of longitudinally stiffening the wall, but these are not always required, especially in the case of relatively low bulk heads or walls.

Having thus described our invention, what we claim is:

1. A retaining wall, comprising a base portion of interlocked sheet piling having certain spaced sections thereof extending upwardly above the top of said base portion, each of said sections having a leg projecting rearwardly therefrom, said legs terminating slightly above the top of said base portion, and concrete slabs set on the top of said base portion, the meeting ends of said slabs being recessed to enclose said upwardly extending sections.

2. A retaining wall, comprising a row of spaced apart metal T piles with the rearwardly projecting legs thereof terminating short of the tops of the piles, a plurality of interlocked sheet piles between and connecting the lower portions of said spaced piles, and a plurality of concrete slabs set

on the tops of said connecting piles and enclosing the upper portions of said spaced piles.

3. A sea wall, the lower portion of which consists of interlocked sheet piling, spaced apart sections of which extend above the top of the main body of piling, said sections having rearwardly extending legs running up to approximately the top of said main body, and concrete slabs set on said main body and recessed at their ends for the greater part of their height to enclose the upper portions of said sections, said recesses being filled with a cementitious filler.

4. A sea wall, the under-water portion of which consists of interlocked corrugated sheet piling having certain sections thereof, at regular intervals, extending above the mean water level, the upper portion of the wall consisting of a row of concrete slabs set on said piling between said sections, the lower portions of the latter having rearwardly projecting legs, the sides of said slabs being recessed to enclose said upwardly extending sections and the tops of their legs, and said sections extending below the bottom of the main body of piling.

In testimony whereof, we have hereunto set our hands.

JULIUS R. WEMLINGER.
WM. C. DISBROW, JR.