March 6, 1934. H. T. EBNER 1,949,680

TIMBER PILING

Filed May 12, 1932

Fig. 1

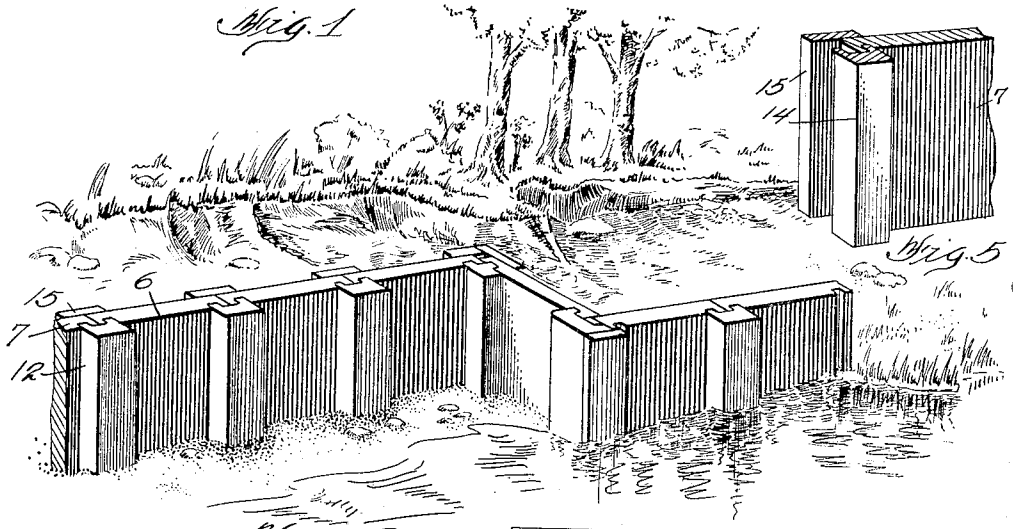


Fig. 5

Fig. 2

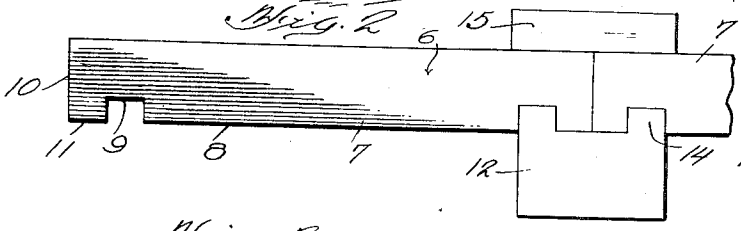
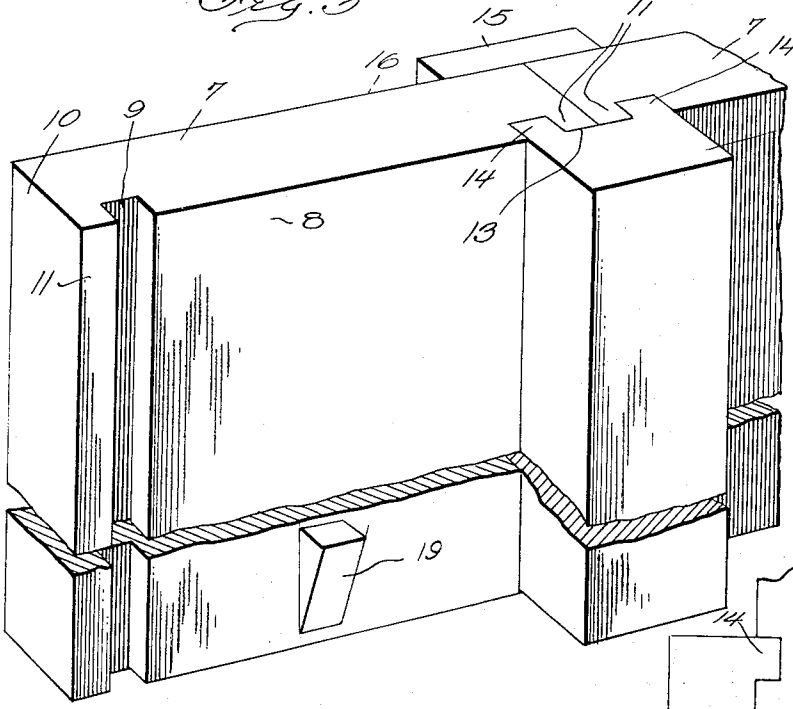


Fig. 3



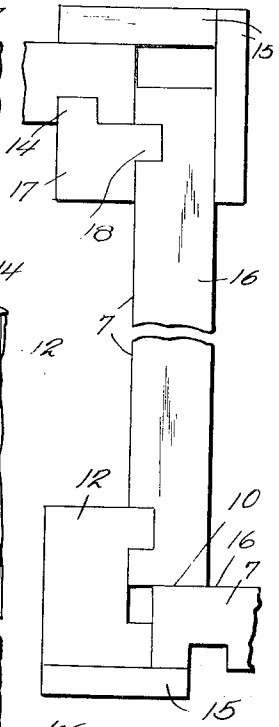
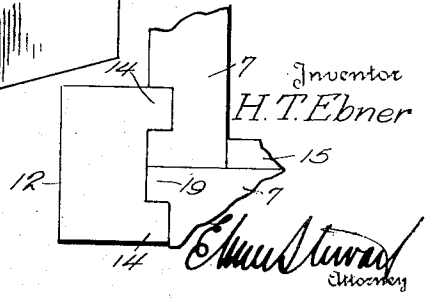


Fig. 4



Inventor
H. T. Ebner

Attorney

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TIMBER PILING

Herbert T. Ebner, Folly Beach, S. C.

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4 Claims. (Cl. 61—58)

This invention as illustrated herewith relates to improved and novel forms of piling adapted for use in the construction of walls, bulk-heads, breakwaters, cofferdams, shore protection and the like.

The general practice in the assembly of such structures has been to rely upon fabricated steel shapes as elements which are assembled according to their form into structures to suit the variety of needs.

There are many localities where the high cost of steel and its transportation make the use of such material uneconomic and unsatisfactory. In many localities an abundance in the supply of timber offers an opportunity for the development of a system of sheet piling on an economic and advantageous basis.

The use of timber for such piling not only is economically advantageous but is of material advantage from the viewpoint of the labor required to assemble it and the ease with which lumber may be adapted for any special construction.

Among the objects of my invention is the provision of sheet piling from timber which by reason of its characteristics will swell when subjected to water to an extent sufficient to form a seal even where the interlocking features of the improvement may be enough to prevent leakage.

It is a further object of my invention to utilize elements of construction which may be modified in shape during the process of installation in order to meet unusual situations.

According to my invention the assembly of this form of timber piling may be built up incidental to its installation, that is, the parts may be separately shipped and fitted together and attached as an incident to the installation, thus lending to the flexibility of its use.

As illustrating the preferred form of my invention, I have shown the same on the accompanying drawing in which:

Fig. 1 is a perspective view of an installation of the improved piling;

Fig. 2 is a plan view of the same;

Fig. 3 is an enlarged perspective view of two adjacent units,

Fig. 4 is a fragmentary plan view of a modified corner assembly and

Fig. 5 is a fragmentary perspective view of one unit.

The piling is built up in the form of a continuous wall 6 and this wall may have angles or turns between any two adjacent units of the assembly. The wall 6 is built up of a series of wooden boards 7 placed edge to edge. These boards may be of any convenient dimensions and one satisfactory shape has been one foot width two inch thickness and an indeterminate length controlled by the needs of the installation. One face 8 of each board unit is rabbeted along each side edge to form a groove 9. This groove 9 is separated from the side edge face 10 of the board by a rib 11. The groove 9 is generally square in cross-section and the rib 11 is an equal cross-section. The operation of rabbeting the face 8 of the board in this manner is the sole preparation required to put the board 7 in condition for use in this type of piling.

An interlocking member 12 is provided of timber generally square in cross-section and of an indefinite length generally that of the board 7. One side of the member 12 is grooved centrally for a width double that of the rib 11. This groove 13 is adapted to receive the ribs 11 of two adjacent boards 7, 7. The resulting ribs 14 formed in this side of the interlocking member 12 are also proportioned to fit or seat within the grooves or rabbets 9.

A piece of lumber 15 of suitable dimensions is used as a retainer to be fastened on the opposite side faces 16 of the boards 7, 7.

It has been found that a supply of the boards 7, the interlocking members 12 and the retainers 15 is all that is required for the assembly of a rigid watertight system of sheet piling. Each board 7 has an interlocking member 12 fastened along one side edge fitting in the rabbet 9 and rib 11. On the opposite side face of the board 7 a retaining member 15 is nailed or otherwise attached covering as much of the edge of the board as is desirable and projecting beyond the side of the latter. There is thus formed a recess between the interlocking member 12 and the retainer 15. This recess will receive the complementary end of a second board 7. The rib 11 of the latter will occupy the remaining space in the groove 13 while the rabbet 9 will receive the free rib 14 of the retaining member 12. This arrangement provides for one junction between two adjacent boards when placed edge to edge. The second board 7 may be driven into place sliding between the interlocking member 12 and the retainer 15.

A junction of this type when embedded in water or damp earth will absorb enough moisture to swell so that the same becomes practically watertight and rigid.

In Fig. 2 I have shown how two boards 7 may be fitted together at right angles with the face

16 of one against the end 10 of the other. The retaining member 12 fitted along the edge of one board 7 will project beyond the latter enough to rest against the end face 10 of the other board 7 and the retainer 15 may be attached to the end face of the interlocking member 12 thus holding the two boards 7, 7 in a tight angular position.

One form in which a right angle turn in the opposite direction may be accomplished is shown in Fig. 2 where the rib 11 of one board is brought against the end face of the rib 11 on the other board and two retainers 15, 15 applied on the outer faces 16. In this form the interlocking member 17 has a rib 14 already described but a rib 18 is arranged at right angles to the first rib.

In Fig. 4 a right-angle turn of an alternative form is provided in which the retaining member 12 is of usual form and the end wall of the opposite board 7 is provided with a rib 19. In this case the usual retainer 15 completes the joint.

For the purpose of better anchoring the sheet piling in place I use one or more wedge-shaped anchors 19. These are cut from timber of suitable size and nailed on one or both sides of the base of the timbers 7, as shown in Fig. 3. These wedges will not materially interfere with installing the piling but have been found very effective to prevent the timbers from rising out of the sand or other material in which they have been driven.

It will be seen that the elements of the assembly namely, the boards 7, the interlocking members 12 and the retainers 15 can be made in quantity production very cheaply and shipped wherever desired. By nailing an interlocking member 12 and the retainer 15 along one side edge of each board the units are prepared for installation. Each board when driven into place forms a guide for the application of the adjacent board between the free edges of the members 12 and 15. In this way the wall may be readily built in whatever length desired and suitable offsets or turns made by slight variation in the application or form of the interlocking and retaining members.

The advantages of such an assembly will be readily apparent and it will be seen that the invention may be embodied in a variety of forms within the scope of the appended claims.

What I claim is:

1. A timber piling unit comprising a board the face of which has a rabbet along one side edge, a member seated in said rabbet and having a projecting portion beyond the said side edge, interlocking means on said projecting portion, and a retaining member attached to the opposite face of the board and projecting over the said edge opposite the projecting portion of the first named member.

2. A timber piling unit comprising a board one face of which has a rabbet along each side edge, a member seated in one of said rabbets and having an interlocking portion projecting over the edge of the board and a retaining member attached to the opposite face of the board and projecting over the said edge thereof.

3. Timber piling comprising a series of boards adapted to be set edge to edge, each of said boards having a rabbet along each side edge, a member interlocking in the adjacent pair of rabbets of said boards and a retaining member fastened over the meeting edges of the boards on the side opposite from the interlocking member.

4. Timber piling comprising a series of boards adapted to be set contiguously edge to edge, each of said boards having a rabbet along each side edge of one face of the board, an interlocking member fitted within one of the rabbets on one board and having an interlocking portion projecting inwardly beyond the edge of said board, a retaining member fastened over the opposite side of said edge, and a second board with its rabbeted edge slidably mounted between the said interlocking member and the retaining member

HERBERT T. EBNER.