

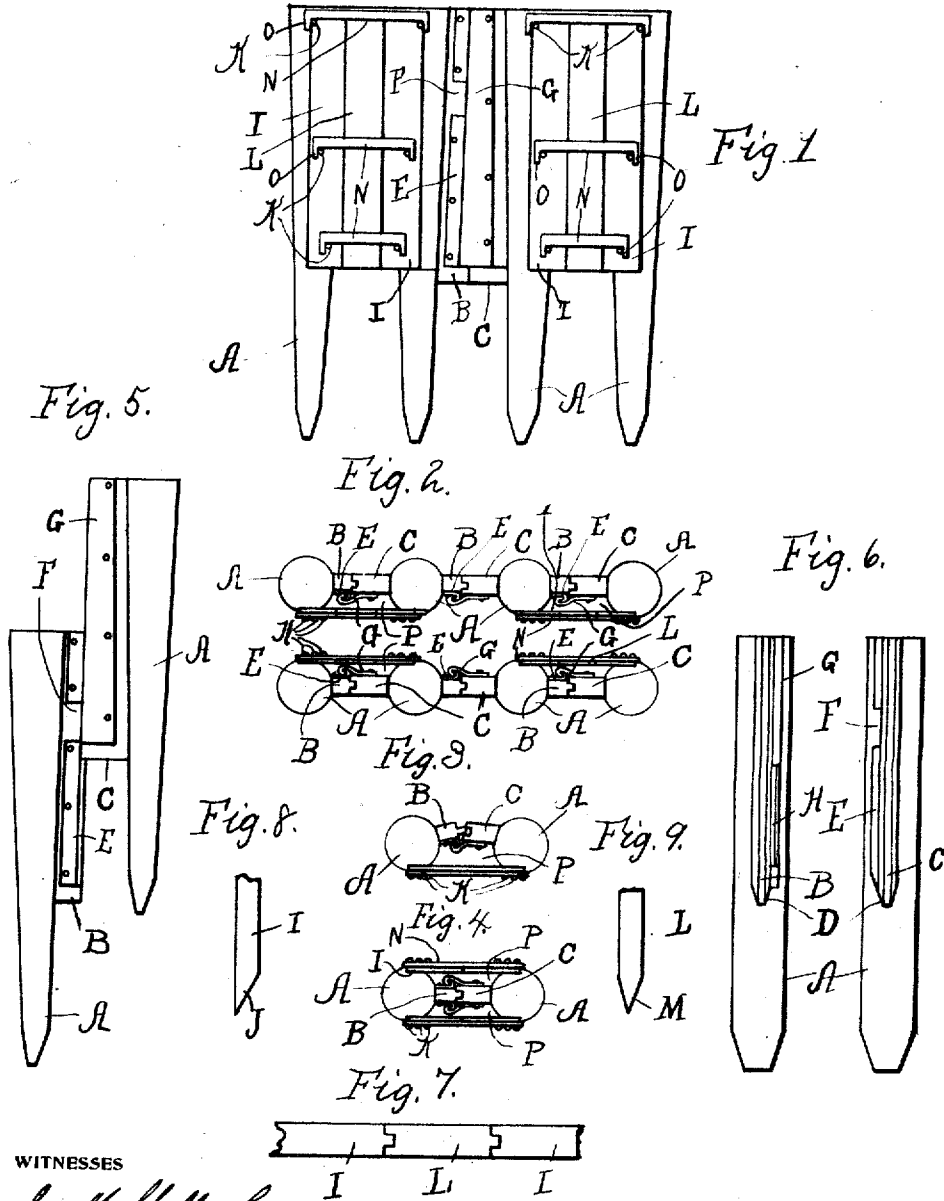
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PILING.

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PILING.

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To all whom it may concern:

Be it known that I, LEVI E. EDMUNDS, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain now and useful Improvement in Pilings, of which the following is a specification.

My invention relates to a new and useful improvement in pilings, and has for its object to provide an exceedingly simple and effective device of this character whereby the pilings may be locked together thus forming a solid wall, and one which will be impenetrable to sand, mud and the like.

It is a well known fact that it is next to impossible to dredge a channel in quick sand as each time a bucket of sand is withdrawn the sand from the sides will at once move in the hole from which the bucket of sand is taken, but by the use of my improvement this will be entirely overcome because the pilings may be driven until they reach the more solid earth or mud beneath the quick sand, and when these pilings have been placed along the sides of the channel the whole length thereof the sand may be taken out the pilings preventing any of the sand from the outside from entering.

Another object of my invention is to provide interlocking pilings in which it will not be required to lift each piling the full height of the one last driven to interlock them.

Another object of my invention is to provide an interlocking piling in which very little metal will be used.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation of a number of pilings made in accordance with my improvement. Fig. 2, a plan view thereof showing them used in the construction of a channel, sewer, subway, canal, cellar or the like. Fig. 3, a similar view of pilings showing the way in which they are placed to make a turn. Fig. 4, a similar view of a modified form of my improvement. Fig. 5, a side elevation of two pilings showing how they

are placed together. Fig. 6, a similar view at right angles to Fig. 5 showing the tongue and groove of the locking members. Fig. 7, an enlarged plan view of the facing planks. Fig. 8, an edge view of the lower end of the facing planks which are secured to the pilings, and Fig. 9, a similar view of the center facing plank.

In carrying out my invention as here embodied, A represents a number of pilings, two sides of which may be hewed or sawed until they are comparatively flat and smooth on one of these flat sides is secured the tongue joiner B which has previous to fastening it to the piling been formed on the same taper as the piling on which it has been fastened, thus making its outer edge perpendicular and to the opposite side is attached the grooved joiner C which is prepared in the same manner as the joiner B, the lower edges of these joiners are sharpened as indicated by D so that they will readily enter the sand or earth when the pilings are being placed in position. On the edge of one of these joiners is secured a clasp E having a portion F cut away, on the abutting joiner is attached the clasp G which is adapted to engage with the clasp E and said clasp G has a portion H cut away so that when one piling has been driven the next one is brought to the position shown in Fig. 5 at which time the lower portion of the clasp G enters the cut away portion of the clasp E and the upper portion of the clasp E enters the cut away H of the clasp G, and when the pilings are brought to the relative position shown in Fig. 5 by lowering the upper one the clasps E and G will engage with one another and when said pilings are in position they will be prevented from moving apart.

When pilings have been put together according to my invention and having remained in the water for some time the pilings and joiners being of wood will swell forming a perfectly water tight joiner.

On one or two sides of the pilings may be secured the facing planks I which are tongued and grooved the lower ends of which are beveled from the face thereof towards the pilings as indicated by J so that in driving the pilings with these facing planks secured thereto said planks will press towards the pilings instead of away from them should they hit a hard substance as would be the case if they were sharpened in the opposite direction. Running through these fac-

ing planks into the pilings are suitable screws K, bolts or the like, the uppermost ones of which are in the center of the pilings and each successive lower one is nearer the edge of the piling, the reason for which will be hereinafter described. The heads of these bolts are allowed to extend a short distance beyond the outer edge of the facing planks I and these heads are made of any suitable shape or size.

L denotes a center facing plank which is tongued and grooved and adapted to engage with the tongue and groove on the other facing planks, the lower end being sharpened as indicated at M so that when driven it will enter the ground on a straight line. To these facing planks L are secured the metallic straps N the upper one of which is longer than the rest, each successive lower one being made smaller than the one above, on the ends of these straps are formed the lugs O extending downward therefrom and these are adapted to engage with the screws or bolts K the heads of said screws and bolts preventing them from slipping.

Should the tongue or groove in any way become broken in placing the center facing board in position the lower strap will pass between the upper bolts and when it comes in position with the lowest bolts the lugs O will overlap said bolts and the other straps will engage with their respective bolts which will hold the facing planks securely in position.

If found desirable, clasps similar to those used upon the joiners may be secured to the edges of the facing planks which would do away with the straps yet would act in the same manner. When these facing planks are used on both sides of the pilings the joiners may be dispensed with if so desired. When these facing planks have been placed into position they leave a space P between them and the pilings and joiners which space if desired may be filled with cement thus inclosing the clasps so that should they be of metal the salt water will be prevented from coming in contact therewith and in this way saving them from corroding.

In making a turn the pilings are set out of a line with one another and when facing planks are used on each turn the center facing plank in the outer groove is wider and the center facing plank used on the inside groove is made narrower thus compensating for the distance between the facing planks which are secured to the pilings.

If a very strong joint is wanted the clasps E and G may be placed on both sides of the joiners and if a strong sea is running in one direction one set of clasps will take the strain and when the sea is running in the opposite direction another set of clasps will take the strain, this form being clearly shown in Fig 4.

In practice it is found desirable while building a channel, canal, sewer, subway, cellar or the like in certain parts of the country to exclude quick sand or water and by the use of my improved pilings which form a perfect water tight joint these things may be prevented from interrupting that part of the operation when it is desirable to exclude them and in the case of canal building it is first found desirable to exclude quick sand or water until the canal is dug and when the canal is finished the water must be kept in which may be done by my improved pilings for if they will exclude it they will also retain it.

Of course I do not wish to be limited to the exact details of construction here shown as these may be varied within certain limits without departing from the spirit of my invention.

Having thus fully described my invention what I claim as new and useful is—

1. In combination, a number of pilings, a tongue joiner cut to the taper of each piling, the lower end of said joiner being sharpened, a grooved joiner cut to the taper of each piling secured to the opposite side of said piling, the lower edge thereof being sharpened said joiners adapted to engage with one another, a clasp having a portion cut away near its upper end secured to the edge of one of the joiners, a second clasp having a portion cut away from its lower end secured to the edge of the other joiner, said clasps adapted to engage with one another, facing planks fastened to the piling, screws or bolts, the heads of which extend a short distance beyond the outer face of the facing planks, the upper bolts entering the pilings at about the center thereof, and each successive lower set being closer to the inner edge of the piling, a center facing plank having secured thereto a number of metal straps, the upper one of which is longer than the others, and lugs formed on either end of said straps which are adapted to engage with the screws or bolts in the pilings when the facing planks are in position.

2. In combination a number of pilings, a tongue joiner to one side of each piling, the lower end of said joiner being sharpened, a grooved joiner secured to the opposite side of each said piling, the lower edge thereof, being sharpened, said joiners adapted to engage with other joiners on the adjacent piling, a clasp having a portion cut away near its upper end secured to the edge of one of the joiners, a second clasp having a portion cut away from its lower end secured to the edge of the other joiner said clasp adapted to engage with other clasps on the adjacent joiners, tongued and grooved facing planks fastened to the piling, nails, screws or bolts, the heads of which extend a short distance beyond the outer face of the facing

planks, the upper bolts entering the pilings at about the center thereof, and each successive lower set being closer to the inner edge of the pilings, a center tongued and grooved facing plank the lower end of which is sharpened having secured thereto a number of metal straps the upper one of which is longer than the others, and lugs formed on either end of said straps which are adapted to engage with the screws or bolts in the pilings when the facing plank is in position.

3. In combination, a number of pilings, a tongued joiner secured to one side of each of said pilings, the lower end of said joiner being sharpened a grooved joiner secured to the opposite side of each adjoining piling, the lower edge thereof being sharpened, said joiners adapted to engage with each other, a clasp having a portion cut away near its upper end, secured to the edge of one of the joiners, a second clasp having a portion cut away from its lower end secured to the edge of the other joiner, said clasp adapted to engage with other clasps, grooved and tongued facing planks secured to each of the pilings, screws or bolts, the heads of which extend beyond the outside face of the facing planks, center grooved and tongued

facing planks, metal straps having lugs formed with either end thereof secured to said center facing planks, said lugs adapted to engage with the screws or bolts, as shown and described.

4. In a device of the character described, a number of pilings, tongued and grooved joiners secured to two sides of adjoining pilings, clasps secured to the edges of said joiners, said joiners and clasps adapted to engage with other joiners and clasps as and for the purpose set forth.

5. In a device of the character described, a number of pilings, tongued and grooved joiners secured to two sides of said pilings the tongued joiners of one piling adapted to engage with the grooved joiners of another piling, clasps secured to the edge of said joiners adapted to engage with one another, facing planks and means for securing said facing planks to the pilings, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

LEVI E. EDMUNDS.

Witnesses:

ALBERT L. BRADLEY,
ANNIE R. EDMUNDS.