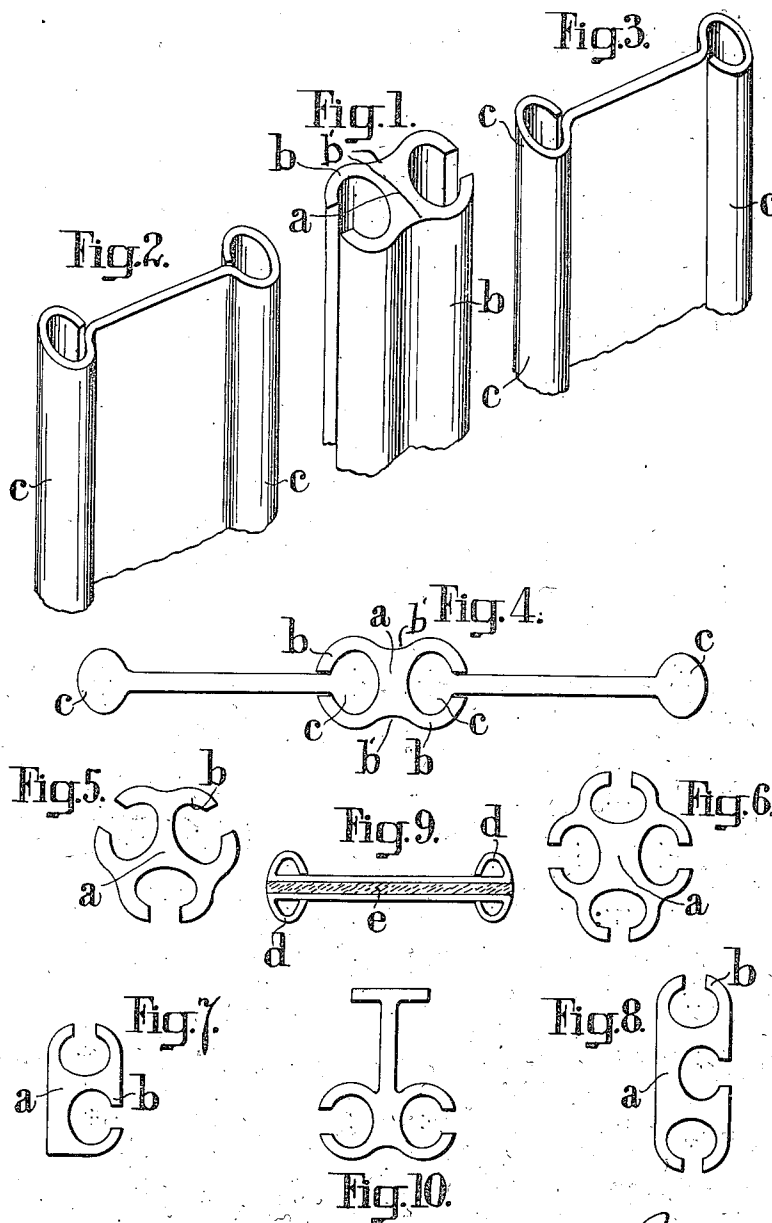


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 LOCKING BAR AND SHEETING FOR CONSTRUCTIONAL WORK.
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Patented May 26, 1914.



Witnesses:
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UNITED STATES PATENT OFFICE.

RICHARD HENRY ANNISON, OF LONDON, ENGLAND.

LOCKING-BAR AND SHEETING FOR CONSTRUCTIONAL WORK.

1,098,077.

Specification of Letters Patent.

Patented May 26, 1914.

Application filed June 18, 1910. Serial No. 567,608.

To all whom it may concern:

Be it known that I, RICHARD HENRY ANNISON, a subject of the King of England, residing at 16 Water Lane, Great Tower street, in the county of London, England, have invented certain new and useful Improvements in Locking-Bars and Sheeting for Constructional Work; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in the parts used in dock-retaining walls, sheet-piling and other constructional work. With work of this description it has been customary to employ various forms of posts and sheets, the posts being formed for instance of H or  section, which may have angle pieces riveted thereto, and be turned over to embrace the ends of webbed connecting sheets of greater or less width. These posts have again in some cases been built up by riveting back to back trough or channel pieces which have in some instances formed a circular channel while in other instances wedge-like grooves have been formed in one or more of the plates forming the posts for the reception of correspondingly shaped parts on the sheets. In order to drive such pieces into the bed of the dock or into any other position where they are required for use, it has been usual to place at the top of the post or plate a "dolly" for receiving the blows from the power driver.

It is found in practice that the plates in being driven are very likely to become buckled or otherwise bent out of shape, and that the rivets or bolts may often become displaced. Moreover, the members when built up in various parts are likely to become separated and broken. Again in the case of posts provided with circular channels in driving such posts into position, the resistance of the material through which the post is being driven has been likely to cause the ends of the claws to splay out owing to the large amount of leverage. My present invention is designed to obviate these defects.

In order that my said invention may be better understood, I will now proceed to describe the same with reference to the drawing accompanying this specification in which—

Figure 1 shows perspective elevation of

parts of a locking bar constructed according to my invention. Figs. 2 and 3 show similar views of two sheets for use therewith. Fig. 4 shows plan of locking bar with two sheets in position. Figs. 5 to 8 show sections of various forms of locking bars. Fig. 9 shows a modified form of sheeting. Fig. 10 shows another form of locking bar with a flanged web attached thereto.

It will be seen that the locking bar consists of a central solid portion *a* with rolled-over guideways *b*, forming C shaped grooves. The sheets at Figs. 2 and 3 have the edges rolled over into an oval shape at *c*, two forms of rolling being illustrated. It will be observed that in these cases a hollow is left in the oval edges. The sheets may be bent in the usual way at any desired curve or angle to form corners and bends. In the form of the sheet shown at Fig. 4, the oval edges *c* are solid. It will be understood that the locking bar *a*, Fig. 1 is driven into position. In passing down through the soil into which it is entering, the guideways are filled or partly so with loosened soil.

It will be seen that the post shown for instance at Figs. 1 and 4 has between each pair of claws formed by the adjacent C's slight depressions or grooves. The resistive push of the material into which the post is driven is by this formation directed through the center of the post, that is the portion where the thickness is greatest, thus insuring a straight drive. When the sheets are driven into position, the oval edges *c* on both sides of the sheeting pass down comparatively easily into the grooves owing to the fact that the soil is loosened and in the case of the hollow edges shown at Figs. 2 and 3, a portion of it is enabled to pass into the hollows, while in the form shown at Fig. 4, being loosened, it is easily forced out through the sides of the grooves as the sheet descends, especially when a jet of water is used to assist in removing the drift, as is commonly the case. By this arrangement the force required for driving the sheet into position is not sufficient to buckle or damage it.

Referring to Figs. 5 to 8, arrangements are shown for enabling the sheets to be inserted at various angles according to the nature of the work to be executed. For instance, at Fig. 5 three sheets are enabled to be inclined at angles of 120 degrees with respect to one another, at Fig. 6 four sheets

can be inserted at right angles to one another, in the form shown at Fig. 7 two sheets can be inserted at right angles to one another, while in the form shown at Fig. 8, three sheets can be inserted two in one plane and one at right angles to that plane.

In some cases in place of forming the sheeting members with their side edges rolled over into an ovel form, as at Figs. 2, 3 and 4, I may provide two sheeting members, each of which is furnished with a species of half oval or bead along its edge. These sheeting members may then be inserted into the locking bars with the half oval coming within the C shaped recesses, and a sheet of asbestos or other suitable material may be inserted between the two sheeting members. This is particularly suitable in the case of constructional work for making partitions and the like. This method of carrying out the invention is shown at Fig. 9, in which the sheeting members are furnished with half oval beads *d*; and *e* is a sheet of asbestos or other suitable packing material placed between the sheeting members. It will be observed that in all these cases the locking bar has a strong cross section which enables it to easily withstand the force delivered by the power driver without damage. For some classes of work the sheets can be inserted and when in position the guide pieces can then be pressed hard upon the sheets by hydraulic or other suitable means.

It will be understood that I may modify the construction in various ways without departing from the principle of this invention. For instance, instead of inserting sheets such

as those herein described and shown on the accompanying drawing, with oval edges, into the locking bars I may utilize sheets of H,  or other shape in cross section, the edges fitting into the C shaped grooves *b*.

By reference to Figs. 1 and 4, it will be seen that when the coupling member is being driven that the outwardly rounded parts will force the earth into the longitudinally hollowed out portion *b'*, which latter serves to receive the displaced earth in a manner to neutralize the resistance against driving the pile which would otherwise result if the side surfaces of the coupling member were straight, in which event, the displacement of the earth would have to be forced upwardly, wholly.

What I claim and desire to secure by Letters Patent of the United States of America, is:—

In interlocking piling, the combination with a pile coupling member having a longitudinally disposed hollow locking portion of substantially C-shaped cross-section and having a total thickness not greatly exceeding its total width, said member being hollowed out longitudinally between its side locking edges, and each piling member having longitudinal edges shaped to fit said hollow locking portion, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

RICHARD HENRY ANNISON.

Witnesses:

LILY SUMMOIDS,
N. BROWNE.