

J. J. HAROLD.
METAL PILING.
APPLICATION FILED NOV. 29, 1904.

949,473.

Patented Feb. 15, 1910.

Fig. 1

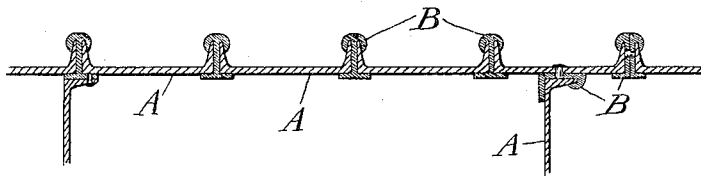


Fig. 3

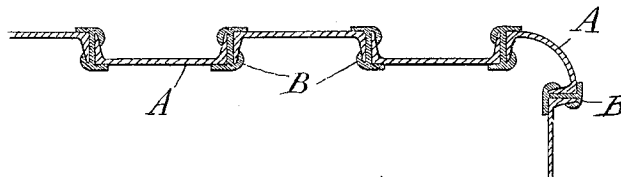


Fig. 2

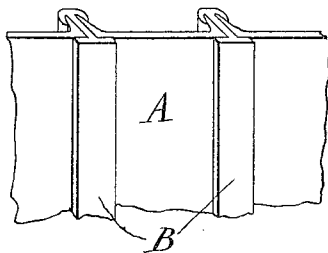
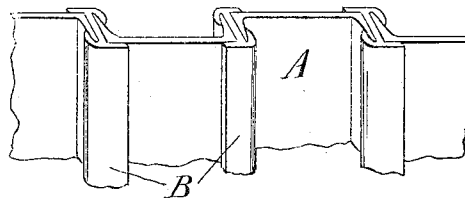


Fig. 4



Witnesses
Evan Horigsberg
Anne Wischmann

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By his Attorney
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UNITED STATES PATENT OFFICE.

JAMES J. HAROLD, OF JERSEY CITY, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO EDWARD A. BERN, OF CHICAGO, ILLINOIS.

METAL PILING.

949,473.

Specification of Letters Patent. Patented Feb. 15, 1910.

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To all whom it may concern:

Be it known that I, JAMES J. HAROLD, citizen of the United States of America, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Metal Piling, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in metallic piling as used in subway, foundation and irrigation work, dams, mine shafts, caissons, sea-walls, locks, coffer-dams, retaining walls and similar structures, and comprises flanged beams, preferably of the channel beam type, interlocked by coupling rods.

Referring to the accompanying drawings, Figure 1 is an end view of my piling showing the channel beams coupled with their flanges pointing in the same direction, Fig. 2 a perspective view of the same, Fig. 3 is an end view of my piling showing the channel beams coupled with the flanges of each alternate channel beam pointing in the same direction, and Fig. 4 is a perspective view of the same.

A are the beam members and B the coupling rods. The coupling rods comprise flat and channel surfaces connected by webs or partitions. Where it is desired to drive the beams with their backs forming one side of the structure as shown in Figs. 1 and 2, each coupling rod is formed with a channel surface connected at its concave center by a web connected to the center of a flat surface so that the flat flanges thus formed engage the backs of the channel beams while the curved flanges engage the flanges of the channel beams and securely couple the beams together. Where the channel beams are driven with their flanges and backs alternating as shown in Figs. 3 and 4, the web or partition of each coupling rod connects the concave surfaces of channels having alternating flat sides so that the flat flanges thus formed engage the alternating backs of two channel beams while the curved flanges engage the alternating flanges of the same channel beams.

In construction each pile and coupling rod is driven down in the usual way, the opening in the coupling rods being large enough to receive the sides of the channel beams.

I do not confine my invention to the exact construction shown and described as modifications may be made without departing from the spirit of the same.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In combination channel beams and a coupling bar, said coupling bar having a web portion between the flanged ends of said channel beams, said bar having flanges extending from opposite margins of both faces of said web portion, being adapted to hold said channel beams in such a manner that the channels of said beams face oppositely.

2. Metal piling having in combination channel bars and a coupling bar, said coupling bar having a web portion extending between the flanged ends of said channel bars, and flanges extending from opposite margins of both faces of said web portion along the back of said channel bars, and hooked flanges projecting from the web of the coupling bar oppositely from said first-named flanges and engaging the flanges of the channel bars.

3. A metal piling comprising channel bars alternately arranged with their flanges projecting oppositely, and coupling members engaging the flanges of channel bars, each of said members having a web portion extending between the flanged ends of the adjacent channel bars and flanges extending from opposite margins of both faces of said web portion along the back of said channel bars and hooked flanges projecting from the web of the coupling member oppositely from said first-named flanges and engaging the flanges of the channel bars.

4. A coupling for channel bars comprising a web portion adapted to extend between the flanged ends of the channel bars, and flanges extending from opposite margins of both faces of said web portion approximately at right angles thereto, and hooked flanges

extending from the opposite margins of both faces of the web portion to engage the flanges of the channel bars.

5 5. The rolled I-beam section having flanges at opposite margins of the web, the oppositely extending flanges at one margin being respectively at right angles to the web and bent into a hook shape.

10 6. The rolled I-beam section having flanges at opposite margins of the web, one

of the flanges at each margin extending approximately at right angles to the web and the other being bent into a hook shape.

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

JAMES J. HAROLD.

Witnesses:

THOMAS A. HILL,
BEATRICE UNGER.