

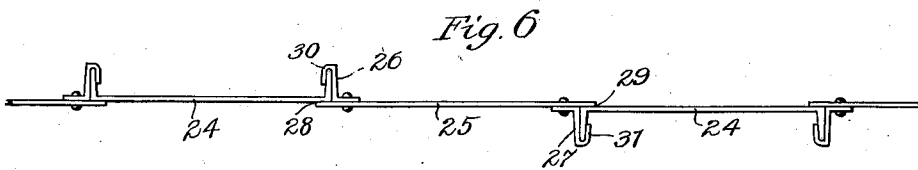
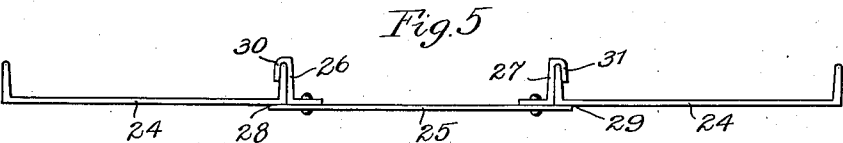
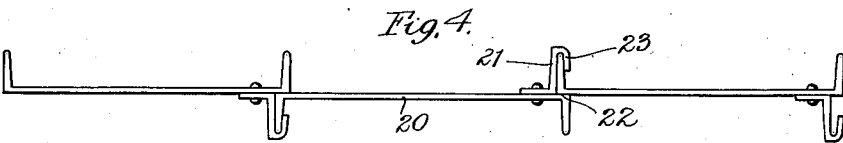
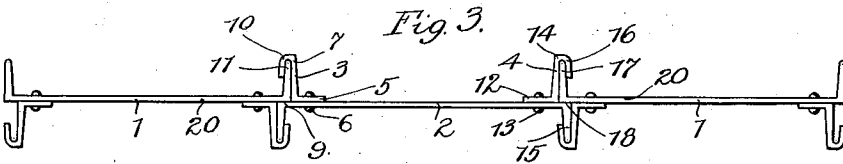
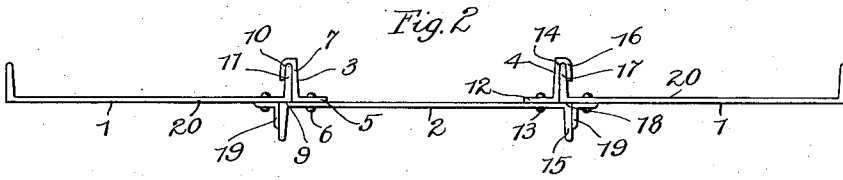
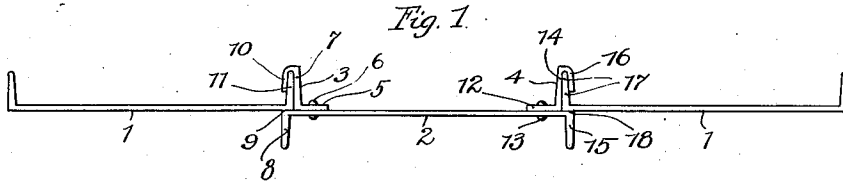
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SHEET PILING.

APPLICATION FILED FEB. 19, 1906. RENEWED APR. 1, 1909.

937,818.

Patented Oct. 26, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM A. KREIDLER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO LACKAWANNA STEEL COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SHEET-PILING.

937,818.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM A. KREIDLER, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Sheet-Piling, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to metal sheet piling, and its object is to provide sections which are standard forms and sections built up of standard forms which can be bought on the market.

My invention will be best understood by reference to the accompanying drawing.

Figure 1 is a top view of sections interlocked to form a wall; Figs. 2, 3, 4, 5 and 6 are various embodiments of sections which can be assembled to form a continuous wall.

In Fig. 1 I have shown a wall of which each alternate section is a standard channel beam 1, the other sections being built up of a channel beam 2 and two Z-bars 3 and 4. The flange 5 of Z-bar 3 is secured by rivets 6 to the web of the channel beam 2, the Z-bar web 7 being set back a distance from the flange 8 of the channel beam to leave a seating 9. The other flange 10 of the Z-bar 3 is turned over to form a hook for receiving the flange 11 of the adjacent channel beam section, the end of whose web rests against the seat 9. The Z-bar 4 has its flange 12 connected by rivets 13 with the web of the channel beam 2 and its flange 14 is also set back a distance from the flange 15 of the channel beam, the flange 16 of the Z-bar being turned over to form a hook for engaging the end of the flange 17 of the adjacent channel beam, the end of whose web engages the seat 18 opposite the base of the flange 15. These channel beams and Z-bars just described can be bought finished on the market and the only work necessary is to turn over one flange of the Z-bars to form hooks and to rivet the other flange of the Z-bars to a channel beam in the manner shown.

In Fig. 2 the arrangement is exactly the same as in Fig. 1, with the addition of angle bars 19 riveted to the web 20 of the channel beam sections to abut against the flanges of the channel beam of the adjacent built up section, these angle irons giving strength and rigidity to the structure.

In Fig. 3 the sections are all like the middle sections shown in Figs. 1 and 2, the hooked Z-bars of one section engaging the flanges of the channel beams of the adjacent section and a very rigid structure is formed affording practically water tight joints.

The wall in Fig. 4 is also built up of similar sections, each section comprising a channel beam 20 whose one end is left normal but at whose other end is riveted a Z-bar 21 on the side opposite the flange, this Z-bar being also set back a distance from the flange to form a seating 22 and the free flange 23 of the Z-bar is turned over to form a hook, the normal flange of the adjacent section being engaged at its end by this hook and resting against the seat 22.

In Fig. 5, as in Fig. 1, each alternate section is a standard channel beam 24, but the middle section is built up of a plate or web 25 and Z-bars 26 and 27, the Z-bars being set back a distance from the ends of the web to leave seats 28 and 29, the Z-bars being riveted to the web along one flange, the other flange being turned over to form hooks 30 and 31, these hooks engaging over the ends of the flanges of adjacent channel beam sections whose ends rest against the seats 28 and 29. In this figure both Z-bars are on the same side of the web.

In Fig. 6 each alternate section is a standard channel beam 24 and the other sections, as in Fig. 5, are built up of the plates or webs 25 to each of which are riveted the Z-bars 26 and 27, the Z-bars, however, being at opposite sides of the web, as shown.

The sections described can very easily be built and with little expense as the component parts thereof, as before stated, are standard metal beams which can be bought on the market, the only work necessary being the turning over of one flange of the Z-bars to form a hook and riveting the other flange to the supporting channel beam or web. Other combinations of these parts besides those shown will suggest themselves to those skilled in the art, but will come within the scope of my invention. I do not, therefore, wish to be limited to the arrangements herein shown, but

I claim as new and desire to secure by Letters Patent:

1. A sheet piling section comprising a standard channel beam, a Z-bar at the opposite side of each channel beam flange

5 riveted along one of its flanges to the channel beam web but set in a distance to leave a seat opposite the channel beam flange, the free flange of each Z-bar being turned over to form a hook opposite the corresponding seat, the hook, Z-bar web and seat engaging the flange of the channel beam of the adjacent section.

10 2. In a sheet piling section, the combination with a standard channel beam, of a Z-bar at one end thereof opposite one channel bar flange, said Z-bar being riveted along one of its flanges to the channel beam web and set in a distance from the channel beam end to leave a seat, the free flange of the Z-bar being turned over to form a hook, said hook and seat engaging a flange of the channel beam of the adjacent section.

15 3. A sheet piling structure composed of

alternate sections in the form of standard 20 channel beams and intermediate sections connecting said channel beams, each intermediate section comprising a channel beam, a Z-bar set in a distance at each end of the beam to leave a seat and secured along one 25 of its flanges to the beam, the free end of each Z-bar being formed into a hook opposite the corresponding seat, each hook and seat engaging a flange of the adjacent channel beam section. 30

In witness whereof, I hereunto subscribe my name this 16th day of February A. D., 1906.

WILLIAM A. KREIDLER.

Witnesses:

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