

No. 884,545.

PATENTED APR. 14, 1908.

M. R. VANDERKLOOT.

PILING.

APPLICATION FILED DEC. 9, 1904.

Fig. 1

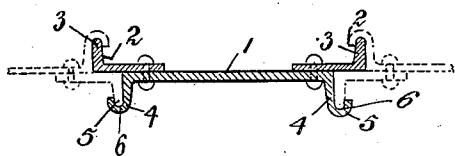


Fig. 2

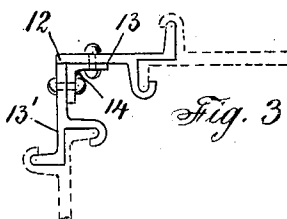
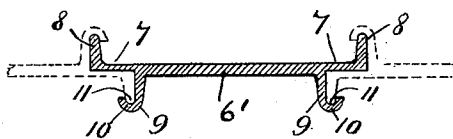


Fig. 3

Fig. 4

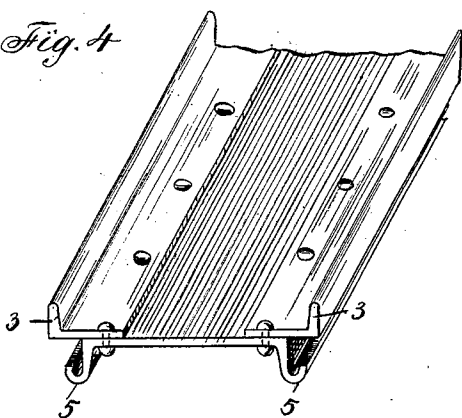


Fig. 5

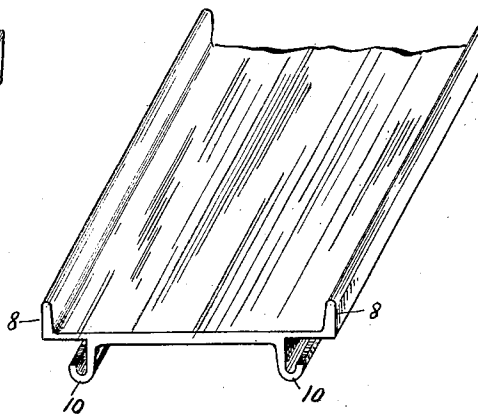
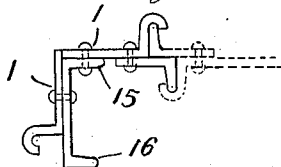


Fig. 6



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UNITED STATES PATENT OFFICE.

MATHIAS RYER VANDERKLOOT, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO LACKAWANNA STEEL COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

PILING.

No. 884,545.

Specification of Letters Patent.

Patented April 14, 1908.

Application filed December 9, 1904. Serial No. 236,153.

To all whom it may concern:

Be it known that I, MATHIAS RYER VANDERKLOOT, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Piling, of which the following is a specification.

My invention relates to piling and more particularly to that class known as sheet piling, which is most generally used in the construction of coffer dams, dry docks, and other construction for preventing the passage of water, or for the production of a strong piling for any position desired, and is designed as an improvement on the patent granted to me for piling, April 4, 1905, No. 786,329, the object of the invention being to provide durable and efficient interlocking piling with joints that offer the least resistance when being driven home.

Furthermore, the object of the invention is to provide a piling comprising a single sheet of metal having extensions suitably connected by rivets or by being formed integral with the web or body portion.

Finally the object of the invention is to provide a sheet metal piling having joints which interlock positively, firmly and closely against relative displacement and which offer rigid resistance against pressure on either side of the structure.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawing forming part of this specification, wherein like characters denote corresponding parts in the several views and in which:—

Figure 1 is a horizontal section of sheet-piling constructed in accordance with my invention. Fig. 2 is a similar view showing a modified form of construction. Fig. 3 is an end or top view showing the arrangement for a corner comprising piling as shown in Fig. 2. Fig. 4 is a perspective view of Fig. 1. Fig. 5 is a perspective view of Fig. 2, and Fig. 6 is a view showing the arrangement for a corner comprising the piling as shown in Fig. 1.

In the drawings, 1 indicates the web or body portion of a pile, which is provided at each end with an extension 2, said extension having flanges 3 bent at an angle to the body

portion. On the opposite side of the web or body portion and extending outward therefrom, I form flanges 4 having hooked shaped ends 5. It will be observed that each pile presents at each end, a hooked flange or rib, projecting in the same direction.

I form the hooked shaped flange so as to provide a channel 6 into which the straight flange or rib of the adjacent pile engages therein, thus the series of piling are firmly locked together against any but a sliding movement either upward or downward.

In Figs. 2 and 5 I show a modified form wherein the piling consists of a main web or body portion 6', and provided with reduced end extensions 7, said end extensions terminating in wings, ribs or flanges 8. On the opposite side of the web immediately at the point of beginning of the reduced portion I form integral with the web, a wing, rib or flange 9 which terminates in a hook-shaped end 10, forming beneath the hook-shaped end, a channel 11 which is adapted to receive the straight flange of the next or adjacent pile. It will be observed that by this manner of construction, I can obviate the use of rivets and at the same time produce a piling of uniform thickness.

In Fig. 3 is illustrated a method of forming the corner piles for rectangular or angular structures, which consists of the angle 12 formed substantially of the web 6 cut in two whereby the two end members 13 and 13' is formed which are secured by an angle bar 14.

In Fig. 6, I illustrate a method of forming a corner by cutting the web 1 as shown in Fig. 1, in two, and removing one of the riveted extensions and substituting an angle iron having flanges at both ends as shown at 15 and 16 one of said flanges being riveted to the portion of the web of the cut piling.

When the piles are to be driven into the ground, a single pile is first sunk to the proper depth and thereafter the adjacent piles are driven, the flanges of each pile section before being driven being entered in to the channel of the adjacent pile-section, said flanges and grooves constituting guiding means which properly guide the piles while being driven with respect to the driven piles and thereafter holding the several pile-sections interlocked. Said piles are usually made of considerable length, so that only a single pile section is ordinarily required to provide the necessary height of the pile

structure. If a deeper pile structure is required, however one or more lengths or sections may be driven on the piles first driven and in this case the end-to-end joints of the different pile-sections will be located out of line with respect to each other.

The construction, operation and advantages will, it is thought be understood from the foregoing description, it being noted that various changes may be made in the proportions and details of construction without departing from the scope of the invention.

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

1. A piling comprising a single web provided with hooked flanges upon one side and straight flanges on its opposite side surface substantially as described.
2. A sheet metal piling comprising a single unit having a web portion provided with hooked flanges near the edges upon one face, and plane flanges on the edges of its opposite face.
3. A piling consisting of a single web portion having two pair of flanges projecting from its side surfaces, one pair of said flanges

being provided with hooked shaped ends and the other pair being plane or straight, the hooked flanges adapted to interlock with the straight edge flanges of the adjacent piling as and for the purpose described.

4. A pile consisting of a single web portion, provided with two pair of flanges projecting in opposite directions from the side surface of the single web portion, the opposite flanges having plane and hooked edges, respectively, each flange occupying a separate plane.

5. A series of interlocking piles provided with pairs of complementary flanges projecting from both sides thereof and means for interlocking said flanges substantially as described.

6. In a beam section, an integral plate member provided with interlocking flanges on one side, said interlocking flanges being inward from the outer edges of said plate member and adapted to engage flanges of adjoining beam sections.

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