

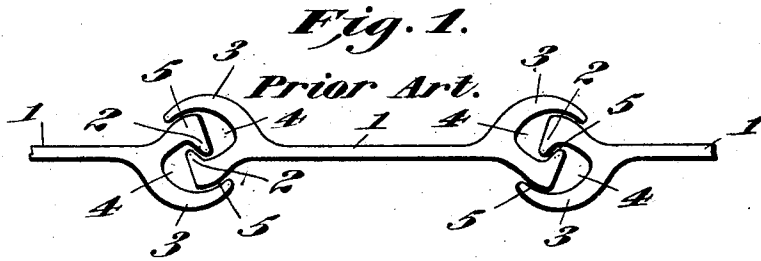
May 26, 1931

R. S. A. DOUGHERTY ET AL

1,806,967

SHEET PILING

Filed Dec. 29, 1926



Prior Art.

Prior Art.

Fig. 2.

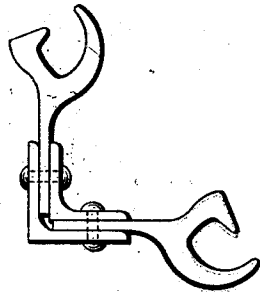
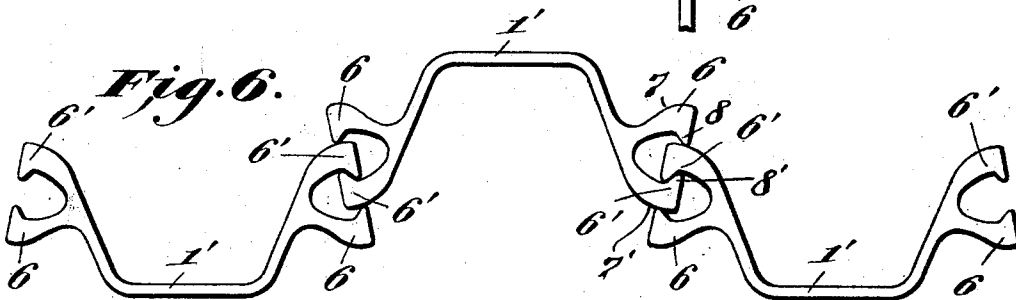
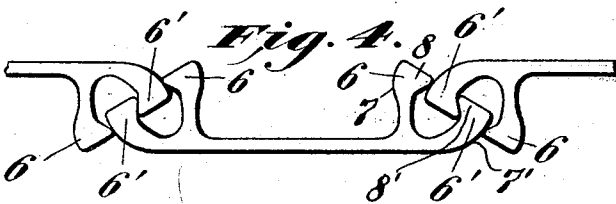


Fig. 3.



INVENTOR
R. S. A. Dougherty,
and R. J. McIntosh.
BY
R. S. C. Dougherty,
ATTORNEY.

UNITED STATES PATENT OFFICE

ROBERT S. A. DOUGHERTY AND RODERICK J. McINTOSH, OF BETHLEHEM, PENNSYLVANIA, ASSIGNORS TO BETHLEHEM STEEL COMPANY

SHEET PILING

Application filed December 29, 1926. Serial No. 157,655.

This invention relates to metal sheet piling of the kind that is built up of sections, the edges of which are provided with interlocking means.

5 Our invention consists essentially of piling wherein each section comprises a web provided at each vertical edge with two similar hook-like flanges defining a groove or pocket, either of the hook portions of an edge being
10 adapted to be held within the pocket of an adjacent section, the other of said flanges acting as a guard member.

The principal object of the invention is to obtain greater adaptability to various conditions of use than is secured by the ordinary pile section. This advantage is obtained because of the interchangeability of the hook-like flanges at the edge of the section.

The drawings show plan views of different
20 piling as follows:

Fig. 1 shows a type of piling in common use;

Figs. 2 and 3 show special sections for sharp turns;

25 Fig. 4 indicates a straight web section provided with our reversed interlocking structure;

Fig. 5 shows sections assembled at a right angle; and,

30 Figs. 6 and 7 indicate piling involving the use of channeled sections.

In the common interlocking section, such as is shown in Fig. 1, a web 1 is provided at one end with two flanges, one of which is hook shaped, 2, and the other arcuate, 3, both of them defining a pocket or groove 4. The opening 5 to the pocket is narrower than the width of the hook flange and thus when the hook of one section is placed within the pocket of the other, the sections are locked against all but longitudinal separation. As the pocket 4 is of an appreciably greater diameter than the width of the hook flange, the clearance thus provided permits of more or less interplay between the sections and also a certain amount of angular displacement of one section relative to another. This is essential in order that the piling may be arranged so
45 as to conform to various conditions, as for

example, the assembled piling being curved to pass around an obstruction.

This angular displacement, however, is insufficient for all purposes. For example, at very sharp corners it is necessary to use special sections to make a sharp turn, such as are shown, for example, in Figs. 2 and 3. These and other limitations are avoided by the use of our invention.

In Fig. 4, the straight web section of Fig. 1 is shown as modified by the distinguishing feature of our invention. Instead of the hook and arcuate guard of the prior art both flanges 6 and 6' are hooked. Flange 6 has an outer curved portion 7 and an inner angular hook portion 8. Flange 6' similarly has an outer curved portion 7' and an inner, angular hook portion 8'. When the sections are assembled obviously one of a pair of flanges will act as a hook and the other as a guard.

As both flanges are hook shaped, the sections can be reversed in use. In Fig. 5 two straight web sections are shown reversed to permit of the sections being assembled at right angles, thereby avoiding the use of special sections.

In the piling shown in Figs. 6 and 7, channeled or arched webs 1' are provided with hook flanges 6 and 6'. Piling assembled in these two ways have certain marked advantages which are well known. Because of the double hook feature, permitting of reversing, both of these types of piling are possible with the same section. It will be noted that in the wall, of which Fig. 6 shows a portion, 85 the webs of the sections are alternately disposed to opposite sides of the central longitudinal axis of the wall, while in the wall of Fig. 7, the webs are on the same side of this axis. In both of these, the weight of the metal is disposed a substantial distance from the neutral axis of the wall, which feature is obviously advantageous in many structures.

Obviously the reversibility of this type of section permits of many variations of piling.
95 Having thus described our invention what we claim as new and desire to secure by Letters Patent is:

1. A piling section comprising a web provided at each of its vertical edges with two 100

similar hook-like flanges defining a groove, the outer surfaces of each of the flanges having an arcuate formation and the inner part of each of the flanges having an angular hook-like portion.

2. A piling section comprising a channeled web provided at each of the vertical edges with two similar hook-like flanges defining a groove, the outer surfaces of each of the flanges having an arcuate formation and the inner part of each of the flanges having an angular hook-like portion.

In testimony whereof we hereunto affix our signatures.

ROBERT S. A. DOUGHERTY.
RODERICK J. McINTOSH.

20

25

30

35

40

45

50

55

60

65