G. H. BARBOUR.

INTERLOCKING METAL SHEET PILING.

APPLICATION FILED JAN. 15, 1909.

926,455.

Patented June 29, 1909.

2 SHEETS—SHEET 1

Fig. 1.

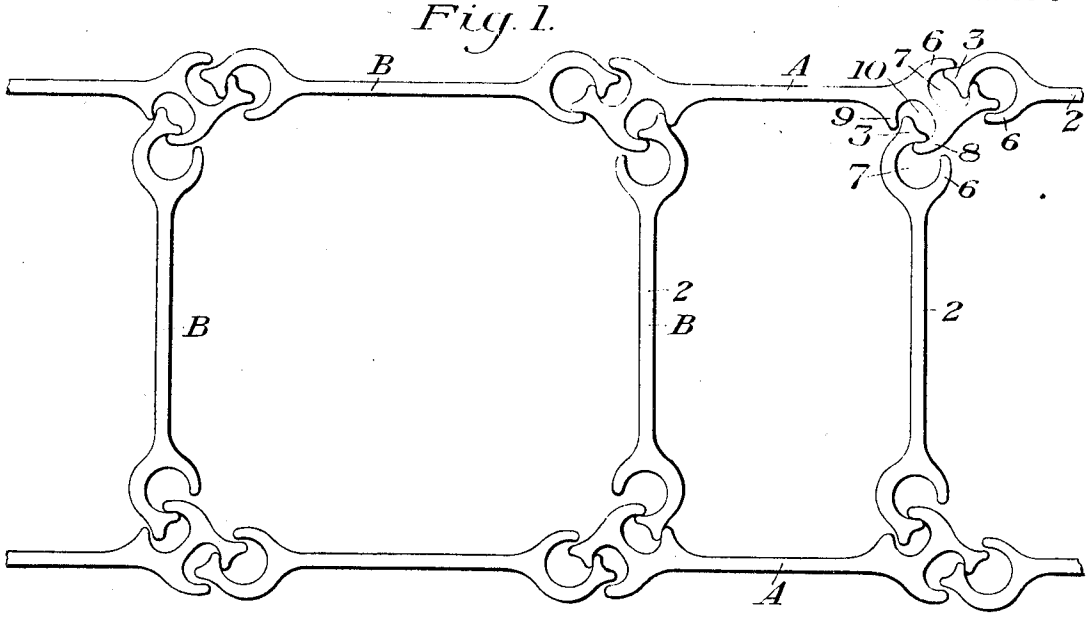
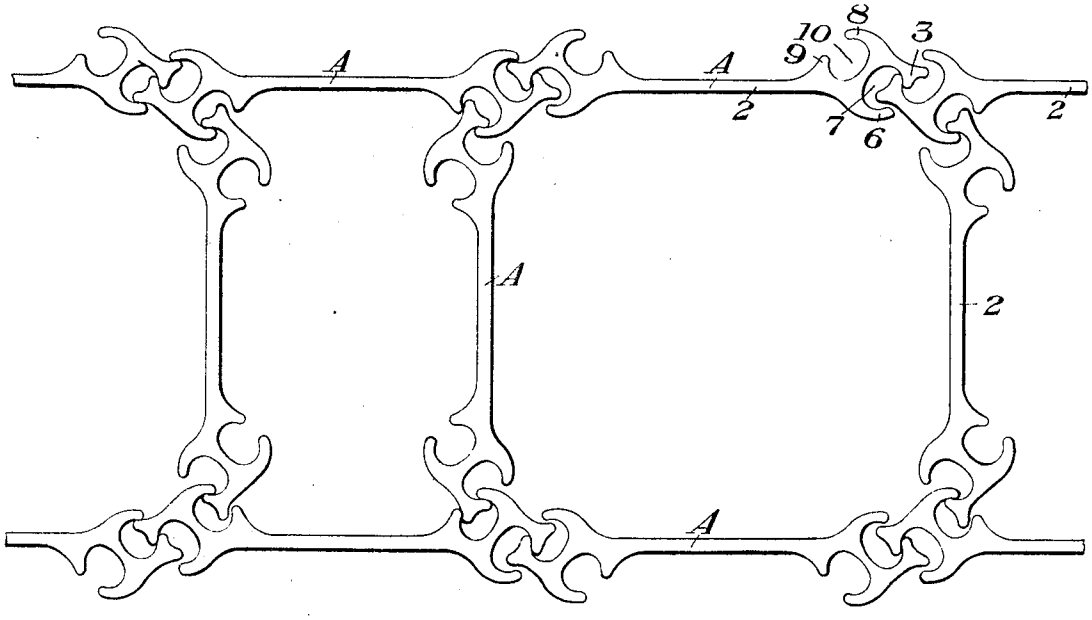


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

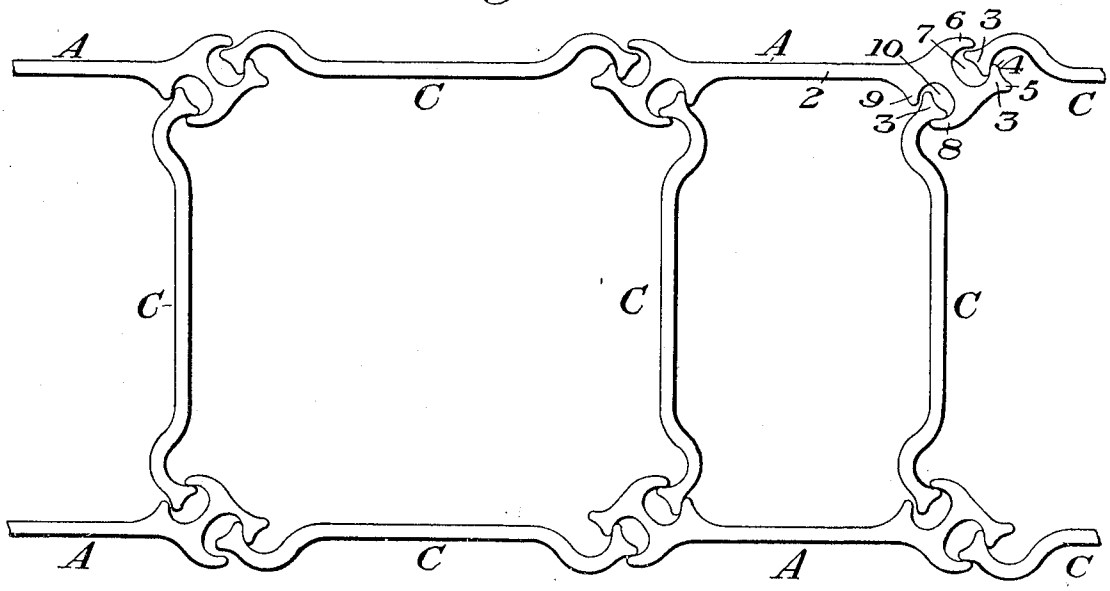


Fig. 4.

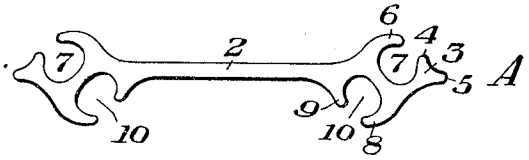


Fig. 5.

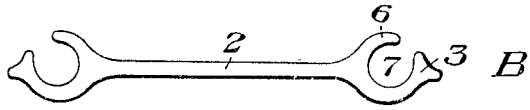
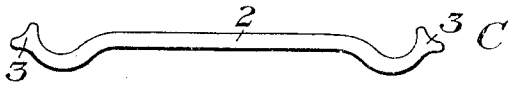


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE H. BARBOUR, OF PITTSBURG, PENNSYLVANIA.

INTERLOCKING METAL SHEET-PILING.

No. 926,455. Specification of Letters Patent. Patented June 29, 1909.

Application filed January 15, 1909. Serial No. 472,436.

To all whom it may concern:

Be it known that I, GEORGE H. BARBOUR, of Pittsburg, Allegheny county, and State of Pennsylvania, have invented a new and useful Improvement in Interlocking Metal Sheet-Piling, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of two parallel rows of sheet piling braced and interlocked to each other, which are made up of two of the special shapes of my improved piling; Fig. 2 is a similar view composed of one form of my piling; Fig. 3 is also a similar view which is composed of one of the shapes shown in Fig. 1 and another form of piling which is interlocked therewith; Figs. 4, 5 and 6 are detail end views of the three shapes of sheet piling shown in Figs. 1, 2 and 3.

The invention relates to metal sheet piling employed in constructing retaining walls for excavations, foundation walls, piers and in forming caissons, bulk heads, docks, wharves and similar structures used in sub-marine work, and it particularly relates to metal sheet piling having integral interlocking members and which are interlocked with similar members on a line therewith, or which can be interlocked with sheet piling members extending at an angle thereto.

The precise nature of my invention will be best understood by reference to the accompanying drawings which will now be described, it being premised, however, that various changes can be made by those skilled in the art, without departing from my invention as pointed out in the appended claims.

The three shapes used in the construction shown in Figs. 1, 2 and 3 will be best understood by reference to Figs. 4, 5 and 6.

In Fig. 4, the letter A represents the rolled shape of one form of my sheet piling; in which, the numeral 2 designates the web which is provided at each end with the double headed engaging member 3, having the heads 4 and 5. 6 is a hook guard adjacent to the head 4; which hook guard in conjunction with the head 4 forms a channel to receive a head of the next section similar to the head 3. Each end of the web 2 of this section is also provided with a hook guard 8 and a projecting guard 9 which form a channel 10 similar to the channel 7, and for the same purpose.

In Fig. 5, I have shown a rolled section B having the web 2 which is provided at each end with the double headed engaging portion 3 and the hook guard 6, similar to those respective members in the section A.

In Fig. 6, I have shown a section C, having the web 2, each end of which is provided with the double headed engaging portion 3.

The construction or assembling of the piling as shown in Fig. 1 is composed of sections A and B, which illustrates two parallel rows of sheet piling, each row of piling is composed of sections A and B, each member of each row is interlocked with each other by means of a section B and the two rows of parallel piling are interlocked with each other thereby. The double headed engaging member 3 of the section A lies within the channel 7 of the member B and engages the head 4 or hook guard 6 thereof, while the double headed portion of the member B lies within the channel 7 of the section A and engages the head 4 or hook guard member 6 thereof and both sections are held from longitudinal and horizontal displacement thereby. These two parallel rows of sheet piling are interlocked with each other by means of the double headed portion 3 of the transverse section B engaging the hook guard member 8 or projecting member 9 of the sections A.

The construction shown in Fig. 2 is composed entirely of the sections A; which also illustrates two parallel rows of sheet piling, each member of each row being interlocked by means of the double headed portion 3 in conjunction with the hook guard member 6. The two parallel rows of sheet piling are interlocked with each other by means of sections A, the double headed member thereof engaging the hook or projecting guard members 8 or 9 of the sections composing the parallel rows.

In Fig. 3 I have illustrated two parallel rows of sheet piling which are composed of the members A and C. These parallel rows are interlocked by means of the transverse section C. The double headed end of the sections C in the parallel rows lie in the channels 7 of the sections A and engage the head 4 or hook guard 6 thereof. The double headed ends of the transverse sections C lie within the channels 10 of the members A and engage the hook or projecting guard members 8 or 9 thereof.

It will be readily understood by reference

to Fig. 2 that the two parallel rows of sheet piling may be interlocked to each other by means of the sections C or B, and it will also be understood that a series of these parallel rows, if composed of the sections A can be locked together by either of the three sections A, B or C.

The advantages of my invention result from the use of a sheet metal piling section the ends of which comprise a double headed engaging member which lies in a channel provided with two members which are engaged by the double head of the adjacent section. Also in providing a sheet piling section having a double headed engaging member, a hook guard adjacent thereto, and a second hook guard member, having a projecting guard member adjacent thereto. The double headed engaging member in conjunction with its hook guard form one receiving channel for an adjacent section while the second hook guard in conjunction with its projecting guard forms a second receiving channel for another adjacent section.

By this construction of piling, I am enabled to form a series of parallel rows of sheet piling, each member of which is interlocked with its adjacent member in the same row. Also in which each member of each parallel row is interlocked with a similar member in a row parallel therewith. I am also enabled to place adjacent sections at various angles to each other by reason of the double headed engaging portion, which allows a partial rotation of the members in either direction from a straight line.

I claim:

1. In sheet metal piling, a piling section having a web with an integral double headed engaging portion at the longitudinal edge thereof, and a second piling section having engaging members adapted to engage one of the heads of the double headed member of the first section, substantially as described.

2. In sheet metal piling, a piling section having a web with an integral double headed engaging portion at the end thereof, a hook guard adjacent to the double headed engaging portion, a second piling section having an integral double headed engaging member, the double headed engaging member of the two sections engaging each other or the hook guards adjacent thereto, substantially as described.

3. In sheet metal piling, a piling section having a web with an integral double headed engaging portion at the end thereof, a hook guard adjacent to the double headed engaging portion, a second piling section having a double headed engaging member and a hook guard adjacent to the double headed engaging member, the double headed engaging member of the two sections engaging each other or the hook guards adjacent thereto, substantially as described.

4. In a sheet metal piling, a piling section having a web with an integral double headed engaging portion at each end thereof, a hook guard adjacent to each double headed engaging portion, and a second piling section having a double headed engaging member adapted to lie between the double headed portion and its adjacent hook guard of the first section, and adapted to engage either the one head of the double headed engaging member or its adjacent hook guard, substantially as described.

5. In a sheet metal piling, a piling section having a web, a double headed engaging portion at each end thereof, a hook guard adjacent to each double headed engaging portion, the double headed engaging portion and the hook guard forming a channel to receive an engaging member of an adjacent sheet metal piling section, and a second hook guard and a projecting guard adjacent thereto, the second hook guard and the projecting guard forming a second channel to receive an engaging member of another piling section, substantially as described.

6. In a sheet metal piling, a piling section having a web, a double headed engaging portion at each end thereof, a hook guard adjacent to the double headed engaging portion, a second hook guard and a projecting guard adjacent thereto, and a second piling section having a double headed engaging portion and a hook guard adjacent thereto, a second hook guard and a projecting guard adjacent thereto on the second section, the double headed engaging members of one section engaging the double headed members and their adjacent hook guards of the other section, and a third piling section having a double headed engaging portion which lies in the channel formed by the second hook guard and its projecting guard of either of the other sections, substantially as described.

7. In sheet metal piling, a piling section having a web, and integral projections forming a plurality of engaging channels at one end thereof, the said channels being arranged to receive engaging members of two adjacent sections, substantially as described.

8. In sheet metal piling, a piling section having a web, and a plurality of engaging channels at one end thereof, the said channels being at an angle to each other and arranged to receive engaging members of two adjacent sections, substantially as described.

In testimony whereof, I have hereunto set my hand.

GEORGE H. BARBOUR.

Witnesses:
R. D. LITTLE,
H. M. CORWIN.