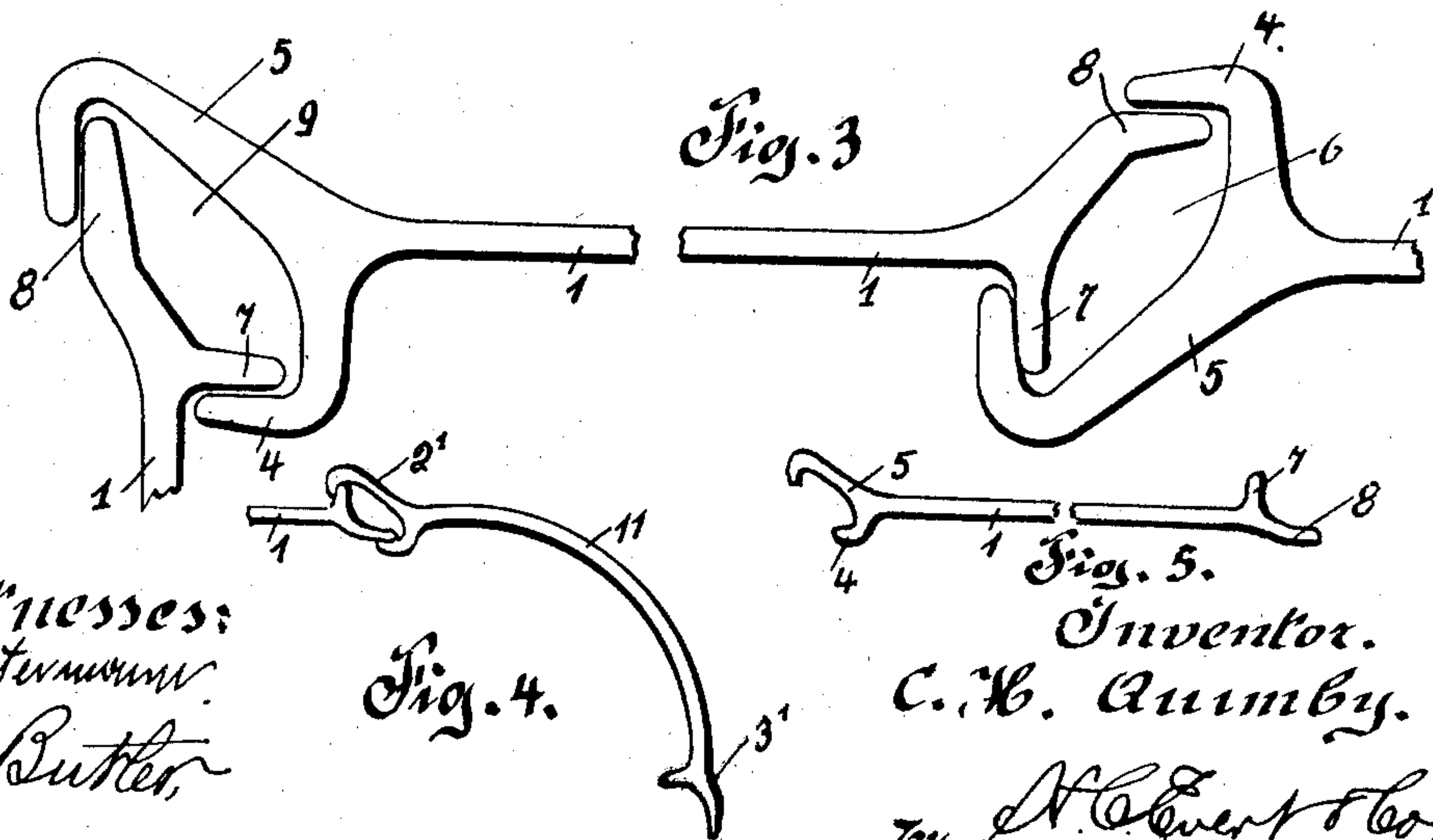
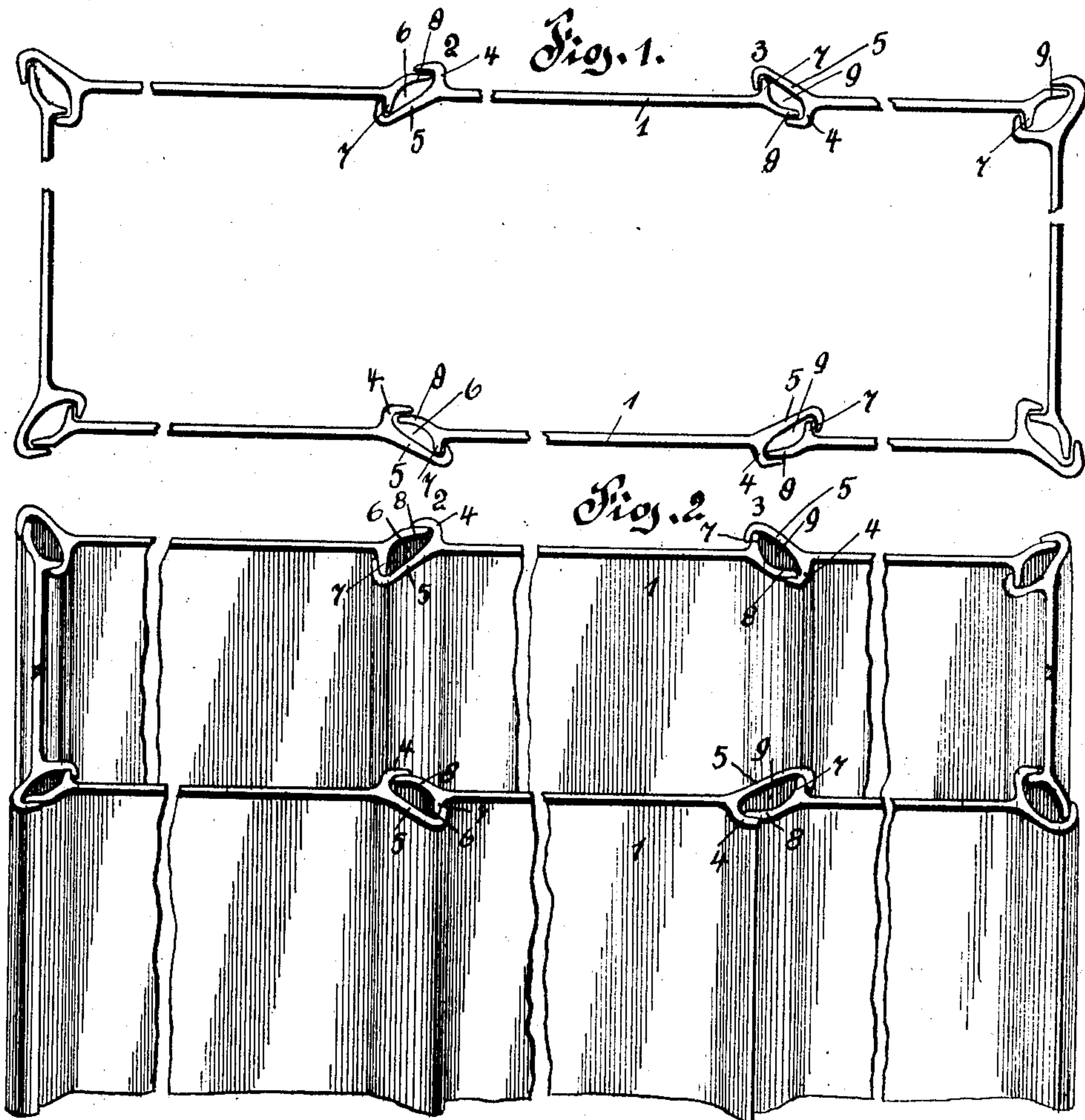


No. 826,801

PATENTED JULY 24, 1906.

C. H. QUIMBY, JR.  
METAL SHEET PILING.  
APPLICATION FILED MAY 8, 1905.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CHARLES H. QUIMBY, JR., OF PITTSBURG, PENNSYLVANIA.

## METAL SHEET-PILING.

No. 826,801.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed May 8, 1905. Serial No. 259,354.

*To all whom it may concern:*

Be it known that I, CHARLES H. QUIMBY, Jr., a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metal Sheet-Piling, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in metal sheet-piling, and relates more particularly to sheet-piling constructed of steel and used in the construction of coffer-dams, bridge-foundations, water-tight bulkheads, piles, and casings, and in such places as it is desired to maintain a water-tight shield or casing.

The object of the invention is to provide a novel metallic sheet-piling having novel interlocking edges, the construction of which permits the piling being assembled in various forms without using specially-constructed pieces.

Another object of this invention is to provide a metallic sheeting of such construction that the independent pieces of piling can be easily and quickly assembled to provide a sheeting which may be strong and durable and withstand any reasonable weight to which it may be subjected.

In sheet-piling heretofore used it has been necessary that specially-constructed piling be employed in order to form sheets or bulkheads of various shapes, and it has been impossible to interlock one sheet-piling at an angle to another without employing a specially-constructed piling.

My invention aims to dispense with the specially-constructed sheet-piling and form each sheet whereby it can be locked in engagement with the adjacent pile, either at an angle to said sheet or in a plane horizontal with said sheet.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this application and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a top plan view of my improved metallic sheet-piling, partly broken away and illustrating the piling assembled in a rec-

tangular form. Fig. 2 is a perspective view of the same. Fig. 3 is an enlarged detail top plan view of a sheet of piling, partly broken away and illustrating the interlocking edges thereof engaging adjacent sheets of piling. Fig. 4 is a top plan view of a sheet of piling which is specially constructed for producing a rounded corner when used in connection with other sheets of piling. Fig. 5 is a detail view of a modified form of piling, partly broken away.

To put my invention into practice, I construct my improved metallic sheet-piling of steel or like material. Each piling consists of a web portion 1, having interlocking edges 2 and 3. The interlocking edge is formed by flanges, the flange 4 being substantially L-shaped in cross-section and extending outwardly at right angles to the web portion 1 of the piling. The flange 5 of the interlocking edge 2 extends outwardly from the web portion 1 of the piling at a substantially obtuse angle, and the flange in cross-section is substantially hook-shaped. The formation of the flanges 4 5 provides a substantially wedge-shaped groove 6, which is disposed at an angle to the web portion 1 of the piling. The interlocking edge 3 is formed by cross-flanges 7 and 8, the flange 8 being bent outwardly at an angle to the web portion 1 of the piling.

In Fig. 1 of the drawings I have illustrated a plurality of pilings assembled to form a substantially rectangular pile having sides lying at substantially right angles to one another. In assembling the sheets of piling it is necessary that one pile be elevated a sufficient distance above the other to permit of its interlocking edge sliding down over the interlocking edge of the adjacent piling. When two piles are to be so joined together, the interlocking edge 3 of one pile is adapted to engage in the interlocking edge 2 of the adjacent sheet, the interlocking edge 3 sliding into the substantially wedge-shaped groove 6 of the interlocking edge 2. The angularly-disposed flanges 4 5 of the interlocking edge 2 are adapted to embrace and engage the angularly-disposed cross-flanges 7 8 of the interlocking edge 3 and form a vertically-disposed passage-way or opening 9 between the interlocking edges. When it is desired to produce a water-tight bulkhead or coffer-dam, the vertically-disposed openings 9, formed between the interlocking edges of the piles, can be filled with any suitable material to produce a water-tight connection between the adjoining piling.



My invention resides particularly in the construction of the interlocking edges, which permit of one sheet of piling being placed at a substantially right angle to another sheet. 5 This arrangement of the piling is clearly illustrated in Figs. 1 and 2 of the drawings, and by referring to said figures it will be observed that it is only necessary in constructing a column or bulkhead to arrange the piling alternately—that is, reversing each alternate pile, 10 whereby the interlocking edge 2 of one pile will lie reversely to the adjoining interlocking edge 3. Consequently when a wall of sheet-piling is constructed the alternately-engaging edges 2 will lie at angles corresponding to one another, while the interlocking edges 3 will lie at angles corresponding to the reverse of the angles of the interlocking edges 2. This construction at any time permits one 20 sheet-metal piling being placed at an angle to its adjoining sheet without using a specially-constructed piece of sheet-piling. However, in this construction it is impossible to produce a rounded corner, and to overcome this I have constructed a special piece of sheet-piling, as 25 illustrated in Fig. 4 of the drawings. The web portion 11 of the sheet of piling is curved and provided with interlocking edges 2' 3', substantially the same as the interlocking edges of the piling illustrated in Figs. 1 to 3, 30 inclusive.

From the foregoing it will be evident that a wall of sheet-piling can be constructed some parts of said wall lying at angles to the remainder of the wall, and to the best of my 35 knowledge such a wall has never been constructed without using specially-constructed corner-pieces of piling.

While I have herein illustrated the preferred manner of constructing my improved 40 piling, it is obvious that various changes may be made in the details of construction without departing from the general spirit of the invention.

45 What I claim, and desire to secure by Letters Patent, is—

1. A metal sheet-piling consisting of a series of piles having interlocking edges adapted to be joined together edgewise to form a 50 wall, each alternate joint being disposed at similar angles and at reverse angles to the other of said joints, substantially as described.

2. A metal piling consisting of a plurality

of piles having interlocking flanged edges, the 55 angularity of said flanged edges permitting of one sheet being disposed at a substantial right angle to its adjoining sheet, substantially as described.

3. A metal sheet-piling comprising a web 60 portion provided along one of its vertical edges with a flange projecting at right angles to the web, and at the same vertical edge with a flange projecting to the opposite side of the web at an obtuse angle, the said web 65 at its other vertical edge having a flange projecting on one side at a right angle with a portion of said flange lying in a plane parallel with the web, and at the other side of the said edge having a flange projecting at an obtuse 70 angle with its free edge bent at a right angle to the web.

4. A metal sheet-piling comprising a web, having flanges projecting from opposite sides at both of its vertical edges, the flanges along 75 one vertical edge being adapted to interlock with the flanges along the opposite vertical edge of an adjacent piling, and said flanges so disposed as to interlock in both aligned and right-angular arrangement of adjacent piling. 80

5. A metal sheet-piling comprising a web portion having a flanged vertical edge, the said flanged edge on one side of the web portion extending at right angles thereto and being then bent to lie in a plane substantially 85 parallel with the web, and at the other side of said web portion the said flanged edge having a portion lying at an obtuse angle to the web portion, with its free edge bent to lie at a substantially right angle to the said web portion. 90

6. A metal sheet-piling comprising a web portion having a flanged vertical edge, the said flanged vertical edge consisting of a member or part projecting outwardly to one 95 side of the web portion at substantially right angles thereto, and a member or part projecting outwardly from the opposite side of the web portion at an obtuse angle thereto, and having its free edge bent to lie in a plane substantially parallel with said web portion. 100

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

CHARLES H. QUIMBY, JR.

Witnesses:

H. C. EVERT,

E. E. POTTER.