

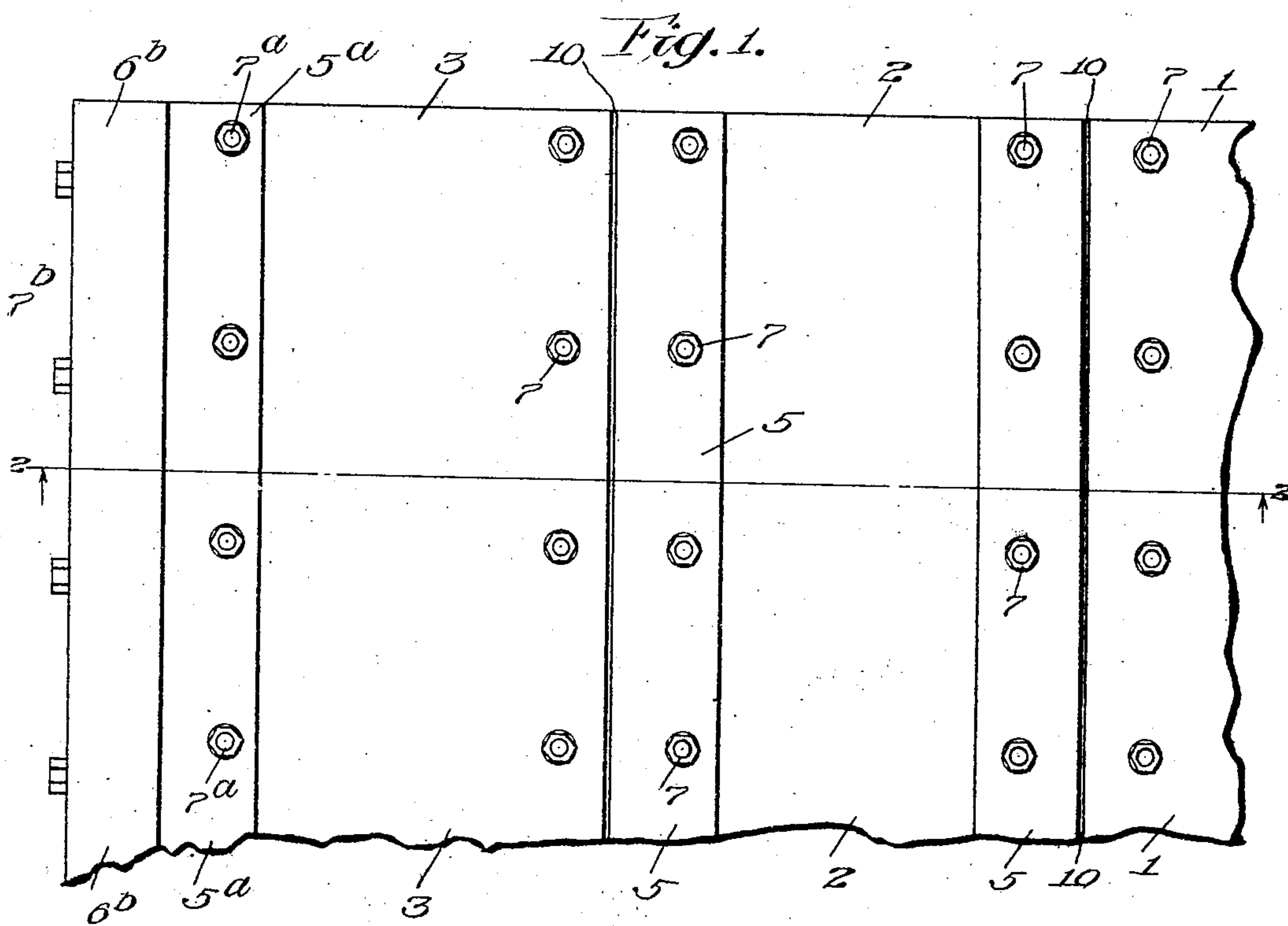
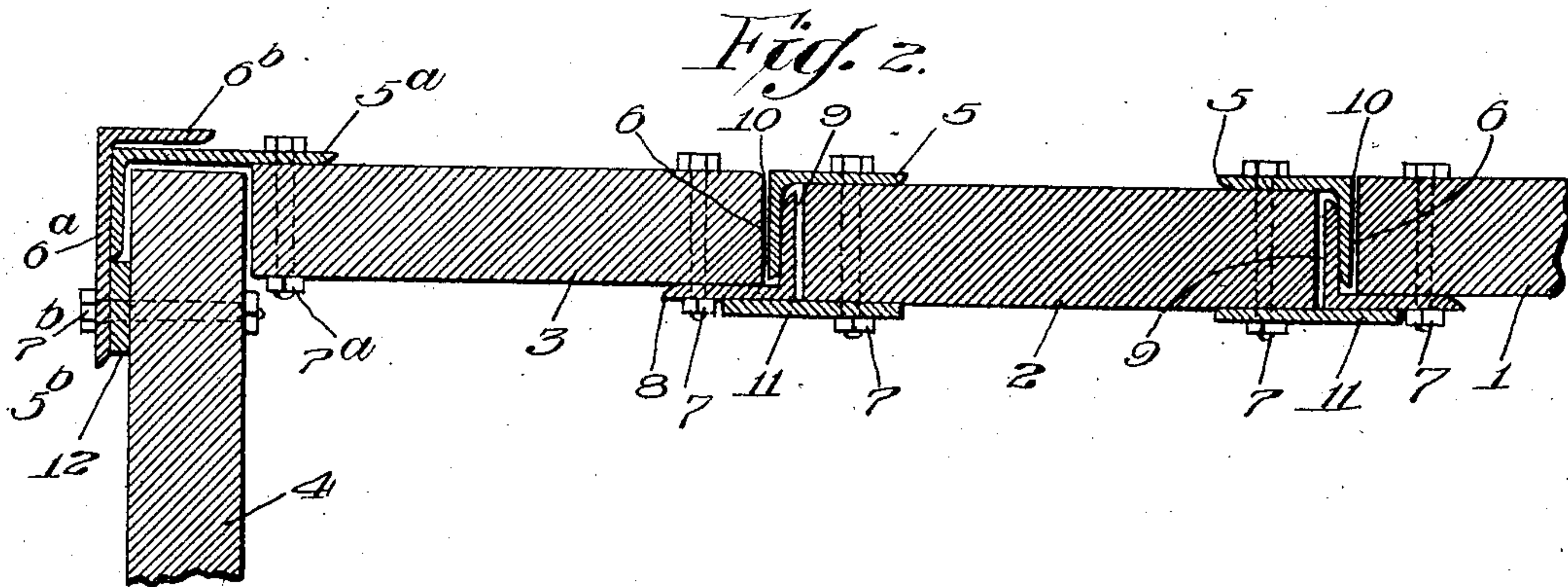
No. 774,877.

PATENTED NOV. 15, 1904.

J. N. HATCH.
SHEET PILING.

APPLICATION FILED APR. 1, 1904.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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SHEET-PILING.

SPECIFICATION forming part of Letters Patent No. 774,877, dated November 15, 1904.

Application filed April 1, 1904. Serial No. 201,064. (No model.)

To all whom it may concern:

Be it known that I, JAMES N. HATCH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sheet-Piling, of which the following is a full, clear, and exact specification.

My invention relates to sheet-piling; and it has for its primary object to provide simple, inexpensive, and efficient means for securing the edges of flat wooden piles together.

A further object of the invention is to secure the edges of flat wooden piles together and at the same time produce a water-tight connection or joint between them.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is an elevation of sheet-piling constructed according to this invention, and Fig. 2 is a plan section thereof.

1 2 3 are flat boards or piles of the form usually employed in constructing wooden sheet-piling arranged edge to edge for producing a straight wall or course, and 4 is a similar board or pile arranged at an angle to one of the others for producing a corner. To each of the boards or piles are secured two angle-irons, one at each edge, and the angle-irons on one board are arranged on the opposite side thereof to those on the other board. The angle-irons on the straight-course boards or piles 1 2 3 and their arrangement and function will first be described. The board 2, it will be seen, is provided on one face or side, along both corners or edges, with two angle-irons, comprising two legs or branches 5 6, the former of which are secured to the pile 2 in any suitable way, as by bolts or rivets 7, and each of the adjacent piles or boards 1 3 is provided on its edges adjacent to the pile

2 with similar angle-irons of substantially the same size as the angle-irons 5 6, comprising two branches or legs 8 9, and the transverse or end legs 6 9 of the angle-irons on both boards or piles are arranged at a slight distance from the edge of the board or pile to which said angle-irons are secured, so as to form a socket or space 10 between it and the edge of its board for the reception of the transverse leg of the angle-iron on the other board, which is driven thereinto endwise or longitudinally, the boards or piles, with these angle-irons attached, being driven into the ground one after the other after the manner of driving ordinary sheet-piling, and thus interlocked during the driving operation.

The described construction and arrangement firmly hold the piles or boards together edge to edge and guide them into place, keeping the edge of one firmly in contact with the edge of the other and avoiding the necessity of beveling their points or lower ends, as heretofore, for accomplishing this object during the driving operation.

In order to hold the piles against relative movement laterally, the opposite face of each alternate one—that is, the face opposite the face to which the angle-irons are secured—is provided with a plain flat bar 11 at each edge, which projects beyond the transverse leg of the angle-iron and overlaps the outer leg or flange of the angle-iron on the contiguous pile or board, the piles or boards being of substantially the same thickness; but the interposition of the outer leg or flange of the latter said angle-iron between the bar 11 and the edge of the transverse leg 6 results in offsetting one of the piles or boards a slight distance equal to the thickness of the outer leg of the angle-iron, thus bringing the outer leg of the angle-iron on the opposite side substantially flush with the edge of the contiguous board. This construction of course necessitates the employment of a form of angle-iron in which the transverse leg will be narrower or shorter than the width of the pile, so as to leave room between the bar 11 and the

outer leg of the angle-iron which goes between said bar and the face of the pile.

The bars 11 may be secured to the piles in any suitable way, but preferably by the same bolts 7 which secure the angle-irons in place.

In forming a corner, for example, as shown at Fig. 2, on the left, the boards or piles 3 4 are arranged at an angle to each other with the edge of one overlapping the edge of the other, and if the board or pile 4 is of the same thickness as those of the straight-course piles 1 2 3 the angle-iron on the edge of the pile 3 contiguous to the pile 4 will be of a form in which the legs are of unequal length, with the longer leg 5^a bolted or otherwise secured to the pile 3 and the shorter leg 6^a embracing the corner of the pile 4, the longer leg 5^a being of sufficient length to project across the edge of pile 4 and overlap pile 3 a sufficient distance to provide for the bolts or rivets 7^a, and the edge of board 4 is provided with an angle-iron of a similar formation, with the longer leg 5^b secured to the board 4 and its shorter leg 6^b overlapping the longer leg 5^a of the other angle-iron. In order that there may be space between the outer face of the board 4 and the inner face of the long leg 6^a, a narrow bar or strip 12 may be interposed between these two faces and secured in place by the same bolts 7^b which attach the longer leg 6^a of the angle-iron to the board 4, or this space may be formed in any other suitable way; but the bar 12 is preferable to rabbeting the edge of the pile.

In sheet-piling thus constructed it will be seen that the joints are all water-tight, the pressure against the same serving to force the angle-irons and the bars 11 into close contact, and the interlocking arrangement of the legs or flanges of the angle-irons form pockets or chinks for the collection of dirt and other particles, which calk the joints and add to their water-tight character, and it will also be seen that the structure is very durable and inexpensive and capable of being composed of standard material.

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

1. In sheet-piling, the combination of a plurality of boards arranged with their edges together, and angle-irons secured to said edges and having their flanges interlocked, the flange of one angle-iron being set off from the board to which it is secured to form a space between itself and its board for receiving one of the

angles of the angle-iron on the contiguous board.

2. In sheet-piling, the combination of a plurality of boards arranged edge to edge, and angle-irons secured to the contiguous edges of said boards alternately on opposite sides thereof with one flange or leg of each turned toward the other and arranged between said other and the edge of the board to which the latter is secured.

3. In sheet-piling, the combination of a plurality of boards arranged edge to edge, angle-irons secured to the edges of said boards alternately on opposite sides thereof each with one of its flanges or legs projecting transversely of the board and arranged at a distance from the edge of the board to which it is secured to form a space for receiving the transverse flange or leg of the opposite angle-iron, and means for holding said transverse legs or flanges against withdrawal laterally from said spaces.

4. In sheet-piling, the combination of a plurality of boards arranged edge to edge, angle-irons secured to the edges of said boards alternately on opposite sides thereof each with one of its flanges or legs projecting transversely of the board and arranged at a distance from the edge of the board to which it is secured to form a space for receiving the transverse flange or leg of the opposite angle-iron, and a plate secured to one of said boards on the face thereof opposite that to which the angle-iron is secured, and overlapping the angle-iron on the contiguous board.

5. In sheet-piling, the combination of a plurality of boards arranged edge to edge, angle-irons secured to said boards at the edges thereof alternately on opposite faces and each having one of its legs extending transversely of the board to which it is secured and arranged at a distance therefrom to form a space for receiving the transverse leg of the angle-iron of the opposite board, said transverse legs being of less length than the thickness of the boards to which they are respectively secured so as to avoid pushing the boards out of material alinement when the transverse flanges are interlocked, and means for holding the boards against lateral displacement in one direction.

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