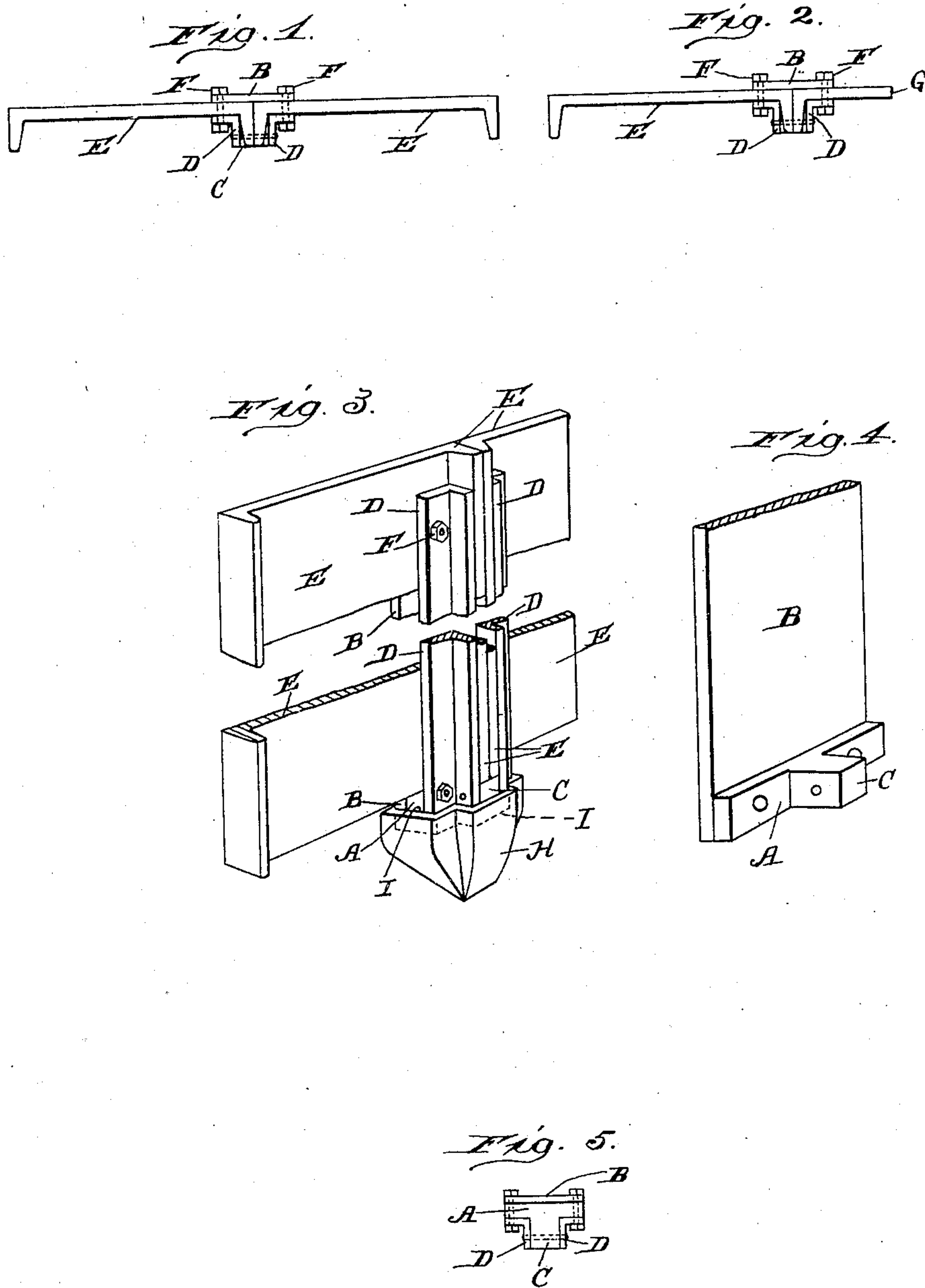


No. 836,987.

PATENTED NOV. 27, 1906.

G. E. NYE.
INTERLOCKING METAL SHEET PILING.
APPLICATION FILED MAY 25, 1906.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE E. NYE, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
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INTERLOCKING METAL SHEET-PILING.

No. 836,987.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed May 25, 1906. Serial No. 318,645.

To all whom it may concern:

Be it known that I, GEORGE E. NYE, 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 Interlocking Metal Sheet-Piling; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel construction in interlocking metal sheet-piling, the object being to provide sheet-piling in which practically only standard structural iron is employed and which in cost of construction is relatively cheap; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a top plan view of a short section of sheet-piling constructed in accordance with my invention. Fig. 2 is a similar view showing one of the units in position ready to be driven into the ground in connection with one of the interlocking members, a false section employed for driving such unit together with said interlocking member. Fig. 3 is a detail perspective view showing the lower end portions of sheet-piling units and interlocking member, together with a foot-piece or point adapted to be employed in driving the same. Fig. 4 is a fragmentary detail perspective view of a part of the interlocking member employed. Fig. 5 is a detail plan section of the lower end portion of the interlocking member.

My invention consists, essentially, in providing what I term an "independent interlocking member," adapted to be used in connection with channel-beams and to be driven therewith in order to interlock two adjacent channel-beams with each other, the said interlocking member being composed practically of standard structural iron and being maintained in engagement with the channel-beams mainly by the pressure of the earth into which the same is driven. The object of this arrangement is to avoid the relatively extensive means generally employed for coupling or mounting the interlocking devices upon the units and, further, to enable relatively lighter metal to be used for the formation or construction of such

interlocking means. The assembling of the sheet-piling units must generally be accomplished on the ground adjacent the job in order to avoid the expense of handling such iron which will be incurred if the same were first delivered to a shop and there assembled and then reloaded and shipped to the point where it is to be used.

My invention consists in constructing what I term an "interlocking" member which consists of a section A of T-iron or a casting of similar shape. To this is secured, either by bolts or rivets, a flat bar B of steel corresponding in width with the greatest width of said T-iron, and to the front faces of the flanges of said T-iron and to the middle flange or projection C thereof are secured, likewise by means of bolts or rivets, the angle-iron D. The said bar B and angle-iron D correspond in length with the channel-bars E, constituting what I term the "sheet-piling units," and at their other ends are left free. The device thus formed is provided with a longitudinal T-shaped slot, in which the web portions adjacent the flanges, and likewise the flanges of two adjacent channel-beams, are adapted to be received. In the free end portions of said angle iron and bar B, I provide openings for the passage of bolts F, which pass also through openings in the web portions of said channel-bars E, said bolts being inserted at the time that one of said interlocking units is coupled with one of said channel-beams in order to secure the same thereto. For the purpose of driving one of said channel-beams E together with one of said interlocking units I employ what I term a "false unit" G, which consists of, for example, a half-section of a channel-beam which is coupled with the unit to be driven simultaneously with said interlocking member, and the unit thus formed is then driven. After being so driven said false section G is withdrawn after removing the bolt F passing therethrough, and a recess is thus left in which one of the flanges and the adjacent web portion of another channel-beam are adapted to be received. The pressure of the earth upon the interlocking unit will obviously hold the angle-iron D and bar B rigidly in engagement with the flanged edges of the channel-bars E, serving the same function and taking the place of bolts or rivets otherwise employed for coupling or interlocking adjacent channel-beams. After each

of said channel-beams E is driven to take the place of the false section G the bolt F, which was removed in order to enable said section G to be withdrawn, is replaced and passes through such channel-beam to secure the same against relative lateral movement at its exposed end.

My construction is very advantageous, for the reason that as the outer faces of adjacent channel-beams abut directly against each other the benefit of the full width of each unit is obtained, nothing being lost, as is ordinarily the case, by the overlapping of the flanged edges of the channel-beams. The interlocking member may be made of relatively light iron, and by reason of the very few fastening means employed the construction thereof will be cheap, thus enabling me to produce sheet-piling at relatively small cost.

If desired, a cast driving-point H, having its upper face conforming in shape with and provided with a recess corresponding in shape and size with the lower end of the interlocking member, may be employed; but this I do not deem necessary. When employed, such foot-piece will be held in place by so forming the recess I in the upper face of same as to cause said interlocking member to fit snugly therein. When driven partly into the ground, the danger of said foot-piece becoming separated from the interlocking member will be entirely obviated.

I claim as my invention—

1. Sheet-piling comprising in combination, structural-iron units placed side by side and provided on their opposing edges with flanges, and free interlocking members each comprising a shoe, and structural-iron units secured at one end to said shoe, said last-named units being disposed to engage said first-named units at a plurality of points adjacent their meeting edges and adapted when driven into the ground to hold said first-named units against relative lateral movement, said last-named units being maintained in engaging relation, to said first-named units by the pressure of the earth exerted thereon.

2. Sheet-piling comprising in combination, structural-iron units having flanges at their edges and adapted to be disposed edge to edge, of a shoe provided with recesses corresponding in shape with and adapted to receive adjacent flanged edges of said units and maintain the said units in proper relative position.

3. Sheet-piling comprising respectively structural-iron units disposed side by side and provided on their opposing edges with flanges, and interlocking members engaging said first-named units at a plurality of points adjacent their meeting edges, said interlock-

ing members being connected with each other at one end beyond the adjacent ends of said units and being adapted to be maintained in engagement with the latter by pressure of the earth thereon.

4. Sheet-piling comprising in combination, channel-bar units disposed side by side and having the outer faces of their flanges disposed in contact with those of adjacent units, and interlocking members each having a T-shaped recess adapted to receive opposing flanges of adjacent units and the web portions thereof adjacent said flanges.

5. Sheet-piling comprising channel-bar units disposed with the outer faces of adjacent units in contact with each other, and interlocking members engaging said flanges and the web portions of said units adjacent the same, said interlocking members projecting at one end beyond the ends of said units.

6. Sheet-piling comprising channel-bar units disposed with the outer faces of adjacent units in contact with each other, and interlocking members engaging said flanges and the web portions of said units adjacent the same, said interlocking members comprising a T-shaped member, angle-irons secured thereto and a flat plate secured thereto, there being a T-shaped recess between said plate and the opposing flanges of said angle-irons and the other flanges of said angle-irons.

7. Interlocking sheet-piling comprising a plurality of units disposed edge to edge and provided on their opposing edges with lateral projections, and interlocking members adapted to telescopically receive the opposing edge portions and projections of adjacent units and hold the same against relative lateral movement, said interlocking members each consisting of a plurality of members secured together at one end and engaging said units on opposite sides of the latter adjacent their meeting edges.

8. Interlocking sheet-piling comprising a plurality of units disposed edge to edge and provided on their opposing edges with lateral projections, and interlocking members comprising a foot-piece upon which the lower ends of adjacent units are adapted to rest, and projections on said foot-piece adapted to engage said units and their projections to hold said units against relative lateral movement.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

GEORGE E. NYE.

Witnesses:

RUDOLPH WM. LOTZ,
A. J. WEISS.