

G. E. NYE.
INTERLOCKING SHEET PILING.
APPLICATION FILED NOV. 25, 1907.

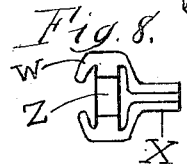
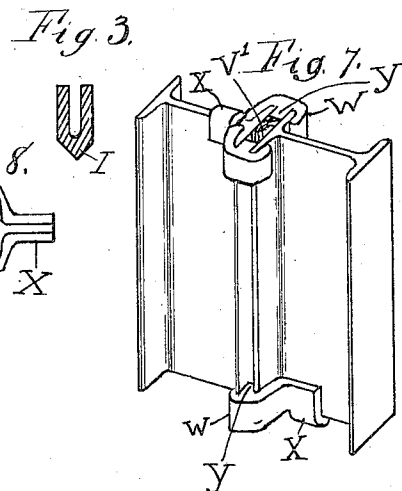
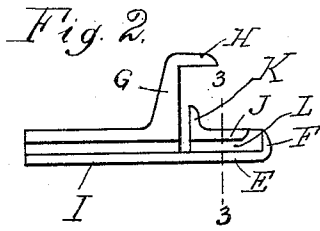
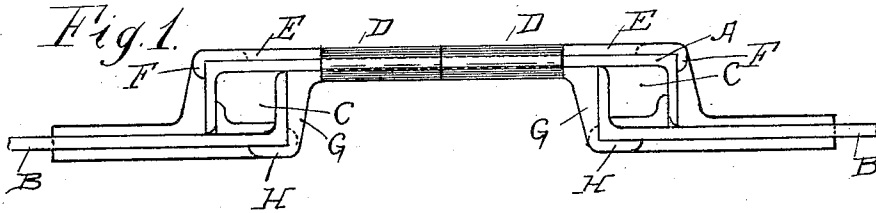
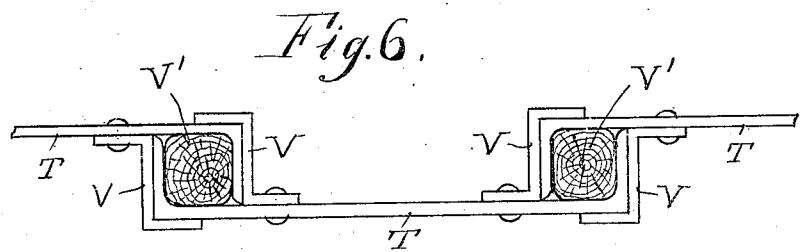
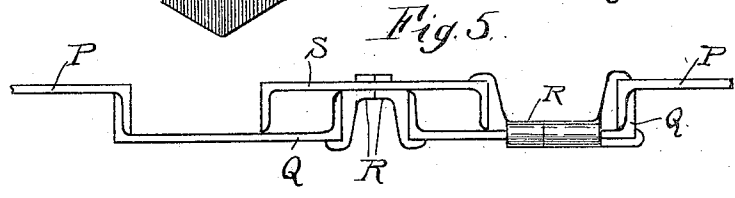
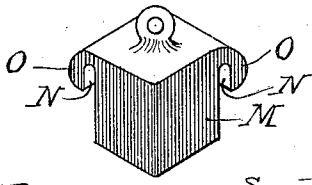


Fig. 4.



Witnesses:

R. P. Coffin
E. L. Moore.

Inventor:

George E. Nye
By *[Signature]* Atty.

UNITED STATES PATENT OFFICE.

GEORGE E. NYE, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL INTERLOCKING STEEL SHEETING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

INTERLOCKING SHEET-PILING.

No. 879,792.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed November 25, 1907. Serial No. 403,666.

To all whom it may concern:

Be it known that I, GEORGE E. NYE, 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 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.

This invention relates to a novel construction in interlocking sheet piling, the object being to provide sheet piling provided at the joints between adjacent piles with spaces or recesses adapted to receive strips of wood or other packing by means of which such joints may be rendered water-tight, and consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating this invention: Figure —1— is a top plan view of sheet piling constructed in accordance with my invention, adjacent piles being interlocked by means of top and bottom removable locks. Fig. —2— is a top plan view of the bottom lock employed. Fig. —3— is a section on the line 3—3 of Fig. —2—. Fig. —4— is a perspective view of a block employed. Fig. —5— is a top plan view of a modified form of construction. Fig. —6— is a top plan view of another modified form of construction. Fig. —7— is a perspective view showing sheet piling composed of I-beams. Fig. —8— is a top plan view of a bottom lock employed in connection with I-beams.

The main object of my invention is to provide means whereby adjacent piles (consisting preferably of opposed overlapping channel bars) may be so spaced as to overlap each other to any desired extent so as to provide open spaces or wells therein which may be filled with any suitable packing in order to render said piling water-tight, a further important object being, however, to provide means whereby two end portions of a wall of sheet piling may be joined together by a pile of full width even though the space between the adjoining end piles of the two wall

sections is less than the total width of one of said piles.

To the above ends, my invention consists in driving channel bars A and B successively and in opposed relation to each other so that one flange of each is disposed between the two flanges of the next adjacent channel bar but not in contact with either flange of the latter; thus leaving free spaces C between the opposing flanges and inner faces of the webs of each pair of said channels in which suitable packing may be introduced. The said channel bars must be driven parallel with each other and held against relative lateral movement in all directions and so that the flanges of adjacent channel bars are maintained properly spaced apart to form wells C of relatively uniform dimensions. This may be accomplished by the use of removable interlocking devices disposed upon the upper and lower ends of said channel bars as shown in Figs. —1— and —5— or by means of interlocking devices permanently secured to said channel bars and extending the entire length thereof, said last named devices being adapted to extend the entire length of the channel bars, it being essential in either case, however, to interpose between the flange of a driven channel and the opposing adjacent flange of the next succeeding channel to be driven, means supplementary to the interlocking devices for maintaining said flanges properly spaced while said last named channel is being driven.

The removable interlocking devices shown in Fig. —1— comprise top locks D each consisting of a U-shaped part adapted to receive the upper end of the web of a driven channel and having a flange E equipped at its free end with a projection F engaging the outer face of the flange of the said channel bar on that side on which the next succeeding channel bar is being driven, said lock D being further equipped with a flange G transversely disposed to said flange E and provided at its free end with a projection H engaging the outer face of the web of the next adjacent channel bar, the outer face of a flange of the latter being disposed in contact with the inner face of said flange G.

The said flange G is disposed sufficiently far inwardly of the projection F to permit the said opposing flanges of the two channel bars to be spaced the requisite distance apart to form said well C.

The bottom lock I corresponds in shape and construction with the top lock with the exception that the flange E thereof carries a parallel flange J equipped at one end with a projection K disposed parallel with the flange G thereof, there being a recess L between said flanges E and J in which the web of the channel bar is received, one flange of the latter being disposed so that its outer face lies in contact with the innerface of the projection F. The web of the channel bar fits snugly in the recesses provided therefor in the lock I, the latter being driven thereon, and in driving the same a flange of the already driven channel is received between the inner face of the web of the channel being driven and the inner face of the projection H of the flange G of said lock I. After starting the last named channel down, the top lock D is mounted on the driven channel and the block M corresponding in horizontal section in shape and size with the well D is disposed on the driven channel, a flange and the adjacent portion of the web being received in the recesses N between the body and overhanging flanges O of said block. The latter serves to prevent lateral movement of the opposing flanges toward each other (as does also the flange J of the bottom lock) while driving the second channel the said block being subsequently removed to permit packing such as a strip of wood or wet clay to be inserted in the well C. The formation of said wells C by disposing the flanges G of the locks sufficiently far inwardly is also very advantageous aside from the formation of a water-tight wall. Where, for example, a wall of sheet piling is formed by driving channels P and Q in the relation shown in Fig. —5— beginning at opposite ends of the wall, I am enabled by cutting away the flanges E and part of the U-shaped portion of the locks as shown at R to drive a channel S opposed to and considerably overlapping both the innermost channels Q and thus complete the wall without in any way weakening the same or deteriorating its finished appearance. This is very important especially in the formation of cofferdams in which the length of a wall is not a multiple of the net width of the channel bar unit.

If desired, my invention may be applied to channel bar units T equipped on their inner faces of their webs with Z-bars V as shown in Fig.—6—, said construction being so readily

understood from the illustration as to render particular description superfluous.

In Patent No. 860,053, issued to me on July 16, 1907, and in a copending application filed November 16, 1907, I have shown I-beams interlocked by means of removable interlocking devices. To render a wall composed of interlocked I-beams water-tight, a strip V' of wood may be interposed between adjacent piles as shown in Fig.—7—, the shanks of the hooks W of the interlocking devices X being elongated between their ends and provided with projections Y extending between opposing flanges of adjacent I-beams to maintain the same properly spaced to receive said strip V, the bottom lock being preferably provided with a pocket Z in which the lower end of said strip is received so that it may be driven simultaneously with one of said channels.

Strips of dry soft wood are preferably used for packing as when the latter become moist they expand so as to become compressed between the opposing flange walls of the wells C, or against opposing flanges of adjacent I-beams, their expansion laterally of the walls being of minor importance.

I claim as my invention:

1. Interlocking sheet piling comprising structural iron units provided on their side edges with flanges, said units being disposed parallel with each other and having adjacent flanges opposed to each other, there being a space between said opposed flanges of adjacent units in which packing is adapted to be received, and interlocking means on each unit and engaging the next adjacent unit and maintaining said units in proper relative lateral position to maintain said space.

2. Interlocking sheet piling comprising units each provided with flanges at its side edges and adapted to be driven successively in opposed relation to each other and overlapping each other, there being free spaces between the inner faces of the webs and flanges of adjacent units in which packing is adapted to be received, each of said units being equipped with devices engaging the other and coacting to hold said units against relative lateral movement.

3. Interlocking sheet piling comprising units each provided with flanges at its side edges and adapted to be driven successively in opposed relation to each other and overlapping each other, there being free spaces between the inner faces of the webs and flanges of adjacent units in which packing is adapted to be received, each of said units being equipped with removable devices engaging the other and coacting to hold said units against relative lateral movement.

4. Interlocking sheet piling comprising
units each provided with flanges at its side
edges and adapted to be driven successively
in opposed relation to each other and over-
5 lapping each other, there being free spaces
between the inner faces of the webs and
flanges of adjacent units in which packing is
adapted to be received, each of said units be-
ing equipped at one end with a U-shaped
10 member receiving the end portion of the web
and provided on its respective flanges with

projections, said projections of adjacent units
coacting to hold said U-shaped members and
said units against relative lateral movement.

In testimony whereof I have signed my 15
name in the presence of two subscribing wit-
nesses.

GEORGE E. NYE.

Witnesses:

RUDOLPH WM. LOTZ,
E. L. MOORE.