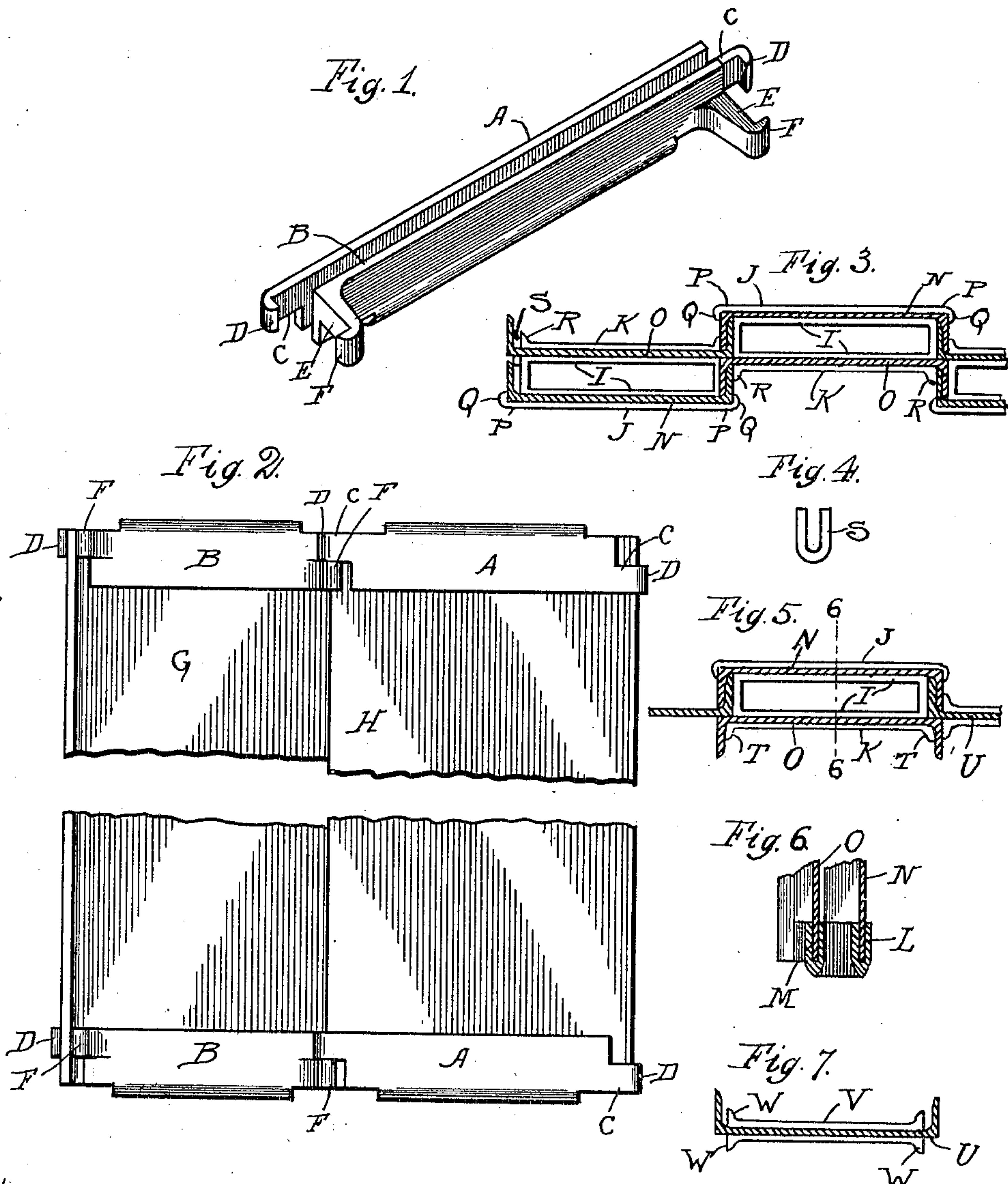


No. 871,177.

PATENTED NOV. 19, 1907.

G. E. NYE.
INTERLOCKING MEANS FOR SHEET PILING.
APPLICATION FILED JULY 22, 1907.



Witnesses:
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UNITED STATES PATENT OFFICE.

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INTERLOCKING MEANS FOR SHEET-PILING.

No. 871,177.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed July 22, 1907. Serial No. 384,973.

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 Means for 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 an interlocking device for use in connection with channel bars to form interlocking metal sheet piling without rendering necessary the punching of holes in said channel bars or the use of bolts or rivets, 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 perspective view of an interlocking device constructed in accordance with my invention. Fig. —2— is a view in elevation of two adjacent channel bars equipped with said interlocking devices. Fig. —3— is a fragmentary plan section of a double wall of channel bars equipped with interlocking means constructed in accordance with my invention. Fig. —4— is a side elevation of a member employed in connection with said interlocking devices. Fig. —5— is a fragmentary plan section of a sheet piling wall consisting of alternated double and single units and equipped with interlocking devices constructed in accordance with my invention. Fig. —6— is a fragmentary detail vertical section on the line 6—6 of Fig. —5—. Fig. —7— is a detail plan section of a channel bar unit equipped with means for maintaining adjacent double units, such as are shown in Fig. —5— against lateral movement thereto.

My present invention relates to improvements upon the interlocking means for sheet piling forming subject of Letters Patent No. 860,053 granted to me July 16, 1907, and has for its particular object, to provide said interlocking devices with means for holding the same against lateral displacement on the channel bars without obstructing the recesses in which the flanges of the next adjacent channel bars are received, and further providing means on said interlocking de-

vices whereby two channel bars to be simultaneously driven in relative position to form double units, may be held in such relative positions while being driven.

My present invention comprises the U-shaped member having two parallel flanges A and B between which the web of the channel bar is received, the flange A being equipped at its ends with projections C provided at their ends with flanges D adapted to engage the outer faces of the flanges of the channel bar adjacent their connection with the web thereof, and serving to hold said member against lateral movement on said channel bar. The flange B is equipped at its ends with laterally extending projections E provided at their free ends with outwardly extending flanges F. The outer faces of said projections E are maintained a sufficient distance inwardly of the inner faces of the flanges of the channel bar to permit the reception between the same of an oppositely disposed flange of an adjacent channel bar which is held against lateral displacement relatively to said first named channel bar thereby, such lateral displacement being further prevented by the engagement of the flange E with the outer face of the web of said second channel bar, the flange of which is thus confined and held against lateral movement in all directions but is left free to move longitudinally. Said channel bars, such as G and H (Fig. —2—) are driven successively at its ends with said interlocking devices, the latter being made right and left respectively and having said projections C and E and flanges D and F at its opposite ends disposed respectively at different elevations, said projections being one-half the depth of said flanges A and B. Thus, the member G being first driven, the projections C and E of the interlocking members disposed on the upper and lower ends thereof and disposed on that side of the driven member adjacent which the member H is to be driven, will be disposed at the lower elevation in order that said projections of the interlocking members on the member H disposed on the adjacent ends of said interlocking members overlap the first named projections when said units G and H are driven flush with each other without displacing any of said interlocking members.

In the construction of cofferdams and in

hydraulic work generally, it is preferable and frequently necessary to double the sheet piling either throughout the entire length of the wall, or at certain intervals in order to stiffen such wall and render the same watertight. Accordingly, in order to enable the units to be double, the construction of my said interlocking devices is modified as shown in Figs. —3—, —5— and —6—.

Referring to Fig. —3—, the unit F is of oblong shape and hollow and is provided on its longer walls with flanges J and K respectively, which are bent to extend parallel with said longer walls to provide recesses L and M in which the webs of the channel bars N and O are received, the said flange J being provided at its ends with projections P having flanges Q at their free ends adapted to engage the outer faces of the flanges of the channel bar N to hold said member I against lateral movement relatively thereto. The flange K is provided at its ends with flanges R between which and the flanges of the channel bar O the flange of the channel bar N of the next adjacent double unit is adapted to be received. The said channel bar O is primarily held against lateral movement relatively to the member I by inserting between the flanges thereof and the flanges R of the flange K, the U-shaped members S receiving the web of said channel bar O. Said U-shaped members S are driven off by the lower ends of the flanges of the channel bars N of the adjacent subsequently driven units.

If, as shown in Fig. —5—, alternate double and single units are to be driven, the interlocking members I are further modified in construction by extending the ends of the flanges T thereof to abut against the inner faces of the flanges of the channel bar O to hold the latter against lateral movement. The double units in all instances are provided in their sides with longitudinal slots to receive the webs of channel bars of adjacent double units or of the channel bars U of adjacent single units, the flanges of channel bars O or U being received between the shorter walls of said members I and the flanges of the channel bars N. The channel bars U are obviously held against lateral displacement in two directions by the channel bars N and O while being driven and vice versa and in order to prevent said single units while being driven from swerving at

their lower ends, they are equipped at said ends with U-shaped members V provided at the ends of its flanges with flanges W abutting against the outer faces of the flanges of the channel bars of adjacent double units, the U-shaped members S being inserted in the recess between the flange W and the free flange of said channel bar U. My said interlocking device is capable of further modifications to suit all requirements.

I claim as my invention:

1. Interlocking means for sheet piling comprising a U-shaped member adapted to receive the end of the web of a channel bar and provided at the ends of its flanges with lateral projections, the projections of one of said flanges engaging the outer faces of the flanges of said channel bar to hold said member against lateral displacement thereon, and said projections of the other flange being adapted to engage the flanges of adjacent channel bars.

2. Interlocking means for sheet piling comprising members having recesses receiving the ends of the webs of channel bars, projections on said members engaging the outer faces of the flanges of said channel bars to hold same against relative lateral movement, and means on said members engaging the outer faces of the flanges of adjacent channel bars to hold same against lateral movement relatively to the first named bars.

3. Interlocking means for sheet piling comprising in combination members provided with recesses to receive the ends of the webs of channel bars, projections on the members engaging the outer faces of the flanges of the contained channel bars to hold the latter against lateral movement relatively to the member engaging the same, laterally adjacent channel bars being disposed in engagement with each other, and means on said members coacting with the flanges of said channel bars to maintain all channel bars in the wall in proper relative position.

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

GEORGE E. NYE.

Witnesses:

SADIE WOLF,
W. B. STONE.