

No. 778,601.

PATENTED DEC. 27, 1904.

G. E. NYE.
METAL SHEET PILING.
APPLICATION FILED SEPT. 5, 1903.

Fig. 1.

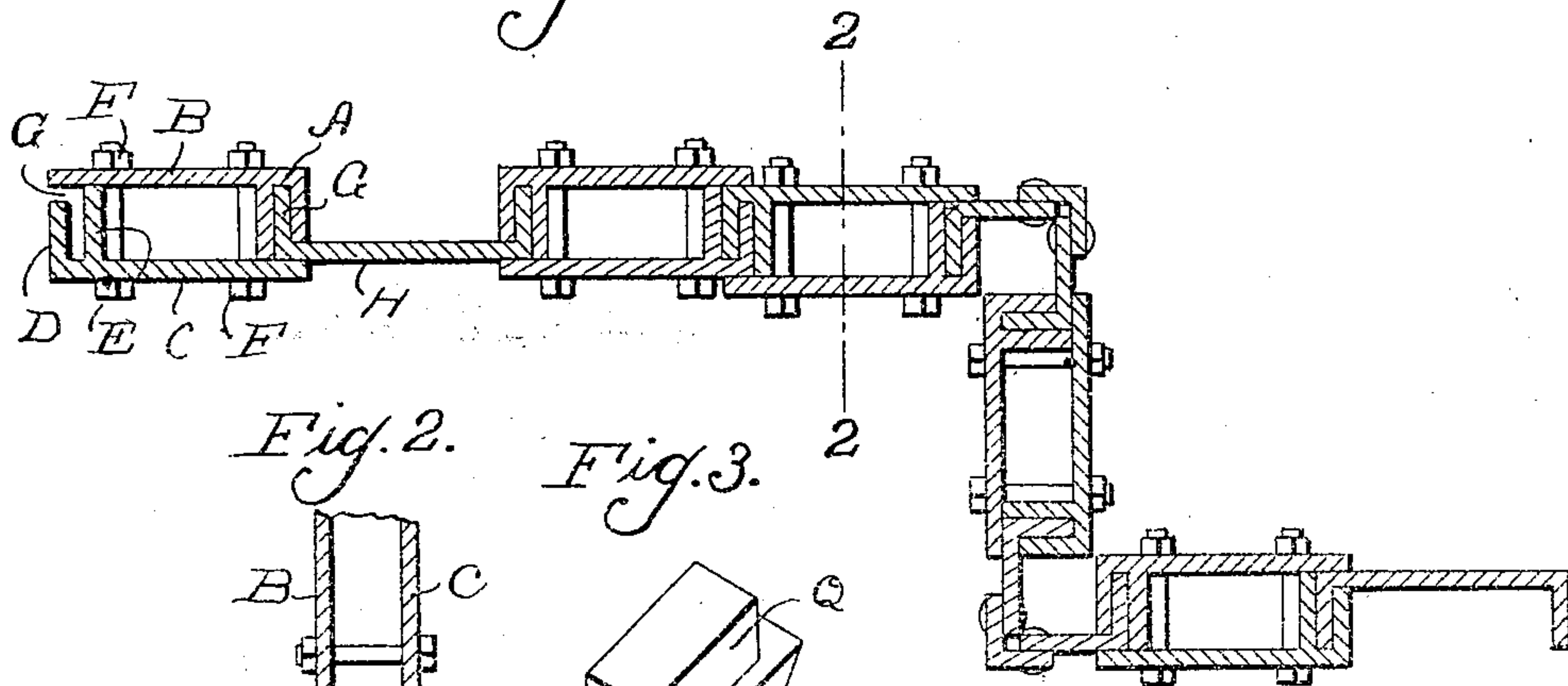


Fig. 2.

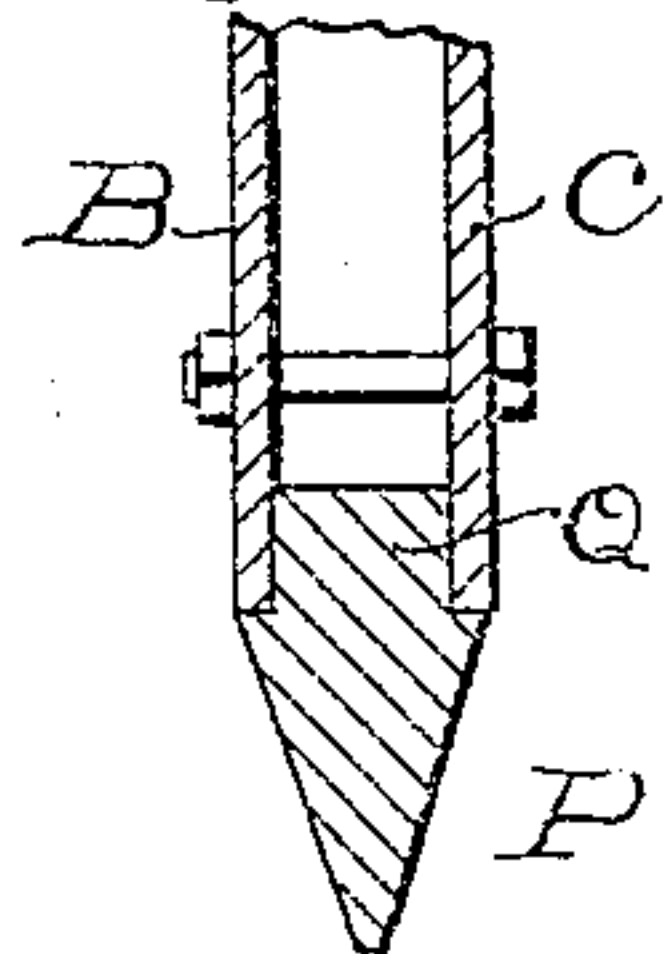


Fig. 3.

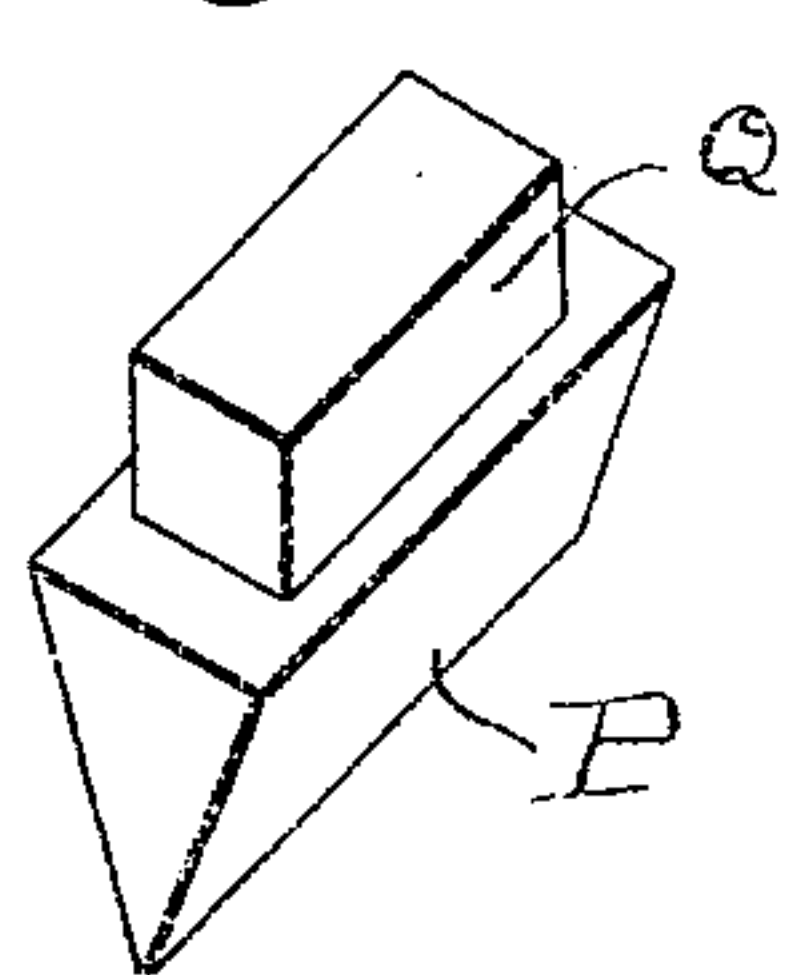


Fig. 4.

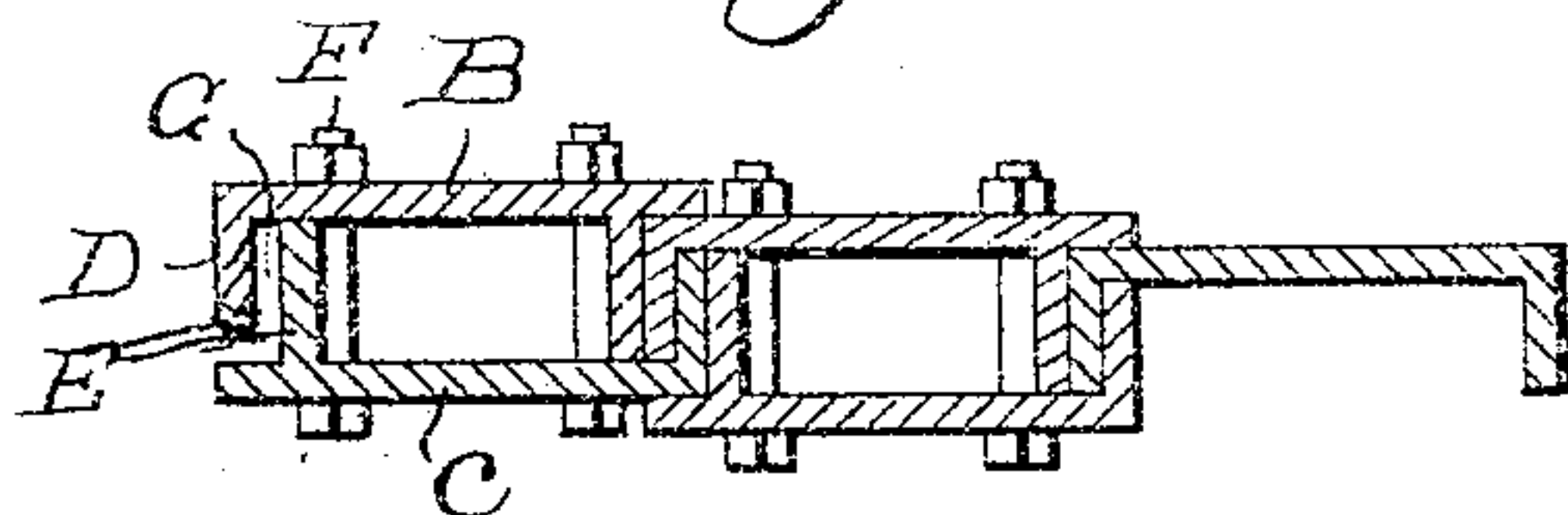


Fig. 5.

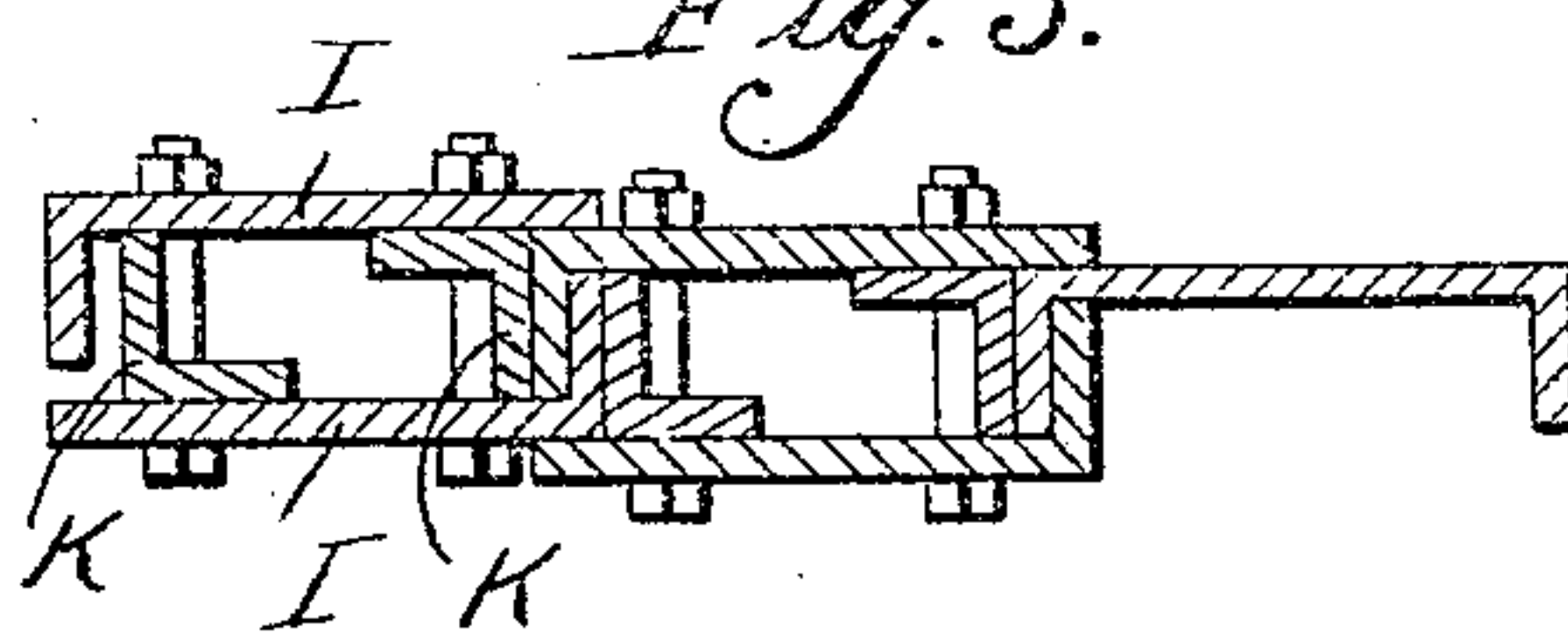
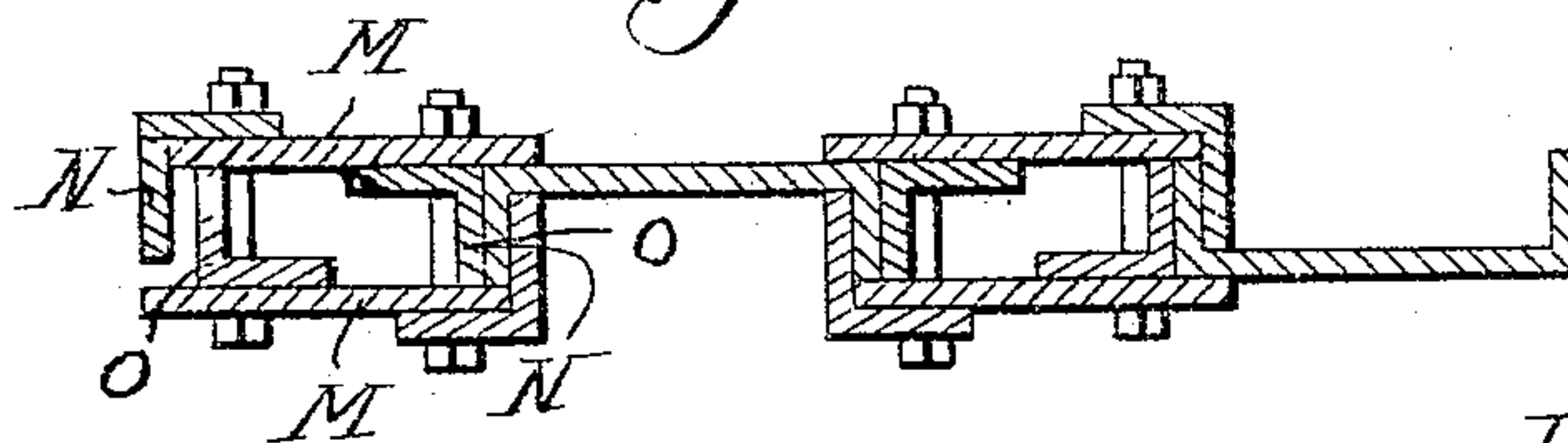


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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METAL SHEET-PILING.

SPECIFICATION forming part of Letters Patent No. 778,601, dated December 27, 1904.

Application filed September 5, 1903. Serial No. 172,182.

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 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 which is very simple, efficient, and durable; 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 plan section showing sheet-piling constructed in accordance with my invention. Fig. 2 is a fragmentary vertical section on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of a drive-foot used in connection with my piling. Figs. 4, 5, and 6 are horizontal sections showing various modifications in construction of my piling.

The essential feature of my present invention resides, mainly, in the construction of the interlocking unit A, which consists of two members B and C, each of which consists of a special form of beam which is substantially a plate having a flange D on one edge, and a rib E of greater depth than said flange parallel with the latter and located inwardly thereof, either adjacent said flange D or adjacent the other edge of said plate, as shown in Fig. 4. The said members B and C are relatively so laid that the flange of each lies opposite the free edge of the other, while the inner face of each member rests upon the free edge, respectively, of the rib of the other member and is secured in this position by means of bolts F in an obvious manner. In this manner I provide at each side of the pile A an L-shaped recess G, which is adapted to receive the flange and part of the web of a channel-beam H or the flange D and adjacent portion of the web of one of the members B or C of the next adjacent pile, thereby interlocking with the latter.

Instead of the specially-rolled beams B and

C angle-irons I may be used, having one leg of greater length than the other, or, in other words, said angle-irons I may be termed "plates," provided along one edge with a flange J and having an angle-iron K secured to said plate inwardly of and parallel with said flange J, said angle-iron K being of greater depth than said flange, so as to provide a space between the free edge of one plate and the flange J of the other plate, as shown in Fig. 5. The same result may also be attained by the construction shown in Fig. 6, in which the units are each composed of two parallel plates M, each having an angle-iron N secured to one face adjacent one edge and projecting beyond the other face, thus forming a flange thereon, and having a second angle-iron O secured to the other face inwardly of the edge and forming a rib of greater depth than the flange and extending parallel with the latter, so that said plates when bolted together in relative position coincide in form and function almost exactly with the units A.

It sometimes happens that sheet-piling must be driven into ground which is more or less rocky, and there is consequently great danger of splitting the units, owing to the thinness of the metal. To obviate this, I provide foot-pieces P, each consisting of a wedge-shaped block provided with a rectangular shank Q of smaller size, which is adapted to fit the openings in the units and be driven with the latter into the ground, such foot-pieces being adapted to prevent splitting of the plates and shearing of bolts of the units.

I claim as my invention—

1. In metal sheet-piling, a unit composed of two members each consisting of a plate provided on one edge with a flange and inwardly of said flange with a rib of greater depth than said flange and parallel with the latter, said members being adapted to be bolted together so that the free edge of each overhangs the flange of the other, whereby oppositely-disposed L-shaped recesses are formed in the edges of each unit.

2. In metal sheet-piling, the combination with a plurality of units, each composed of two members, each consisting of a plate provided on one edge with a flange and inwardly of said flange with a rib of greater depth than said

flange and parallel with the latter, said members being adapted to be bolted together so that the free edge of each overhangs the flange of the other, whereby oppositely-disposed L-shaped recesses are formed in the edges of each unit, of channel-beams adapted to enter said L-shaped recesses and interlock with said units.

3. A sheet-piling beam, comprising a web part having a right-angle flange formed on one side thereof, and a companion flange set back from the opposite edge and providing an overlapping web extension.

4. In sheet-piling, companion beams rigidly secured together and having an intervening space and forming a double pile-section, the web part on opposite edges of each beam extending beyond the line of the right-angle flanges bearing against the inner faces of the beams and overlapping the corner of the joining-sections when assembled in a wall structure.

5. In sheet-piling, companion beams having flanges of different lengths turned at right angles on opposite sides thereof, the longer flanges being set back from the opposite edges and providing an overlapping web extension.

6. In sheet-piling, companion beams having right-angle flanges on one edge and longer flanges set back from the opposite edges and facing inward, and means for rigidly securing the beams together in forming a wall structure.

7. In sheet-piling, companion beams having right-angle flanges turned inward, the web part of the beams on one edge extending beyond the line of the flanges, and the single sections having flanged edges and interlocking with the double sections and alternating therewith when assembled in a wall structure.

8. In sheet-piling, the combination with a double section composed of companion channel-beams rigidly secured together with the channel sides facing inward and having recessed edges, and the single channel-beam sections interlocking with the double sections and alternating therewith in a wall structure.

9. In sheet-piling, a corner-section consisting of companion L-beams positioned at right angles with reference to each other and interlocking with the double beam-sections on either side, and means for rigidly securing the L-beams together.

10. In sheet-piling, the combination with companion double piling-sections set at right angles with reference to each other in turning a corner, of a corner-section, comprising L-beams and a joining angle-iron and interlocking with the double sections in forming a continuous wall structure.

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

GEORGE E. NYE.

Witnesses:

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