No. 829,596. PATENTED AUG. 28, 1906.

J. J. NOLTY.

SHEET PILING.

APPLICATION FILED APR. 10, 1906.

Fig. 1.

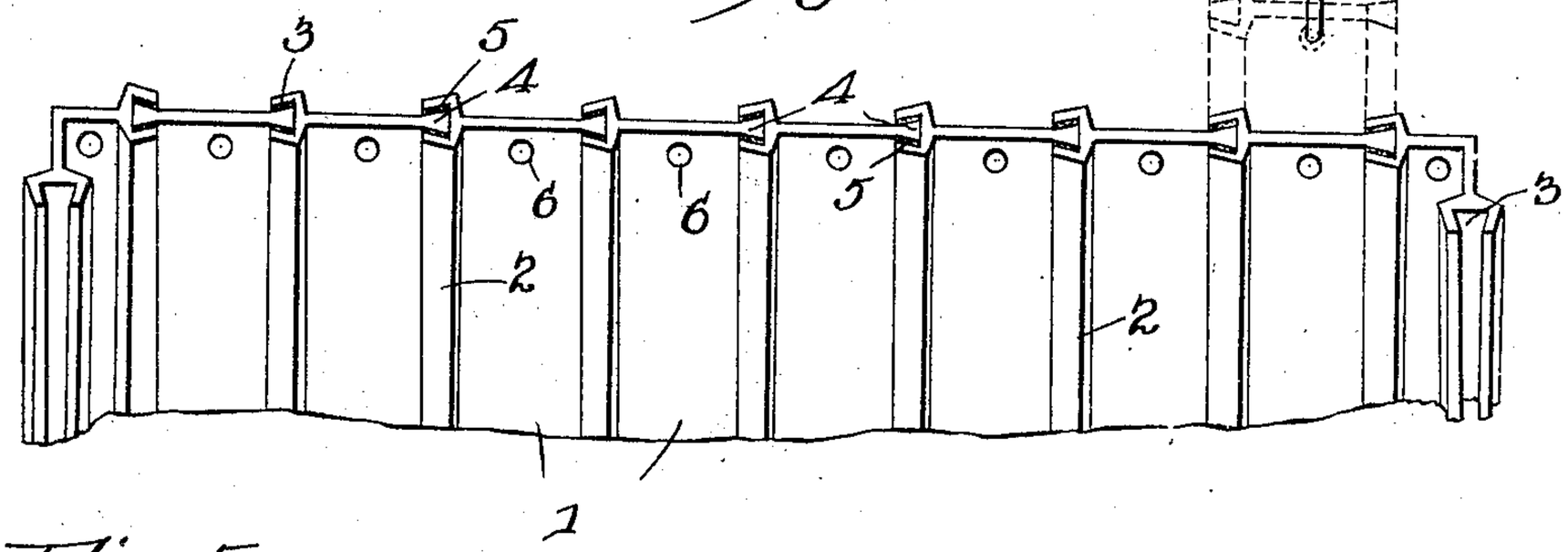


Fig. 5.

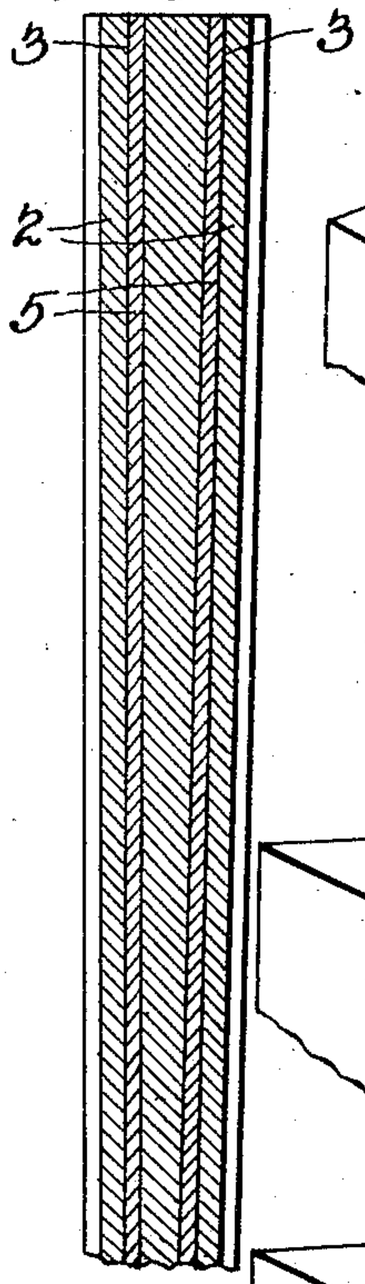


Fig. 2.

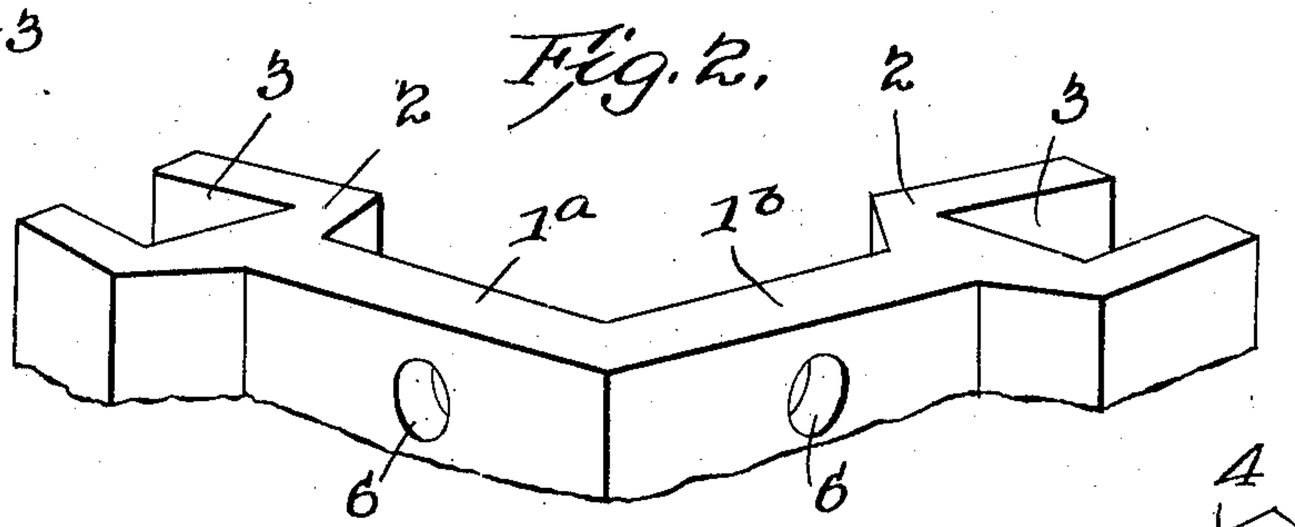
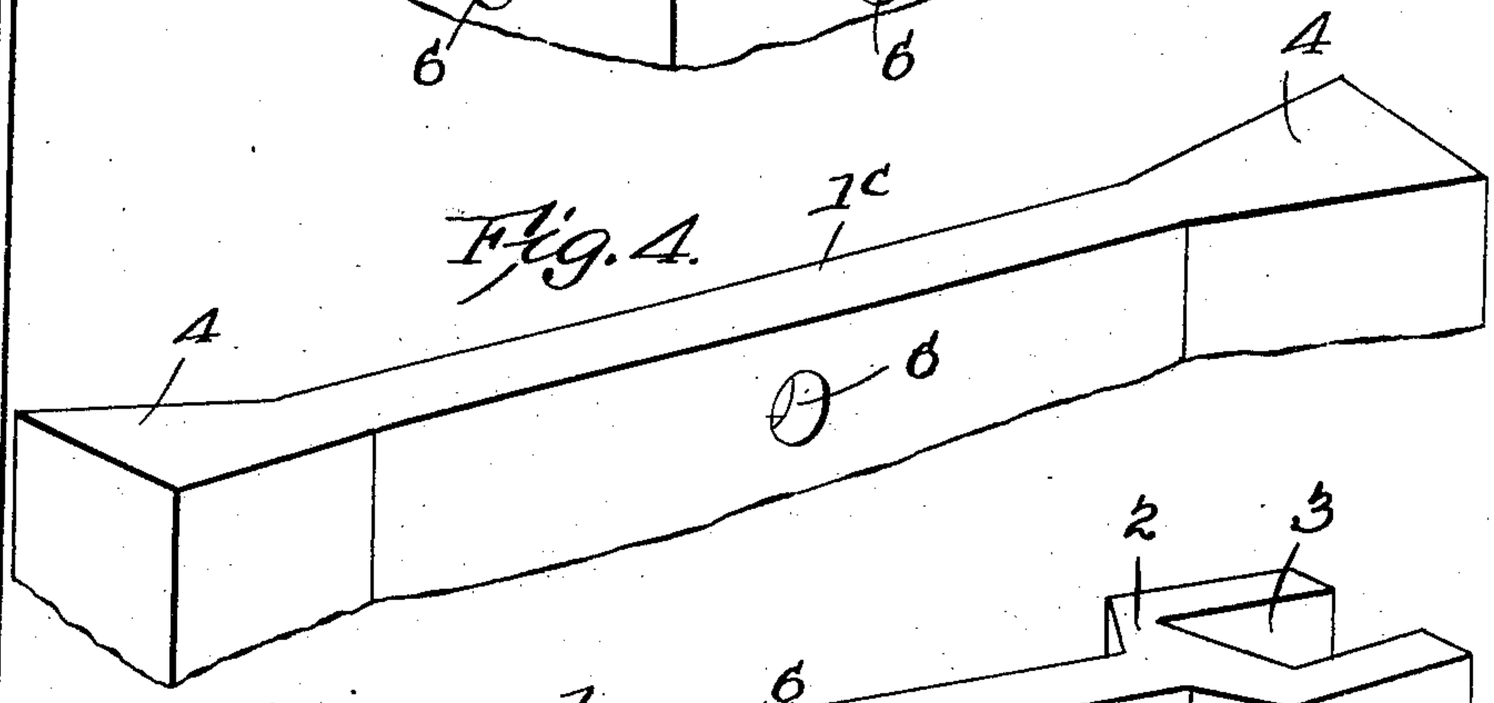


Fig. 4.



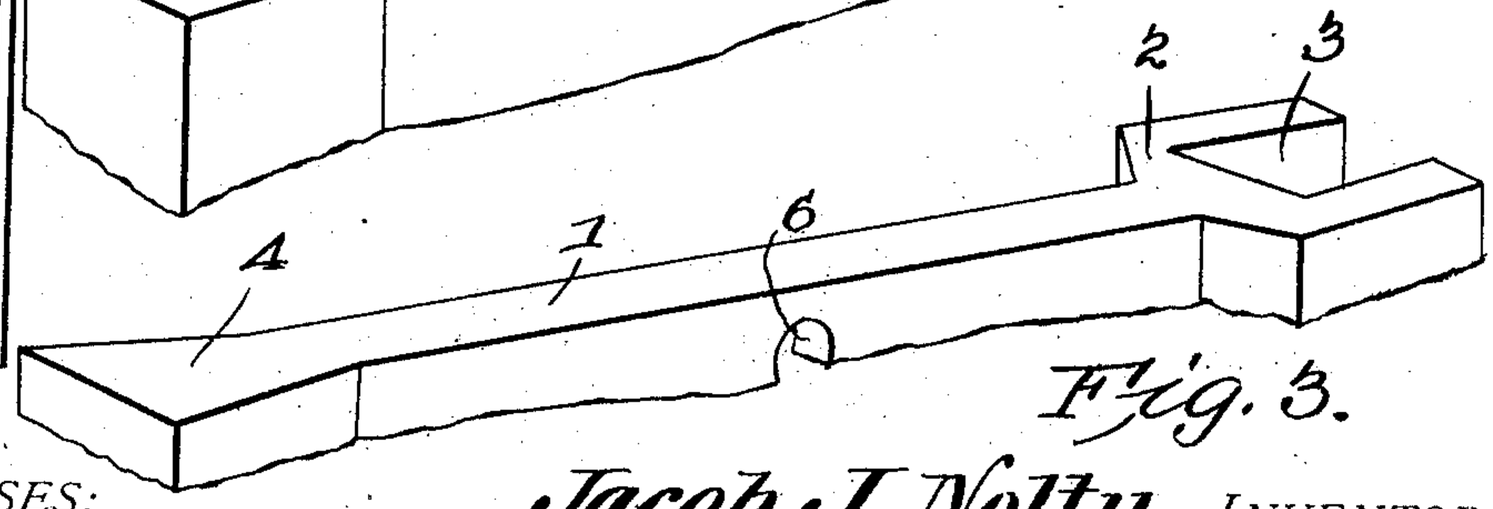


Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JACOB J. NOLTY, OF CANAL DOVER, OHIO, ASSIGNOR OF ONE-THIRD TO JOHN C. BAKER, OF CANAL DOVER, OHIO.

SHEET-PILING.

No. 829,596. Specification of Letters Patent. Patented Aug. 28, 1906.

Application filed April 10, 1906. Serial No. 310,995.

To all whom it may concern:

Be it known that I, JACOB J. NOLTY, a citizen of the United States, residing at Canal Dover, in the county of Tuscarawas and State of Ohio, have invented a new and useful Sheet-Piling, of which the following is a specification.

This invention relates to sheet-piling, and has for its object to provide a novel form of pile-beam which will become tightly wedged upon an adjacent beam when driven into place and produce a water-tight joint between the beam members, whereby a single wall of the present piling is sufficient where it would ordinarily require a double wall filled in with earth.

A further object of the invention is to effect the convenient drawing of any beam-piling section or member after it has been driven into the ground and to prevent binding of the same upon the adjacent sections when it is being drawn out of the ground.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view showing a plurality of piling-sections assembled to form a wall in accordance with the present invention. Fig. 2 is a fragmentary perspective view of a beam-piling section shaped for use as a corner section. Fig. 3 is a similar view of one of the intermediate sections. Fig. 4 is a similar view of another form of piling-section. Fig. 5 is a fragmentary sectional view, on an enlarged scale, taken transversely through the joint between adjacent beam-piling sections.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

The form of piling shown in Fig. 3 of the drawings includes a web or beam 1 of the usual or any suitable proportions, one longitudinal edge being laterally enlarged, as at 2, and provided with a transversely-tapered or dovetailed groove or channel 3, which also tapers longitudinally downward, as will be understood by reference to Fig. 5 of the drawings. The other longitudinal edge of the piling is provided with a solid enlarged rib or flange 4, corresponding substantially in cross-section to the cross-sectional shape of the groove or channel 3 and also tapered longitudinally downward.

When a series of piling-sections of the form shown in Fig. 3 are assembled to form a wall, as shown in Fig. 1, the flanged or ribbed edge 4 of each section is received downwardly through the channel or groove 3 in the enlarged edge of the next adjacent section, whereby the two sections are interlocked against edgewise separation, and as they taper downwardly they become snugly wedged when driven into the ground, thereby avoiding the employment of extraneous fastenings to prevent looseness of the sections.

By preference it is proposed to employ suitable packing (shown at 5 in Fig. 5) between the side walls of the channels and the side walls of the ribs 4, such packing of course swelling when the piling is exposed to water, thereby producing a water-tight joint in a very simple and efficient manner. While any form of packing may be employed, wooden strips have proved very efficient and are readily fitted in place.

In order that any piling-section may be readily removed, it is proposed to form an eye or opening 6 in the upper end portion of the web of the piling with which the hook 7 of any appropriate hoisting means 8 may be engaged for the purpose of drawing the piling out of the ground. By reason of the fact that the joints taper downwardly when a piling-section has once been started it can be readily lifted, as there is no liability of it becoming wedged during its upward movement. In starting to withdraw a section of the piling it has been found desirable to jar the adjacent piling-sections by striking upon their upper ends, so as to somewhat loosen the binding action between the joints of the section to be withdrawn and the sections which engage the opposite longitudinal edges thereof.

Where two walls meet at an angle, it is proposed to employ the form of piling shown in Fig. 2, wherein the web of the piling includes angularly-related members 1^a and 1^b, each of which is provided at its outer edge

with an integral enlargement 2, having a dovetailed channel or groove 3 tapering toward its lower end, as described for the form of piling shown in Fig. 3. Each of the web members 1^a and 1^b is provided with an opening 6 at its upper end for engagement by the hook of any suitable hoisting means, as hereinbefore described.

Upon reference to the right-hand end of Fig. 1 it will be noted that the rib 4 of the adjacent piling-section is engaged with one of the channels 3 of the corner-section, while at the left-hand side of Fig. 1 it will be seen that the grooves or channels of the corner-section and the next section come next to one another, wherefore I provide still another form of piling, as shown in Fig. 4. This form of piling includes a web 1^c, having its longitudinal edges provided with wedge-shaped integral ribs 4, tapering downwardly and engaged with the grooves or channels of the corner section and the adjacent section. The form of piling shown in Fig. 4 is of course provided at its upper end with an opening 6 for convenience in drawing the section from the ground, as hereinbefore described.

While the present sheet-piling may be formed of any material, it is preferred to employ cast-steel.

Having thus described the invention, what is claimed is—

1. Sheet-piling including a plurality of piling-sections having their upright edges connected by tongue-and-groove joints which are tapered downwardly.

2. Sheet-piling including a plurality of piling-sections having their vertical edges connected by tongue-and-groove joints which are tapered transversely and also downwardly.

3. Sheet-piling including a plurality of piling-sections having their upright edges connected by packed tongue-and-groove joints which are tapered downwardly.

4. Sheet-piling including a plurality of piling-sections having their upright edges connected by packed tongue-and-groove joints which are tapered transversely and also downwardly.

5. Sheet-piling including a piling-section having one edge provided with a lateral enlargement having a longitudinal groove which is tapered downwardly, and another piling-section having a laterally-enlarged tongue upon one of its vertical edges, said tongue being received within the groove of the first-mentioned section and tapered downwardly to wedge therein.

6. Sheet-piling including a piling-section having one of its upright edges provided with a lateral enlargement having a dovetailed groove tapering downwardly, and another piling-section having a laterally-enlarged tongue upon one of its upright edges which is tapered transversely and also downwardly and wedged within the groove of the first-mentioned section.

7. Sheet-piling including a series of piling-sections having their upright edges connected by tongue-and-groove joints which are tapered downwardly, and a corner-section having angularly-related web members provided with joint elements for connection with the complementary joint elements of adjacent piling-sections.

8. A sheet-piling section provided upon each upright edge with an element of a downwardly-tapered tongue-and-groove joint, and also having an opening in the upper end portion of the web of the section.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JACOB J. NOLTY.

Witnesses:
JOHN A. HOSTETLER,
H. H. HOSTETLER.