

No. 816,770.

PATENTED APR. 3, 1906.

H. L. ZANDER.

SHEET PILING.

APPLICATION FILED JUNE 26, 1905.

2 SHEETS—SHEET 1.

FIG. 1

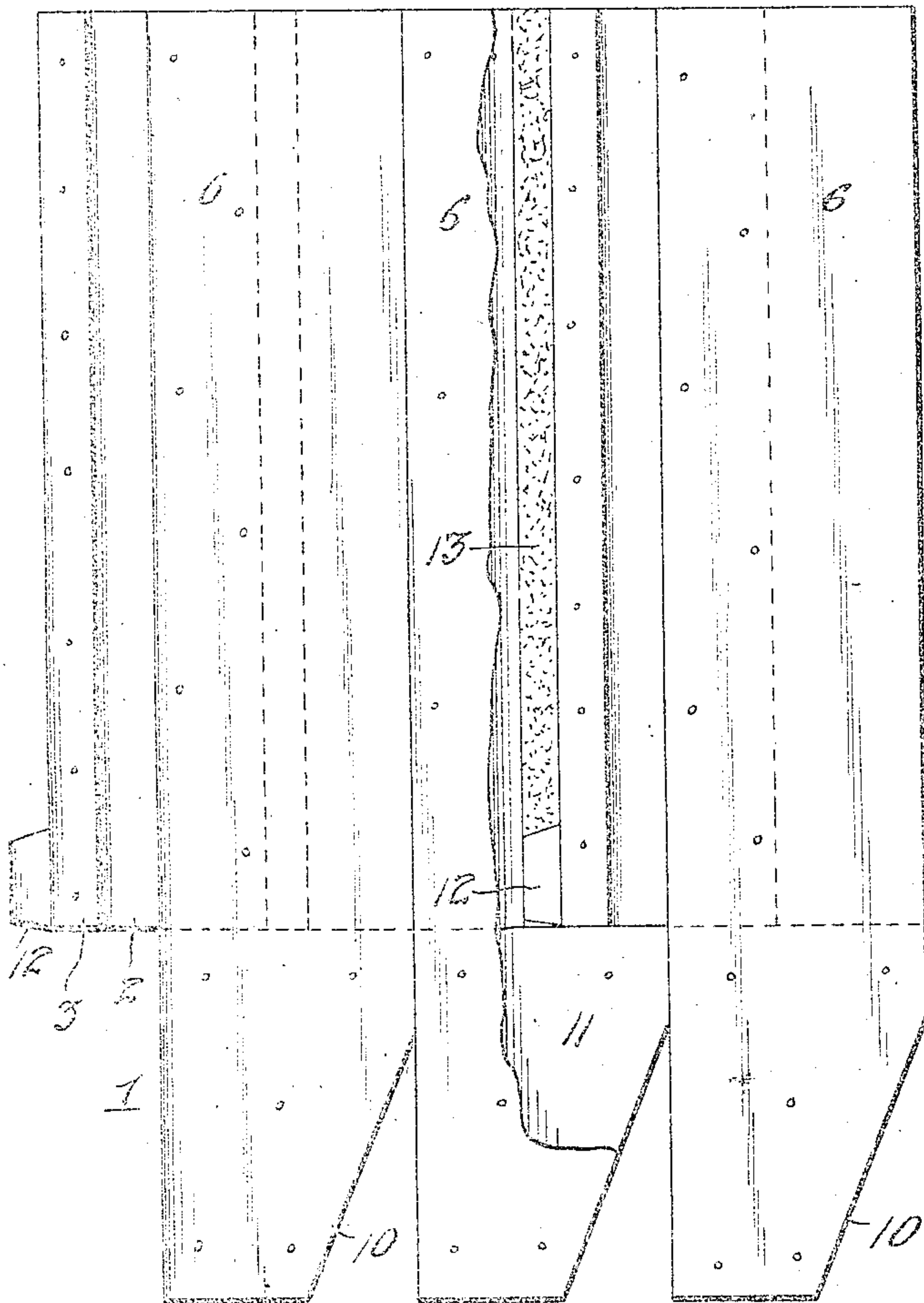
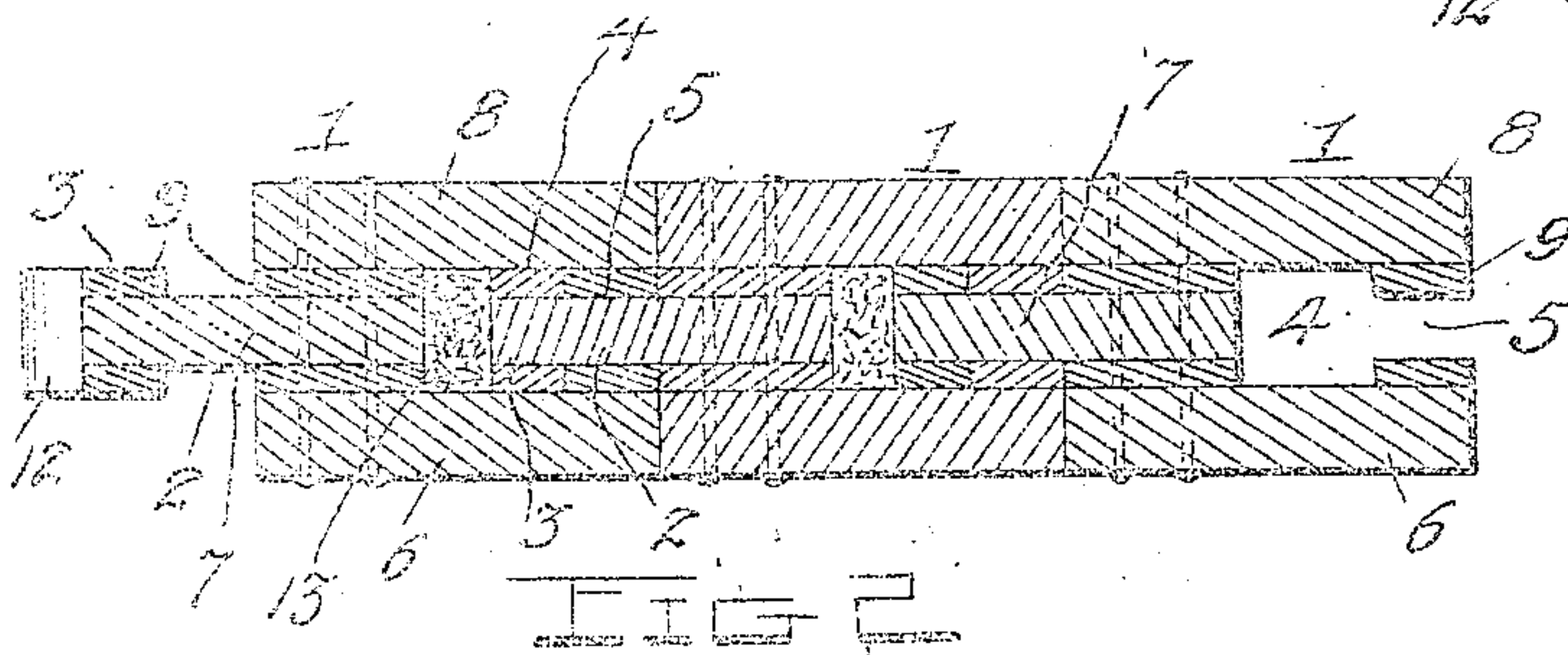
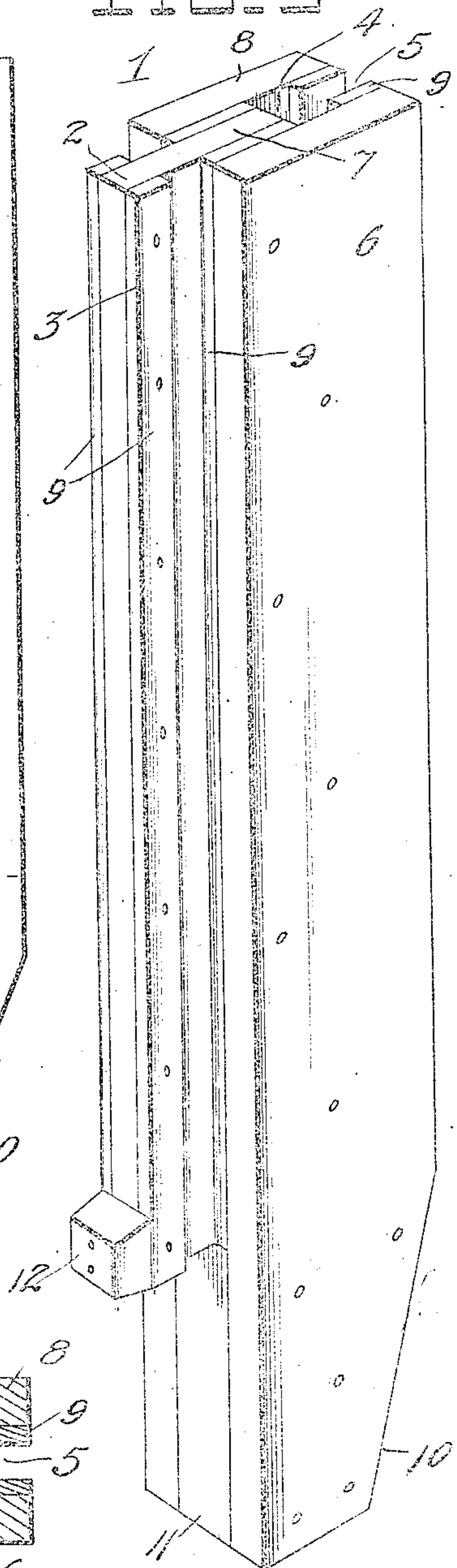


FIG. 3



Witnesses
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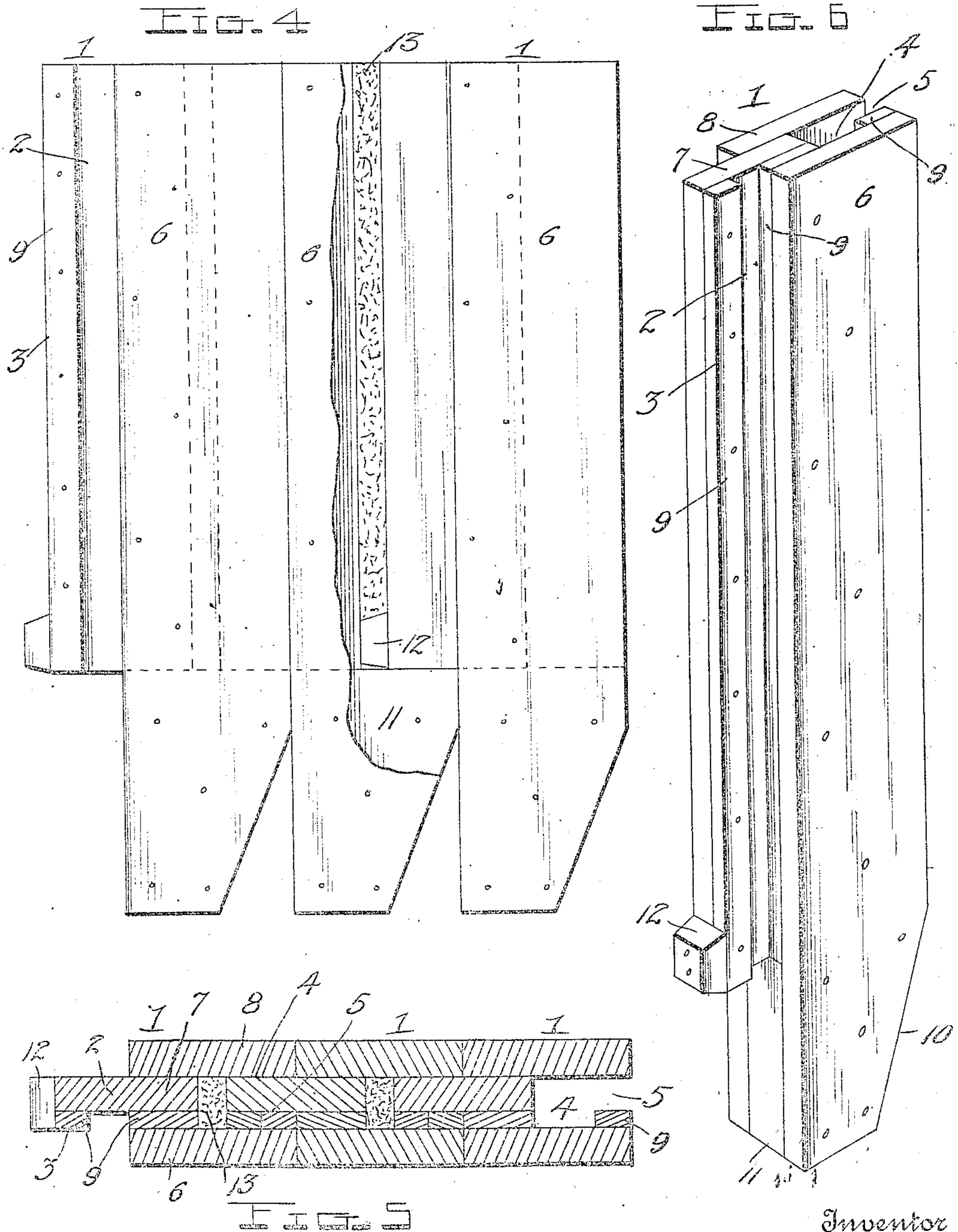
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY LOUIS ZANDER, OF NEW ORLEANS, LOUISIANA.

SHEET-PILING.

No. 813,770.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed June 20, 1905. Serial No. 287,024.

To all whom it may concern.

Be it known that I, HENRY LOUIS ZANDER, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Sheet-Piling; and I do 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 ap-
10 pertains to make and use the same.

My invention relates to improvements in piling, and particularly to wooden sheet-piling used in constructing caissons, coffer-dams, foundations of buildings, and similar struc-
15 tures.

The object of the invention is to provide a simple and comparatively inexpensive sheet-piling of this character which will have inter-locked cemented joints, so that a perfectly
20 water-tight wall may be formed.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully de-
25 scribed, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a series of sheet-piles constructed in accordance with my invention, parts being broken away to more clearly illus-
30 trate the construction. Fig. 2 is a horizontal sectional view through the same. Fig. 3 is a perspective view of one of the piles. Fig. 4 is a side elevation of a series of piles, showing a slightly-modified form of the invention. Fig.
35 5 is a horizontal sectional view through the parts shown in Fig. 4, and Fig. 6 is a perspective view of one of the piles shown in Fig. 4.

Referring to Figs. 1 to 3, inclusive, of the
40 drawings, the numeral 1 denotes one of my improved piles, which comprises a body having along one of its edges a projecting tongue 2, formed or provided with a longitudinally-extending head or enlargement 3 and along
45 its opposite edge with a longitudinally-extending groove 4, formed or provided with a contracted neck 5, said groove 4 being adapted to receive the tongue 2 and head 3 of an adjoining pile and being of greater size than
50 said tongue and its head, so as to provide a space to receive cement or other material which will form a water-tight joint between the piles. While these piles may be constructed in various ways, I prefer to make
55 them of three planks or boards 6, 7, and 8, the boards 6 and 8 of which are bolted, riv-

eted, or otherwise secured upon the opposite sides of the board 7, so that one edge of the latter projects to form the tongue 2 and the opposite edges of the said boards 6 and 8 project to form the groove 4. The head or enlargement 3 of the tongue 2 is preferably
60 formed by nailing or otherwise securing cleats upon the said tongue, and the contracted neck 5 of the groove 4 is also preferably
65 formed by securing cleats upon the inner faces of the boards 6 and 8, as shown. In order to permit the head 3 to enter the groove 4, packing strips or cleats 9 are preferably
70 interposed between the opposite faces of the board 7 and the boards 6 and 8, so as to increase the width of the groove 4, as shown. Each of the piles 1 has its lower end tapered or beveled, as shown at 10, to permit it to be
75 more readily driven into the ground and to cause it to wedge against the adjoining pile, with which it is interlocked by the tongue-and-groove connection. To prevent the groove 4
80 from being filled with earth as the same is driven downwardly, the bottom of the groove 4 is closed, preferably by a block 11, which is bolted, riveted, or otherwise secured between
85 the lower ends of the boards 6 and 8, and in order to clear said groove of any earth which may work into the same I provide upon the
90 lower end of the head 3 of the tongue 2 a wedge-shaped projection 12, which travels downwardly through the groove 4 of the adjacent pile when the pile to which it is at-
95 tached is driven into place.

In lighter work I preferably employ the construction shown in Figs. 4, 5, and 6 of the drawings. In this form of the invention it will be noted that instead of applying the
95 cleats upon both sides of the boards 6, 7, and 8 they are secured only upon one side; but the interlocked connection between the piles is present in this form of the invention the same as in the one previously described. In
100 all other respects the construction shown in Figs. 4, 5, and 6 of the drawings is the same as that shown in the first three figures.

The advantages of the invention will be readily seen. By making the groove 4 of greater size than the headed tongues 2, so
105 that the space formed thereby may be filled with cement 13 or other suitable filling, which may be poured therein or forced therein under pressure, as desired, it will be seen that a very effective water-tight joint is provided.
110 It will be also noted that the joint will be very strong and durable by reason of the in-

terlocking connection of the tongue and groove and that owing to the simplicity of the construction the piles may be manufactured at a comparatively small cost.

5 Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

10 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A sheet-piling comprising a plurality of sections each having a projecting tongue on
15 one side provided with a laterally-enlarged head and having a groove in another side provided with a contracted neck to receive the tongue of the adjoining section, said groove being larger than the head of the
20 tongue, to form a space between the tongue and the opposing face of the groove, means on one of said sections to close the bottom of said space, and a plastic filling in said space to effect a water-tight joint between said sections.
25

2. A sheet-piling comprising a plurality of sections, each of said sections having along one of its edges a tongue provided with an enlargement or head and along its other edge
30 a groove provided with a contracted neck and adapted to receive the head of the tongue of the adjacent section, said groove being of greater size than said tongue to receive a filling of cement or the like, a bottom closing

the lower end of the groove in each section, 35 and a projection upon the lower end of the head of the tongue of each section, said projection being adapted to enter the groove in the adjacent section, substantially as described. 40

3. A sheet-piling section comprising a body having along one of its edges a longitudinally-extending groove provided with a contracted neck, a bottom closing the lower end of said groove, a longitudinally-extending tongue 45 upon the opposite edge of said section and provided with a longitudinally-extending enlargement or head adapted to enter the groove of an adjacent section, and a projection upon the lower end of said head or tongue, substantially as described. 50

4. A sheet-piling section comprising three boards secured to each other in parallel relation with the intermediate one projecting in one direction to form a tongue and the two outer 55 one ones projecting in the opposite direction to form a groove, cleats upon said tongue and in said groove, a block in the lower end of said groove and a projection or block upon the lower end of said tongue, substantially as described. 60

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY LOUIS ZANDER.

Witnesses:

ALFRED F. THIARD,
A. BALDWIN WOOD.