

(No Model.)

J. A. WAKEFIELD.
SHEET PILING.

No. 527,469.

Patented Oct. 16, 1894.

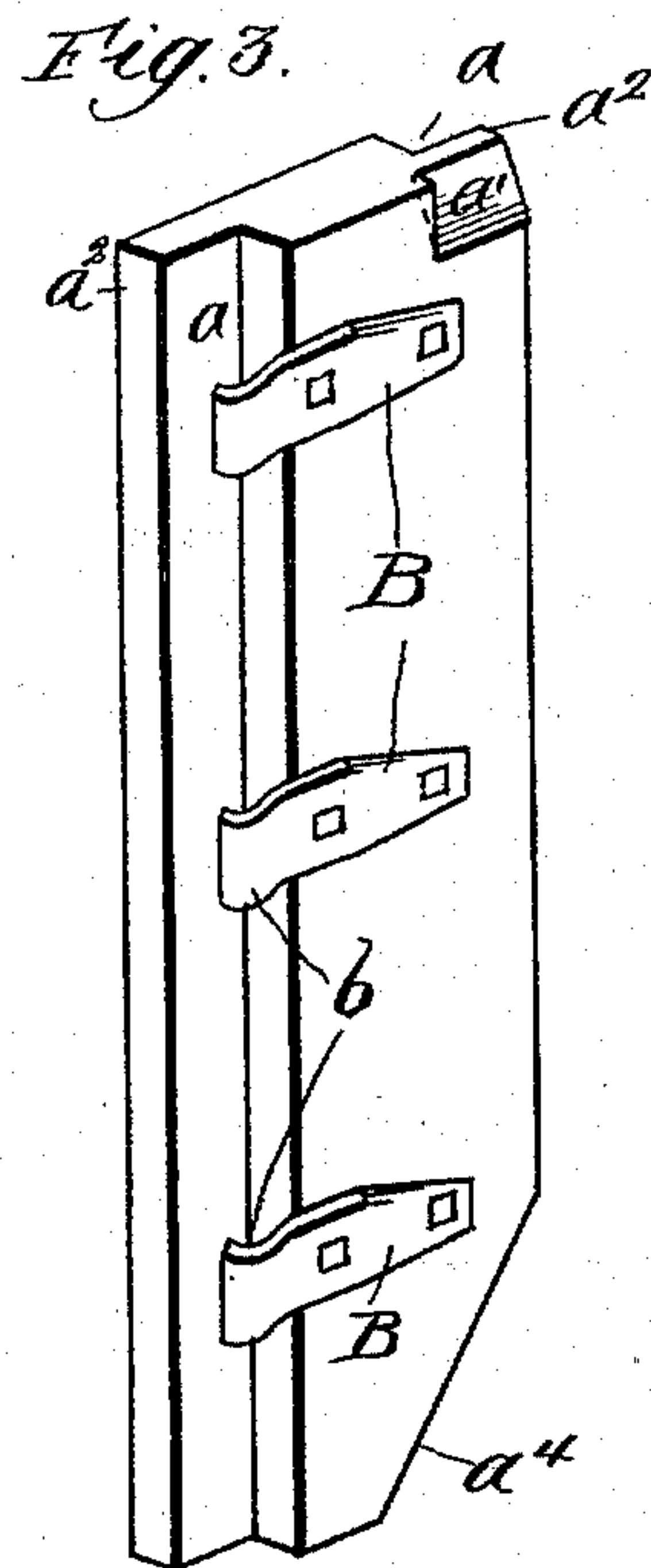
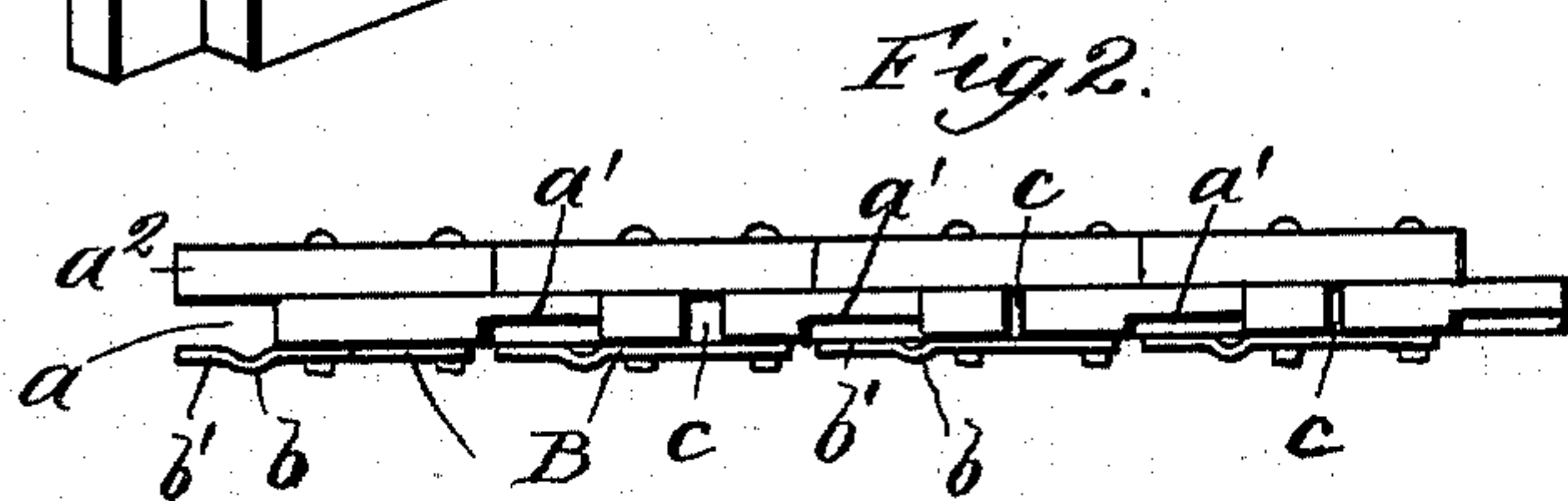
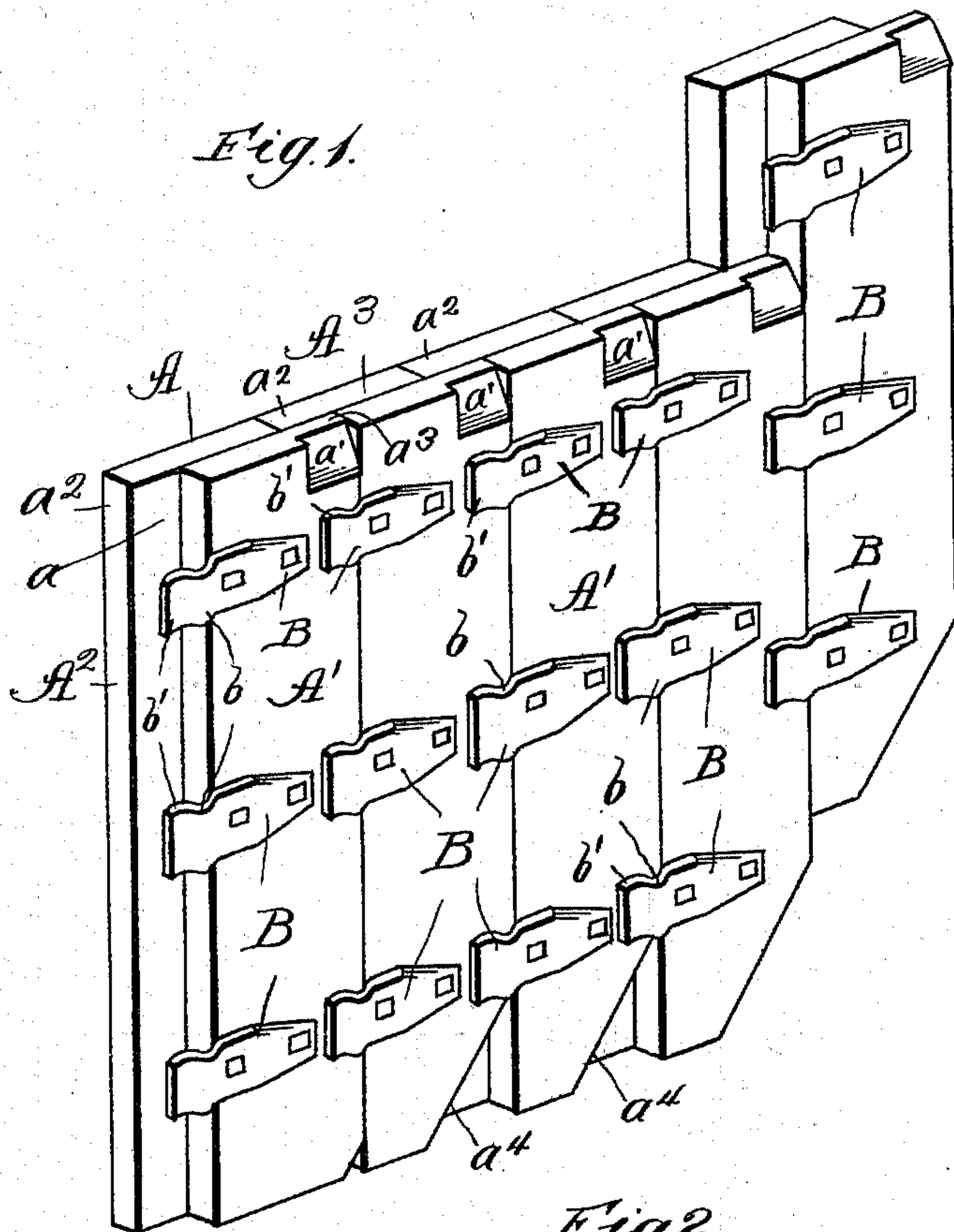
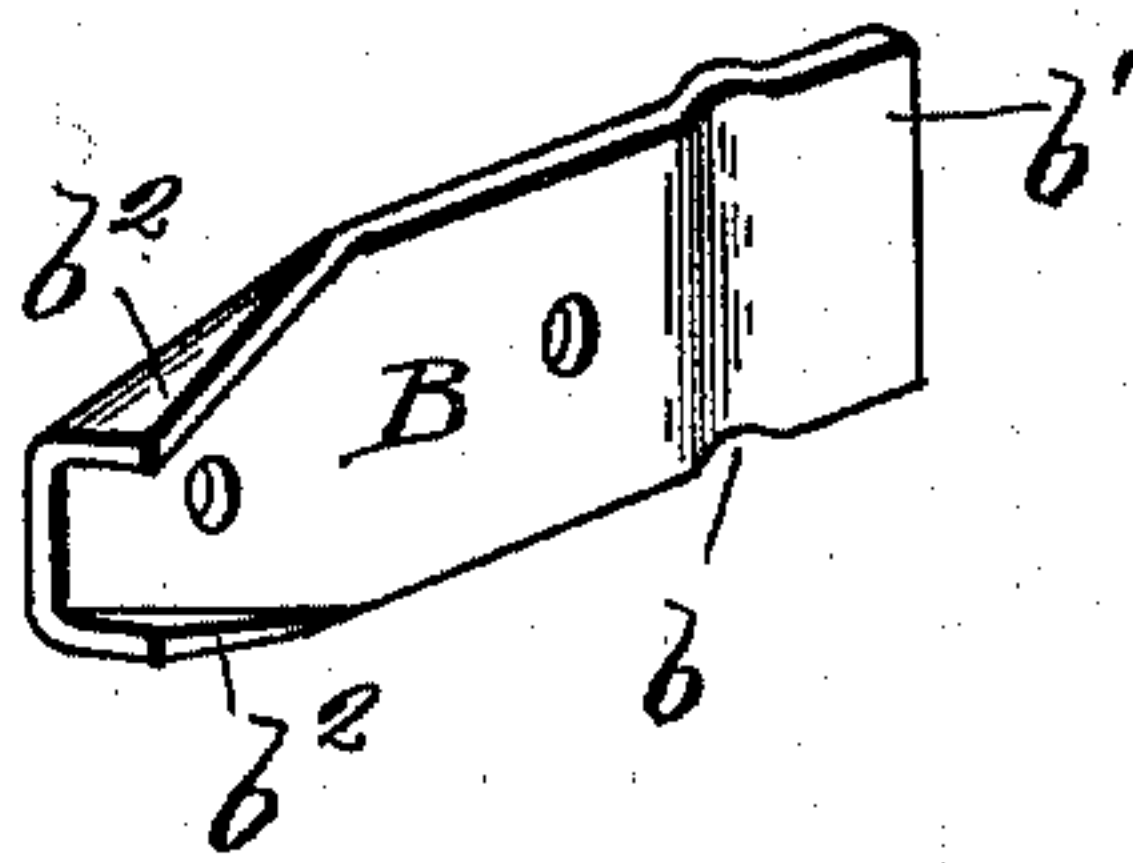


Fig. 4.



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by Walter H. Chamberlin
Att'y

UNITED STATES PATENT OFFICE.

JAMES A. WAKEFIELD, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
THE SHAILER & SCHNIGLAU COMPANY, OF SAME PLACE.

SHEET-PILING.

SPECIFICATION forming part of Letters Patent No. 527,469, dated October 16, 1894.

Application filed July 2, 1894. Serial No. 516,302. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. WAKEFIELD, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have
5 invented a certain new and useful Improvement in Sheet-Piling; and I 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 pertains to
10 make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object the production of a sheet piling which shall be at
15 once cheap in construction and thoroughly effective in excluding water from the desired place.

The invention consists in a combination of devices and appliances hereinafter described
20 and claimed.

In the drawings: Figure 1 is a perspective view of a portion of my piling. Fig. 2 is a crosssection showing a slight variation. Fig. 3 is a detail of one of the sections showing a
25 variation. Fig. 4 is a detail of one of the metal strips.

In carrying out the invention A represents a single piece or section of the piling being composed of two thicknesses of planks A' A^2 ,
30 engaged together in such a manner that at diagonally opposite corners are grooves or recesses a , and flanges a^2 . Suitably engaged to the face of one of the planks (in this case A') are metal strips B. These strips are preferably held in place by the same bolts that
35 hold the two thicknesses of plank together, but not necessarily so. On each section are preferably three of these metallic strips. Each of the strips at some portion of its
40 length is transversely grooved or bent as at b so that the outer edge b' will have a firm bearing on the next adjacent section when the sections are put together. These strips are preferably spring steel, although other
45 yielding metals may if desired be employed.

The sections are mounted to form the completed piling in the following manner: One section A is first driven. The upper end of this section on the side adjacent to the metallic strips B is preferably beveled or cut
50 away as at a' . The lower end of a section pro-

vided with the strips B is then brought adjacent to the upper end of the section already driven and the lower strip B forced down onto the upper end of the section A. This
55 holds the projecting flange a^2 of the section A^3 against the flange a^3 of the section A. The section A^3 is then driven, the strips B tending to keep the flanges a^2 , a^3 tight against each other, while the beveled end a^4 of the
60 section crowds it against section A already driven.

It will thus be seen that the employment of the yielding strips B gives the construction material advantage over the piling hereto-
65 fore used. In the first place any difference in thickness in the plank composing the piling is compensated for since the strips B will easily yield and accommodate themselves to varying thicknesses. Again the two flanges
70 a^2 a^3 are bound tightly to each other throughout the entire process of driving each section, thus insuring a tight fit when the sections are driven. Again by the use of the metal
75 strips quite a percentage of lumber is dispensed with, and yet an equally effective piling is produced.

In the use of sheet piling it is a material advantage so far as the cost is concerned to employ the common or undressed lumber; but
80 this lumber, from the fact that it is undressed varies in the width as well as in the thickness of the planks. The thickness as above explained is compensated for by the use of the metallic strips so that the cost is thus materially reduced, but it is also desirable if possible to compensate for the variation in the width of the plank. I may therefore form the construction as shown in Fig. 2. In this construction instead of using two planks of sup-
90 posedly the same width to form a section I take one plank (say for the sake of illustration twelve inches in width) for one thickness of the section, and two planks one say eight inches and the other three inches in width
95 for the other thickness of the section and engage them to the face of the twelve inch plank, compensating for any difference in width of either of the three planks by making a greater or less space between the edges of the eight
100 inch and three inch planks as shown at c . Thus the variation in the width of the planks

is compensated for, and yet the joint where one section joins the next adjacent section is perfectly tight and the flanges α^2 , α^3 of equal width.

5 It will be observed that by the above described constructions I have produced a sheet piling in which the minimum amount of lumber is utilized; in which the cheapest grade of lumber is utilized; in which the joints are
10 closely fitting and thoroughly effective; and one which can be easily and quickly constructed and mounted.

It is obvious that the particular shape of the strips B might be varied as shown in Fig.
15 3 without departing from the spirit of my invention, the idea of the strips being to form a yielding clamp that will fit itself to various thicknesses of planks and yet bind the parts together while they are being driven.

20 To relieve the strain on the bolts holding the yielding strips in place, I may if desired turn down the edges of the strips as at b^2 (Fig. 4) and drive them into the face of the plank, although this feature is not necessarily
25 essential. Again instead of making each section of two planks bolted together I might make each section of a single piece and groove the longitudinal edges as shown in Fig. 3.

What I claim is—

30 1. A sheet piling composed of several sections each section engaged to the next adjacent section by a lap joint, and one or more yielding strips or clips engaged to one section and bearing on the next adjacent section to
35 hold the lap joint together, substantially as described.

2. In a sheet piling the combination with one section of piling provided on its longitudinal edge with a flange and groove or recess,
40 of the next adjacent section provided with a

flange and groove or recess to fit those of the first named section, and a yielding clamp or clamps for binding the two sections against each other, substantially as described.

3. In a sheet piling the combination with 45 one section composed of two thicknesses of plank engaged together to form projecting flanges on each edge of the next adjacent section also composed of two thicknesses of plank similarly engaged together, and one or more 50 yielding strips engaged to one section and bearing on the adjacent section to hold the flange on one section against the flange of the next adjacent section, substantially as described. 55

4. A sheet piling composed of several sections, each section composed of two thicknesses of plank engaged together with the edges breaking joints and spring metal strips engaged to the face of the section and adapted 60 to bear upon the next adjacent section when the piling is formed, substantially as described.

5. A sheet piling composed of several sections each section made up of two thick- 65 nesses of plank engaged together, one thickness of said plank being longitudinally divided to form two pieces, said section provided on each edge with a projecting flange, the metallic strips engaged to that face of the 70 section having the divided plank or thickness, said strips adapted to bear upon the next adjacent section when the piling is in place, substantially as described.

In testimony whereof I sign this specification 75 in the presence of two witnesses.

JAMES A. WAKEFIELD.

Witnesses:

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CLIFFORD U. WHITE.