

B. Britten.

Constructing Dams.

N^o 57,852.

Patented Sept. 11, 1866.

Fig. 1

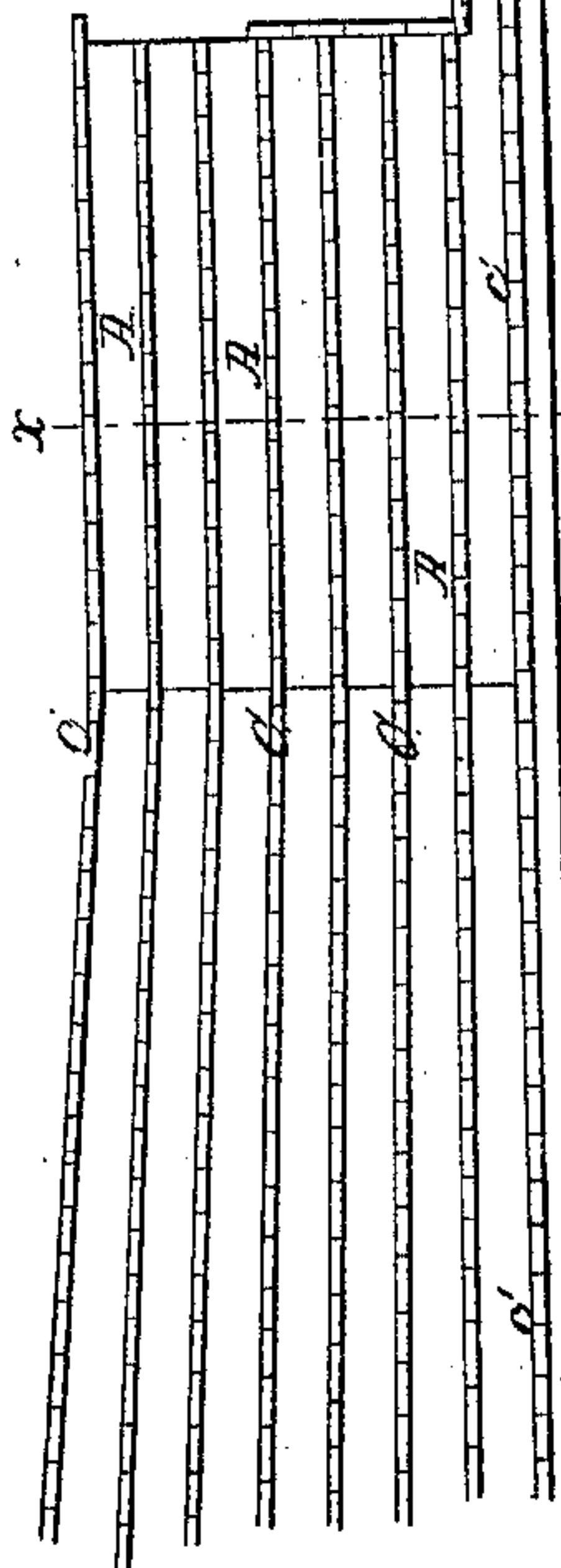


Fig. 3

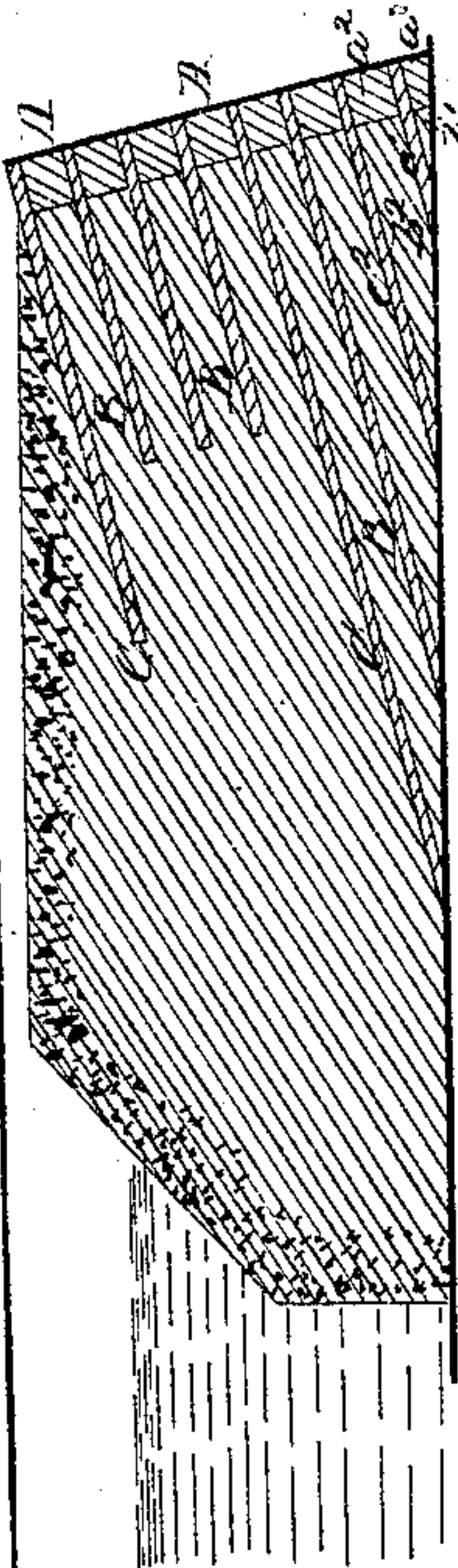


Fig. 2

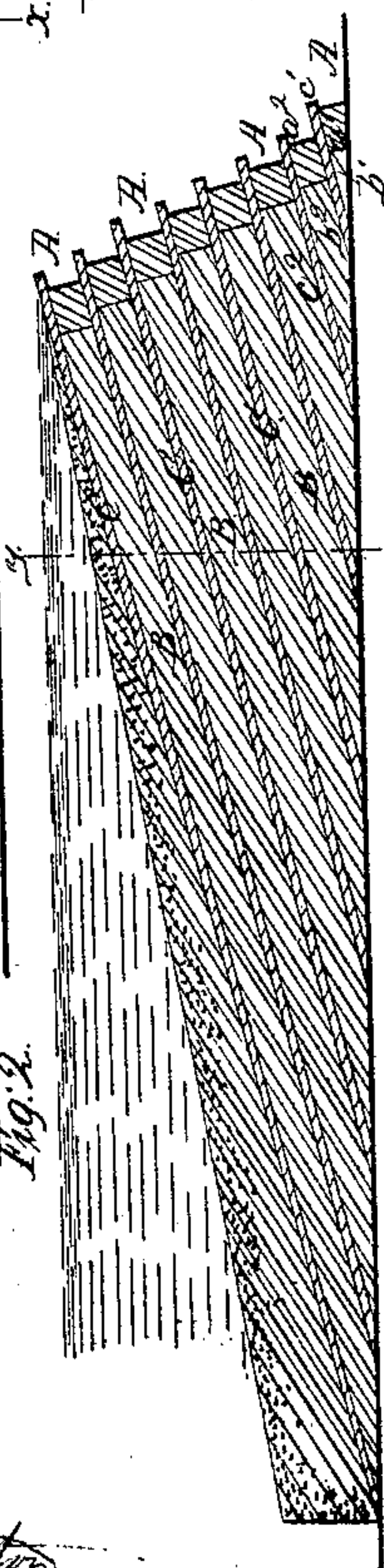


Fig. 4

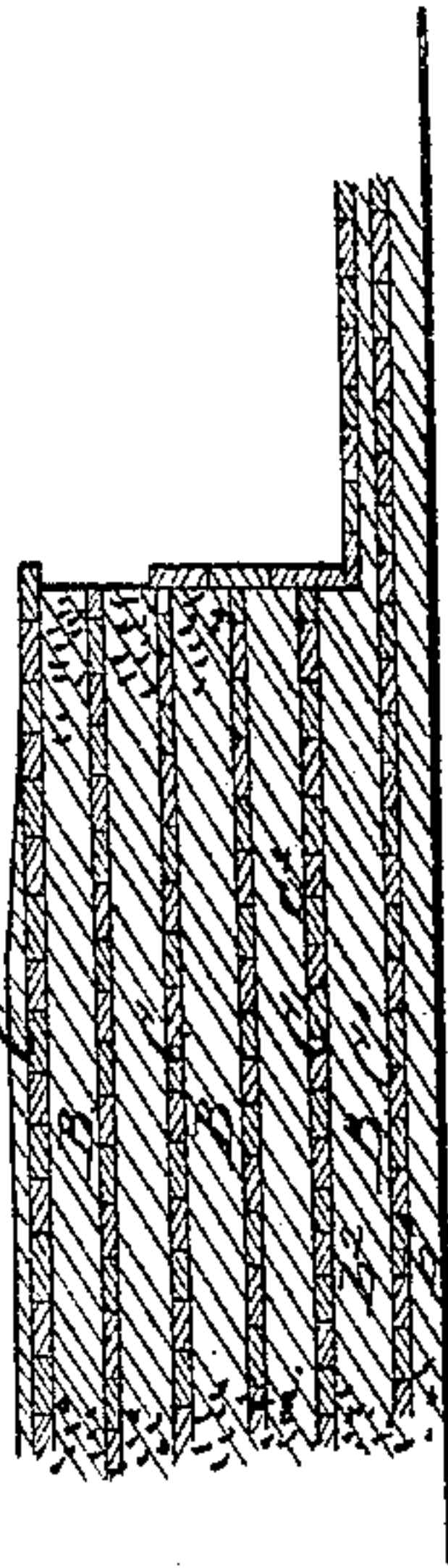
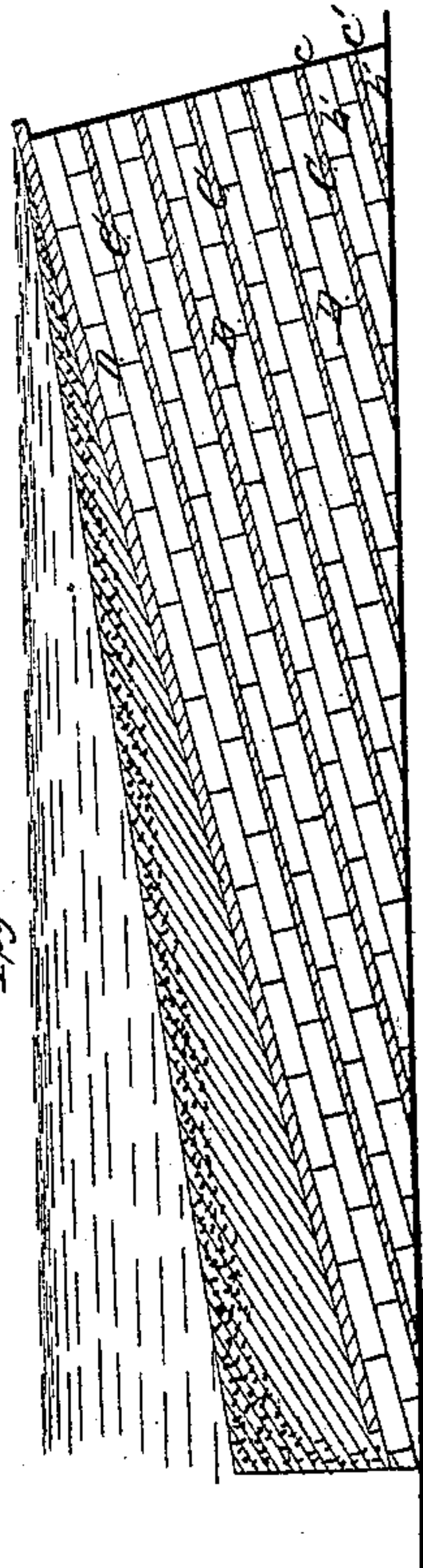


Fig. 3



*Witnesses;
J. H. P. Carrington
Wm. T. Jewell*

*Inventor;
B. Britten
Per Wm. T. Jewell
Attorney*

UNITED STATES PATENT OFFICE.

BENJAMIN BRITTEN, OF GALENA, ILLINOIS.

IMPROVEMENT IN DAMS AND LEVEES.

Specification forming part of Letters Patent No. 57,852, dated September 11, 1866.

To all whom it may concern:

Be it known that I, BENJAMIN BRITTEN, of Galena, in the county of Jo Daviess and State of Illinois, have invented a new and useful Improvement in the Construction of Dams and Levees; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of a portion of a dam constructed according to my improved mode, and showing the manner of forming a wasteway and flume. Fig. 2 is a vertical section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is the same view as Fig. 2, showing the clay replaced with masonry. Fig. 4 is a vertical section, taken through the line *y y*, Fig. 2. Fig. 5 is a vertical cross-section of a levee constructed according to my improved mode.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved mode of constructing dams and levees by means of which they will be strong, durable, easily constructed, and not liable to be swept away by floods; and it consists in the mode of constructing dams and levees hereinafter described—that is to say, constructing them in a series of layers or steps, so that, should all above any particular layer or step be removed, the remaining part will still constitute a perfect dam.

Where the surface of the ground is at all firm the dam may be built directly upon it; but, when necessary, a foundation may be prepared in the ordinary way.

The first timber, *A a'*, should be bedded in the ground, so that its upper surface may have an inclination of about twenty-two and a half degrees. Where the bottom is rocky the timber *a'* should be sawed into such a form as will give the proper inclination to its upper surface. The space above the timber *a'* is then filled in with clay *B b'*, which is smoothed off or rolled until it has the same inclination as the upper surface of the timber *a'*. A layer

or flooring, *c'*, of plank *C* is then laid upon the clay *b'* and timber *a'*. The forward ends of the plank should project about six inches beyond the timber *a'*, and their rear ends should reach back to the solid ground. A second timber, *a²*, should then be laid in such a position that its forward edge should be about six inches in the rear of the forward edge of the timber *a'*. The space in the rear of the timber *a²* is then filled in with clay *b²*, packed and graded off to the proper inclination. Another layer, *c²*, of planks *C* is then applied, their forward ends projecting about six inches in front of the forward edge of the timber *b²*, and their rear ends reaching back to the solid ground.

In the same way successive layers are formed till the dam has been raised to the desired height.

The clay *B* and timbers *A* may be replaced with masonry *D*, if desired, without changing the mode of construction; or, if desired, the space immediately in the rear of the timbers *A* may be filled with gravel, and the remaining parts of the spaces between the layers of plank *B* filled with clay, as before described.

A wasteway, when desired, may be formed by making the timbers *A* in the place where it is desired that the wasteway should be a little narrower than they are in the other parts of the dam, and the parts of said timbers adjacent to the said narrow timbers tapering, so that at the one end they may match the said narrow timbers, and at the other end the wider or ordinary timbers *A* of the dam.

When it is desired to form a flume in a dam constructed according to my improved mode, a section of the desired width and depth is cut out, and the bottom and sides of the cut covered with plank, as shown in Figs. 1 and 4, the cut edges of the cut planks *C* furnishing every facility for spiking the side and bottom planks to their places. The gate is then put in in the ordinary manner.

When this improvement is applied to the construction of levees it is not necessary that the ends of the planks *C* should project beyond the face of the timbers *A*, but they may be in a line therewith, as shown in Fig. 5, as no water is expected to run over.

In some situations the planks C may be replaced with slabs, or whole logs may be used, if desired, which will produce a strong and durable structure.

I claim as new and desire to secure by Letters Patent—

1. The improved mode of constructing dams and levees, substantially as herein described and set forth.

2. The combination and arrangement of the

timbers A, planks C, and clay B, or equivalent, in the construction of dams and levees, substantially as herein described, and for the purposes set forth.

The above specification of my invention signed by me this 12th day of June, 1866.

BENJAMIN BRITTEN.

Witnesses:

Wm. H. Ross,

N. W. FORTY.