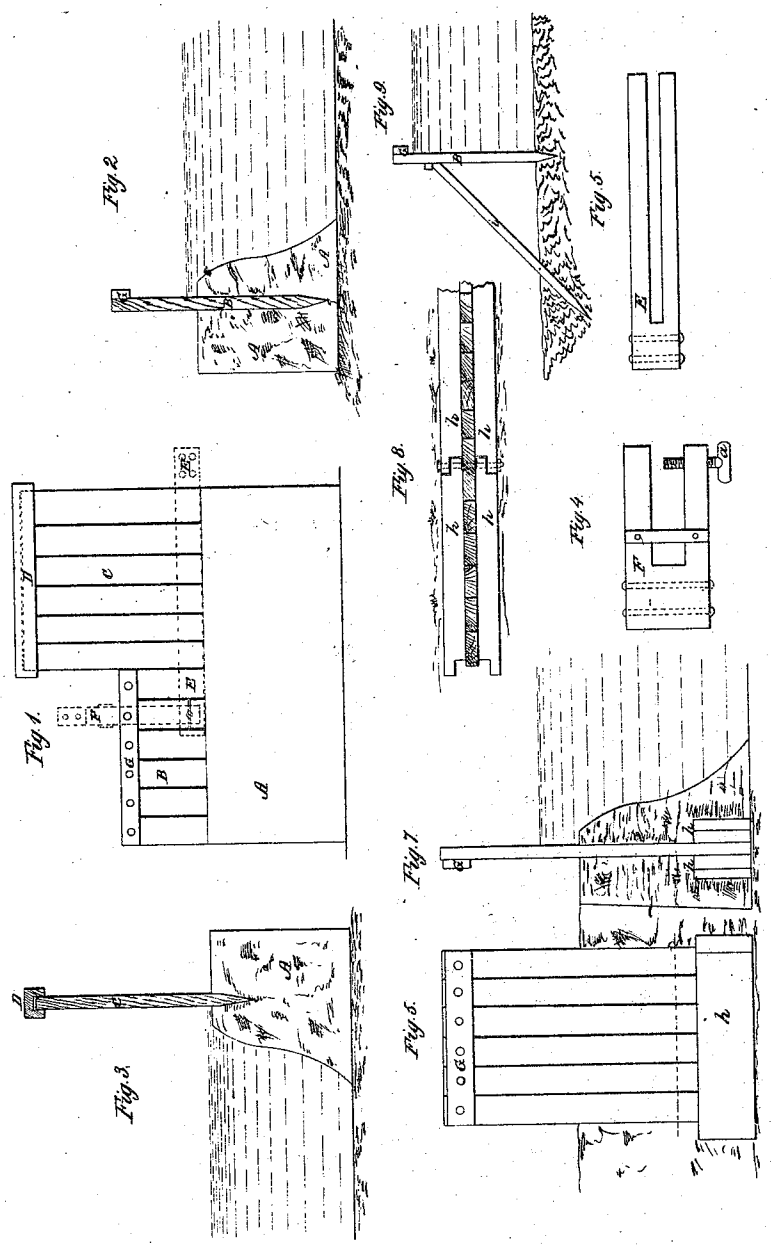
L. S. Robbins.

Constructing Dams.

No. 62,889. Patented Mar. 12, 1867.



Witnesses:
Fred. Fischer
Wm. Frewin

Inventor:
Louis S. Robbins
Per Munn & Co
Attorneys

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

United States Patent Office.

LOUIS S. ROBBINS, OF NEW YORK, N. Y.

Letters Patent No. 62,889, *dated March* 12, 1867.

IMPROVEMENT IN THE CONSTRUCTION OF DYKES AND LEVEES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LOUIS S. ROBBINS, of the city, county, and State of New York, have invented a new and improved plan for constructing Levees or Dykes; and I do hereby declare that the following is a full, clear, and exact description thereof.

It is well known that levees or dykes on our western rivers are generally constructed by embankments of earth, the embankments being raised above high water; but from the nature of the soil these embankments are in fact but little more than rows or piles of sand, which are liable to be washed away by the rain and floods, allowing the water to overflow, devastating large sections of country, and destroying vast amounts of property. To prevent the breaking away of the levee, and the overflow of the water, and the disastrous consequences attendant thereon, is the object of my invention.

And to enable others skilled in the art to use my invention, I will proceed to describe it, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

Figure 1 represents a side elevation of the levee, with my improvement.

Figure 2 is an end view, showing a transverse section of the levee complete.

Figure 3 represents another cross-section, with my improvement ready to be applied.

Figures 4 and 5 are clamps used in applying my improvement.

Figure 6 represents a side view of a section of my improvement; and

Figure 7 represents an end view of the same; and

Figure 8 is a top view of the same, showing a joint.

Similar letters of reference indicate like parts.

Hitherto it has been found that wood could not be employed to advantage in the construction of levees, in consequence of its rapid decay, and destruction by insects and worms, while the employment of iron for that purpose would be too expensive to be seriously thought of. To carry out my invention I employ lumber which has been treated according to my "wood-preserving" process, for which Letters Patent of the United States, dated April 5, 1865, were granted to me. Lumber thus treated is rendered durable and safe against the depredations of worms and insects. With this lumber, or with any suitable lumber, in the form of planks or timber, I construct the levee, by putting down the planks or timber in sections of two or more pieces, either by driving into the earth, or by placing the section in position and then banking up the earth as may be necessary to hold the section in position. My invention applies particularly to the manner in which the planks are driven into the earth, especial provision being made to keep them in place and to guide them while being driven by guides or clamps attached to the portion of the levee already completed. In either way the sections can be rapidly placed in the earth and held in the required position, so as to fully secure the object I have in view.

In the drawing, A is the earth embankment. B is a section formed of planks and driven into the embankment, at this place this levee is complete with my improvement, and to which the other sections are made to conform. C is a section, the same as the other, which is ready to be driven down. Upon the top of this section there is a cap, D, with a groove in its under side, which groove encloses the top of the section in length and thickness. This cap D receives the blows which drive the section to its desired position, the cap at the same time keeping the section in line at the top as well as from spreading. This cap is portable, so that when a section has been driven home it is detached and used for the next, and so on. To secure the lower portion of the section C in place, the clamp E, fig. 5, is slipped on to it, the end extending on to the section B, which is already in position, as seen in fig. 1, represented in red lines. The other clamp F is now used to secure E in its place while the section C is being driven. This clamp F stands in an upright position when in use, as seen at fig. 1, in red lines. This clamp is slipped over the top of B and over the clamp E, when a screw, *a*, near the lower end of F, secures the ends of the clamp E to the section B, thus holding the lower portion of the section C in place while it is being driven into the earth. These two clamps may be combined in one; and as the principal feature of my invention consists in driving the planks or timbers in sections, and keeping them in position by clamping them to the part already driven, I do not intend to confine myself to this particular form of clamp. After the sections are driven, or as fast as they are placed in position, a rail, G, is firmly secured by

pins or bolts to the sections, as seen in the drawing. This rail may lap from one section to the next, so as to connect them together at the top; and a rail may be placed on each side. In some localities or situations it would be difficult, if not impossible, to drive the sections into the earth in the manner we have described. In such cases it would be necessary to dig a trench and place the section in position, and then throw up the embankment against it. I have provided for this difficulty by preparing a section to be secured in position in this way; fig. 6 represents this section. Fig. 7 is an end view; at the bottom end on each side are timbers, *h h*, firmly secured to the planks, and which keep the planks which form the section in place. These timbers are halved at their ends, so that they lap by each other, forming joints by which two of the sections are secured together by bolts or pins, as seen in fig. 8. The timbers *h h* form a strong anchor to the sections when the earth is banked up on each side, keeping them firmly in position. The top of these sections is secured by the rail G in the manner already described. This section is also designed to be employed in stopping crevasses and repairing the levee. In order to strengthen the levee and stiffen the sections after they are placed in position, I round one edge of each plank and hollow the other edge, so that one plank will fit into another, and so on successively. The edges of the sections are formed in the same manner, and united by the same kind of joint. This not only strengthens the levee, but a joint made in this manner is less likely to leak than a square joint. There are situations where it is very difficult to obtain dry and solid earth with which to make an embankment against my sections when placed as represented in the drawings. In such cases I support my sections by a brace, as represented in Figure 9, and in such situations I can use either kind of section which I have described.

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

1. I claim the employment of the removable cap D, substantially as and for the purposes herein shown and described.

2. I claim the employment of a guiding clamp, E, or its equivalent, in one or more parts, substantially as shown and described.

3. I claim the combination of one or more longitudinal timbers with the lower portions of the upright planks or timbers, substantially as and for the purpose herein shown and described.

LOUIS S. ROBBINS.

Witnesses:

WM. F. MCNAMARA,

ALEX. F. ROBERTS.