

R. S. LITTLEFIELD.  
 Dam and Pier.

No. 208,248.

Patented Sept. 24, 1878.

Fig. 1.

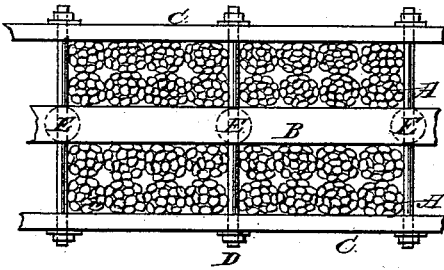


Fig. 2.

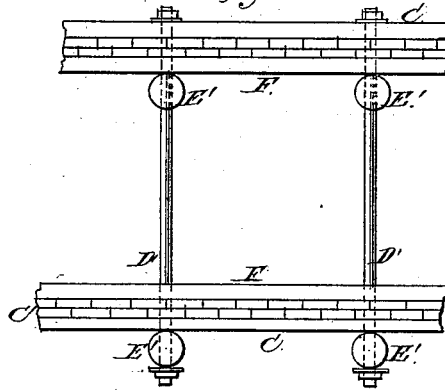


Fig. 3.

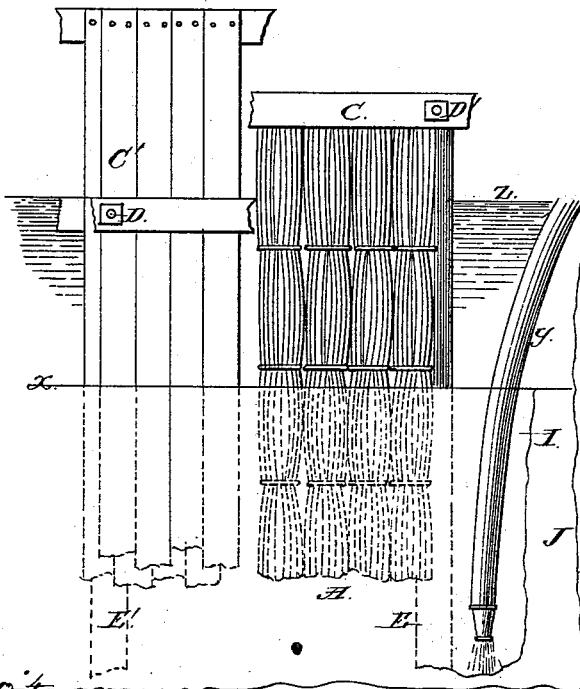
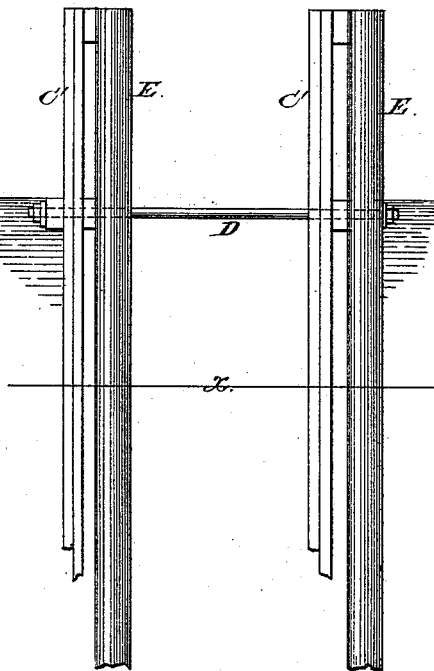


Fig. 4.



Witnesses:  
 J. S. Chapin  
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Inventor:  
 Roger S. Littlefield.

# UNITED STATES PATENT OFFICE.

ROGER S. LITTLEFIELD, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN DAMS AND PIERS.

Specification forming part of Letters Patent No. **208,248**, dated September 24, 1878; application filed April 11, 1878.

*To all whom it may concern:*

Be it known that I, ROGER S. LITTLEFIELD, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Dams and Piers, of which the following is a specification:

The nature of the present invention consists in a shore-protection composed of fascines set in the bed of a stream, and in a method of setting the same, which consists in first sinking a continuous trench of suitable depth in the bed of the stream by means of a force-pump, and setting the fascines as fast as the trench is cut, whereby each fascine set is packed solid in the water-bed by means of the earth removed in the continuation of the trench. I also set planks by the same method to form a tight water-wall. Fascines thus set are combined in any number of rows, and are sometimes combined with a row of piles, the whole being bound together by suitable binders, so as to form an elastic or solid mass, according to the filling employed.

The use of fascines in inclined or horizontal positions is admitted to be old, as is also the use of plank for face-walls; but as planks and fascines cannot be driven to suitable depths, the means of setting them is of great utility and value.

In the drawings, Figure 1 is a top view of a dam or shore-protection formed of fascines on my improved plan. Fig. 2 shows plank set in two rows (a top view) to form land and water front, to be filled with sand if the pier is to be solid, and left open if an elastic pier

is required. Fig. 3 is a broken side view of plank and fascines set to form a protection; Fig. 4, a transverse section of planking set on my plan and combined with piles and ties.

A represents fascines set in the bed of water, between which is a row of piles, E. The piles are capped at B, and the fascines A clamped together with binders C and rods D. The trench for setting the fascines is formed by a pipe, I, leading from a suitable force-pump. A hole is formed for the first fascine of a tier and the fascine set therein, and then the space shown at V, Fig. 3, is formed closely to it, and a second fascine set, the earth from the subsequent hole filling the space around the fascine previously set, and thus the work progresses till complete; or two or more rows can be carried forward to save the labor of moving the pump and material.

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

1. A shore-protection or dam composed of fascines A, set vertically in the earth beneath the water, and combined with binders C and tie-rods D, as and for the purpose set forth.

2. The method of setting fascines or piling, which consists in excavating the sand by a forcible jet of water, placing the pile or fascines therein, and then depositing the sand about the same by making the next excavation, substantially as set forth.

ROGER S. LITTLEFIELD.

Witnesses:

G. L. CHAPIN,  
A. G. MOREY.