S. B. Driggs.

Dam.

No. 69,416. Patented Oct. 1, 1867.

Fig. 2.

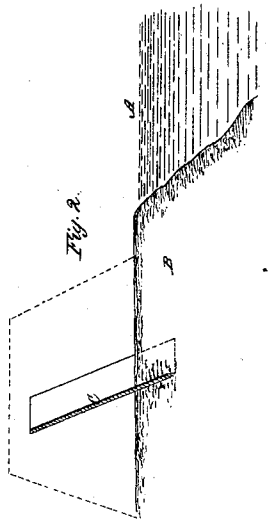


Fig. 4.

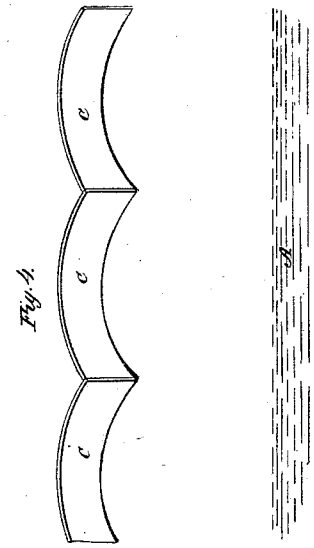


Fig. 1.

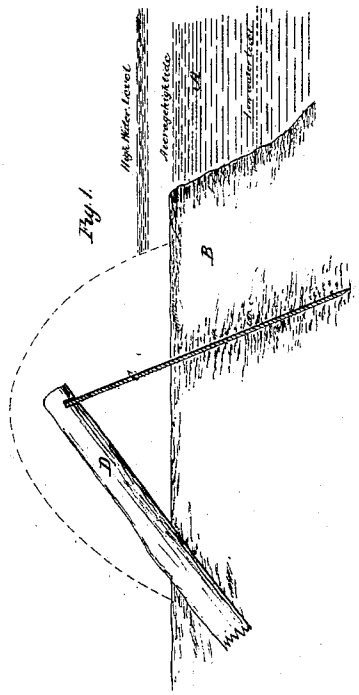
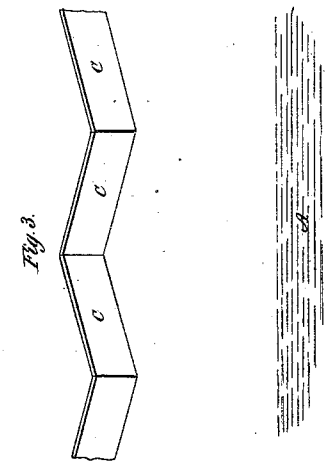


Fig. 3.



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United States Patent Office.

SPENCER B. DRIGGS, OF NEW YORK, N. Y.

Letters Patent No. 69,416. *dated October* 1, 1867.

IMPROVEMENT IN DIKES AND LEVEES TO RIVERS.

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, SPENCER B. DRIGGS, of the city, county, and State of New York, have invented a certain new and useful Improvement in Dikes and Levees to Rivers and other waters, applicable, also, to reclaiming marsh and swamp lands, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figures 1 and 2 represent transverse sections of a river course, with its bank or shore, and wall or dike thereto constructed according to my improvement, and

Figures 3 and 4 plans of the same.

Similar letters of reference indicate corresponding parts.

My invention has reference to the construction of levees on banks of rivers, bays, creeks, canal banks, dams, and other places or structures, in which earthen embankments are or may be used to prevent overflow or flooding of adjacent lands. The nature of my invention in this connection consists, in combination with an earthen embankment, of an iron wall, of novel construction, (as compared with that described in my patent of June 27, 1865,) made up of separate sections of cast iron, but of a continuous character, substantially as hereinafter described.

Referring to the accompanying drawing, in which A may be supposed to represent any tidal or other river, and B its bank, that is designed to restrict it to a certain rim or course, and protect in a measure the adjacent and lower lands from being flooded; the wall here referred to may be made of a series of metallic sections, C, of any suitable length. These sections I propose to press into or place in the earth, in a single or separate manner, one after the other, at a suitable distance from the river margin, with their end edges rabbeted or otherwise overlapping each other, in direction of the current, and in close contiguity, but dispensing with all objectionable packing at such junctions, and of such depth as will form an iron wall extending sufficiently below the natural surface of the ground, and project above the ground to above high-flood level or thereabouts, where the adjacent land is to be protected from the effects of tidal changes, levees on rivers, canal banks, dams, and other structures requiring different sizes and arrangements of said sections.

In applying the invention to the reclamation of lands, the sections may be inserted into the ground to the depth of the lowest low-water mark, as shown in fig. 1; but in applying it to the construction of levees, the sections need only be inserted deep enough into the ground to insure stability, as shown in fig. 2. These sections are inserted in the ground at an inclination away from the river, in an upward direction. They may be shaped or arranged so as to form a series of curves, corrugations, or zigzag structure, each plate overlapping the next in the direction of the current, substantially as represented in the drawing, whereby they brace or support each other, and compensate for expansion and contraction, and, in case of the earth on the river side of them being washed away, will better stand or remain in position to act as a wall. In some cases it will be sufficient merely to arrange the sections at an inclination, as described; in others, advisable to give them the zigzag arrangement or curved or corrugated form mentioned, and in others to embrace both features. Any mode of inserting said sections in the ground may be adopted. After insertion, they may be secured together, if desired, by clamps on their upper edges, and the better to brace and hold them in place beams, as at D, may be run into the ground, or footed on a sill parallel with the plates, in a diagonal direction, and made to bite or clip, at their outer ends, the upper edges of the sections, after which the whole upper exposed surface of the structure may be covered up or banked over by earth, as represented by dotted lines in the drawing. The sections C may be galvanized, painted, or otherwise coated, to protect them from rust.

A dike thus constructed, it will be seen, differs materially from the construction described in Letters Patent of the United States issued to me on the 27th day of June, 1865, not merely in dispensing with water-tight joints to the plates or sections, but in other respects. The utility of such a dike will be seen from the fact that it is not merely to protect against excessive water pressure or leakage through fissures or other like openings that the earthen embankment has combined with it an iron core, but to resist the insidious and destructive ravages to or of the embankment by cray-fish, rats, crabs, worms, and other borers, some or all of which infest different localities, and whose work, though small or slow in itself, is constant, and too frequently ends in the

establishment of crevasses, and destruction of crops, property, and occasionally lives—calamities of no unusual occurrence along the banks of the Mississippi river.

What I here claim as my invention, and desire to secure by Letters Patent, is—

1. The metallic wall or core, when arranged in a curved, corrugated, or zigzag form, substantially as and for the purpose set forth.

2. The metallic wall or core, constructed with lap-joints at the junction of the plates to compensate for expansion and contraction, and arranged at an angle to the horizon, in combination with the braces D, substantially as specified.

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