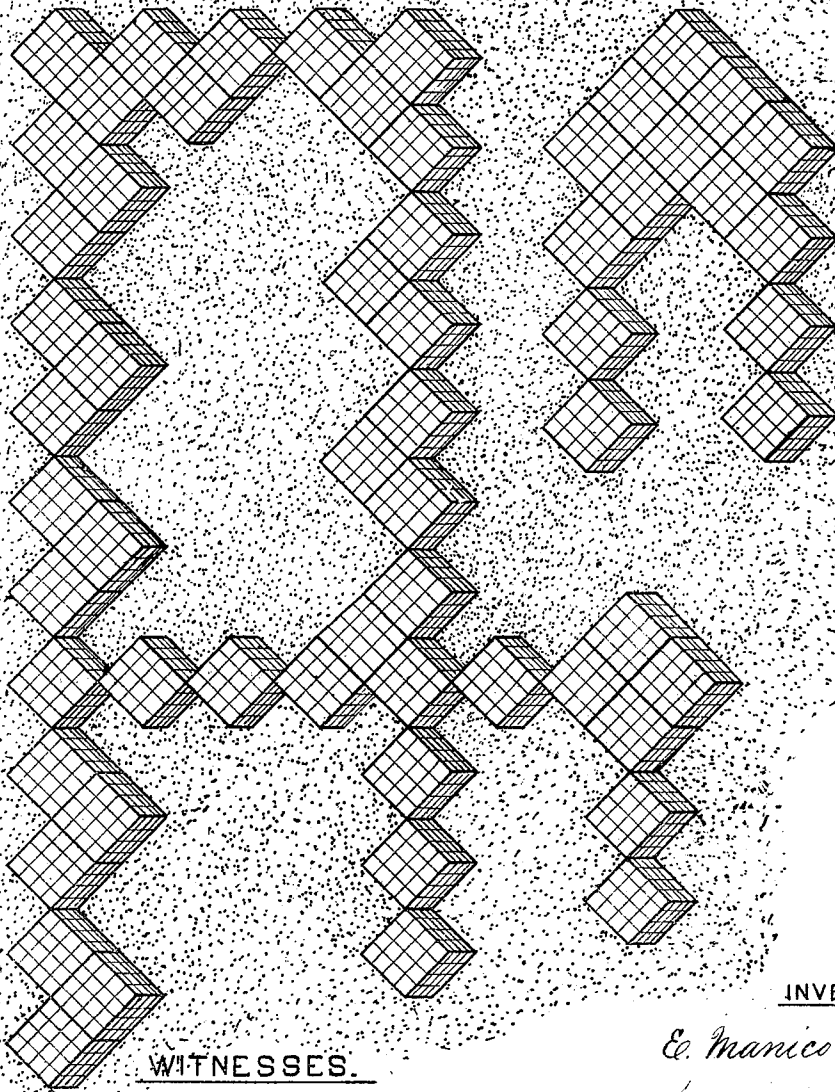


E. MANICO.
Submarine Foundations.

No. 141,283.

Patented July 29, 1873.



WITNESSES.

James C. Stiddell
C. H. Lemp.

INVENTOR.

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UNITED STATES PATENT OFFICE.

EDWARD MANICO, OF LONDON, ENGLAND, ASSIGNOR TO EMILE VERGNES,
OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN SUBMARINE FOUNDATIONS.

Specification forming part of Letters Patent No. **141,283**, dated July 29, 1873; application filed
August 2, 1872.

To all whom it may concern :

Be it known that I, EDWARD MANICO, of London, in the county of Middlesex and Kingdom of England, have invented certain improved means of raising sand or shingle covered by the tide to the level of high water and therewith forming embankments for the construction of sea-works, and also deepening channels, of which the following is a specification:

My invention relates to certain improvements upon the means of forming embankments for the construction of sea-works and of deepening channels, set forth in the specification to my Letters Patent of the United States of America, No. 73,617, now expired; the object of these improvements being to economize material and labor, while obtaining an equally efficient embankment.

In lieu of placing my cradles side to side when square-shaped, or dovetailing them into each other when suitably shaped for that purpose, as set forth in the above-mentioned specification, I propose to use only square or oblong cradles, and to place them edge to edge, strengthening the row thus formed by an additional cradle, set at the back or shore side of the row in every alternate recess formed by the diagonal position of the cradles.

In some cases I may find it sufficient to strengthen my row of diagonally-placed cradles by an additional cradle at longer intervals than each alternate recess.

When placed above low-water mark I may,

in some cases, clamp my diagonally-placed cradles together at the corners which are in contact.

The cradles will be made of wrought-iron bars interlaced, be partially filled with stones, and have brush-wood intertwined among the openings of the cradle, when such material or an equivalent is at hand; otherwise it may be dispensed with.

The embankment or sea-slope will be formed by the action of the tide, which, in its flux and reflux, will gradually fill my cradles with sand and shingle, and heap sand and shingle between the first and second row of my diagonally-placed cradles, and between every succeeding row which may be placed behind them, to raise the embankment to the required height, the slope from the upper tier to the lowest being a perfectly natural one.

I make no claim to the construction of open cradles; but

What I claim as my invention is—

1. The combination of the cradles edge to edge diagonally, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the rows of diagonally-placed cradles, of an additional cradle placed on the shore side of the row in each alternate recess, substantially as and for the purpose hereinbefore set forth.

E. MANICO.

Witnesses:

WILLIAM E. GEDGE,
WALTER P. R. MANLY.