(No Model)

F. M. IRONMONGER.

INTERCHANGEABLE BOARD WALK AND BREAKWATER.

No. 583,056. Patented May 25, 1897.

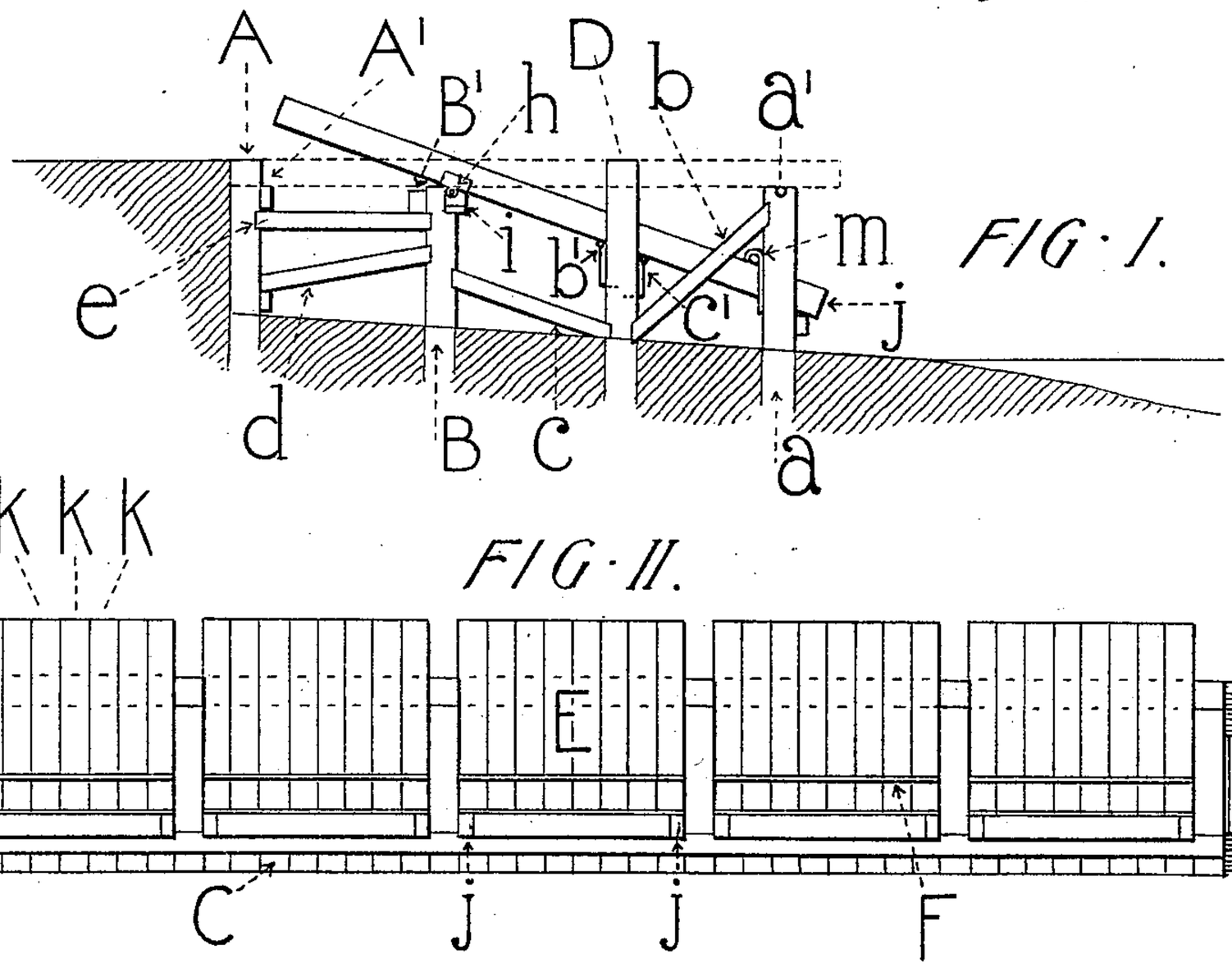

FIG. I.

FIG. II.

FIG. III

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INTERCHANGEABLE BOARD WALK AND BREAKWATER.

SPECIFICATION forming part of Letters Patent No. 583,056, dated May 25, 1897.

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To all whom it may concern:

Be it known that I, FRANCIS M. IRONMONGER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Construction forming a Combined Board Walk (boarded walk) and Breakwater; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure I is a side elevation and partial sectional view of a structure made according to my invention. Fig. II is an end elevation, and Fig. III a plan view of the same.

The object of my invention is to provide a practical construction for use on beaches at resorts and other places that will form, as may be desired or as occasion may require, a board walk for the pastime and diversion of pedestrians, or a breakwater by which the surf will be intercepted and encroachment and damage to the shore and property prevented. I attain this object by certain new and useful combinations of parts hereinafter fully described.

A is a sea-wall or equivalent structure in connection with which the interchangeable board walk and breakwater is to be used. On the seaward side of this wall I provide a ledge or abutment A′. Along this sea-wall I provide, side by side, a series of structures, each of which is constructed as follows: A is the sea-wall or the like. At its seaward side this has a ledge A′. Opposite the face of this, parallel therewith and at any suitable distance therefrom, I provide a row of piles B. At top these piles B should be connected by one or more cross-timbers B′, which not only serves to hold the piles in line, but also more conveniently provide for the support of superincumbent parts. Still farther seaward and at any proper distance from the piles B, I provide a second series of piles C, Fig. II. The end piles *a* of this last-mentioned series are higher than the others of this series and constitute posts. They are notched or recessed at their upper ends, as shown at *a′* in Fig. I. Intermediate between the series B and C are piles D. Upon the sides of the piles *a* are lugs or inverted hooks *m*, as shown in Fig. I. For mutual support and strengthening the intermediate pile or piles C may be braced from the piles B and the sea-wall A by oblique braces *b*, *c*, and *d* and horizontal braces *e*, as shown in Fig. I, or in any other appropriate manner.

E is a section or movable platform of wood or other suitable material and so proportioned and arranged that when brought to a horizontal position, as shown in the dotted outline in Fig. I, it will be practically flush with the top of the sea-wall. This section has pivotal connection with the top of the series of piles B—as, for example, by a transverse rod *h*, arranged transversely at its under side in such a way as to rest in suitable bearings *i*, provided to the piles B, preferably upon the cross-timbers B, as indicated in Fig. I—the section being thus pivotally supported upon the piles B so that it may be depressed at its outer or seaward end to bring the section into the inclined position represented in the full outlines of Fig. I, thereby to the extent of its surface sloping seaward, providing a breakwater, the section being also capable of being brought to the horizontal position just referred to, in which to the extent of its area it forms a board walk.

The section E is preferably formed of two side beams *j j*, between which is a series of planks *k k k*, &c. When the outer end of the section is depressed, it passes down between the end piles *a a* of the secondary series C until it is brought lower than the lugs *m* thereon. This done a bar or beam F, Fig. III, is placed underneath the lugs and above the adjacent part of the section, thereby preventing the latter from rising and firmly retaining the section in the inclined or sloping position in which it operates in a breakwater. To assist in the secure retention of thes ection in proper position, there are provided at the lateral edges of the latter any desired number of loosely-swinging hooks *b′ c′*, as illustrated in Fig. I, the lower ends of which are driven into the sides of or otherwise caused to engage with the end piles *a* of the series C. When the section is in this inclined position, its seaward part rests upon the top of those piles of the secondary series

which are between its end piles or posts *a*, as illustrated in Fig. I. To bring the section to the horizontal position in which it operates as a board walk, the removable beam F, Fig. III, is taken away from the lugs *m m*, Fig. I, and the adjacent end of the section is lifted until it is brought higher than the notches or recesses *a' a'* in the end piles *a*, whereupon the beam F or any suitable similar device is thrust across underneath the section until its ends rest in the recesses *a'* of the piles *a*, so that the beams support the outer portion of the section against superincumbent weight, thereby permitting its use as a board walk, &c. When in this position, the shoreward end of the section rests upon the ledge A' from the sea-wall, so that it is adequately supported against weight or pressure from above. In the full practice of my invention any desired number of the structures may be placed side by side along the sea-wall, so that when the sections are all horizontal they constitute a board walk or promenade, and so that when the sections are all inclined they constitute a breakwater outside of the wall to protect the wall or shore from the too forcible impact of the waves, the structures being thus capable of serving either purpose, as the demands of the season or other circumstances may require. The spaces (caused by the presence of the piles *a* of the secondary series C, Fig. II) between the sections may, when the sections are used as a walk or breakwater, be covered by temporarily-laid strips *r*, of wood, as shown in Fig. III.

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

1. In a combined walk and breakwater, the combination of a series of supporting-piles arranged at a suitable distance from the shore or sea-wall, to be protected with a section or platform pivotally supported upon said piles, means for retaining the section in an inclined position when the seaward end thereof is depressed, and means for supporting the section against superincumbent pressure when it is brought to a horizonal position whereby the section may to the extent of its area be used as a walk when horizontal, and to a like extent, as a breakwater when inclined, substantially as and for the purpose herein set forth.

2. The combination with a sea-wall or the like of a series of supporting-piles placed at a suitable distance from the wall, &c., a secondary series of piles, placed seaward from the piles, and having elongated end piles, *a*, a section or platform pivotally placed upon the supporting-piles and movable between the end piles, *a*, and a removable bar or beam, F, provided to be placed between the seaward portion of the section to support said parts against superincumbent weight when the section is used as a walk, substantially as herein set forth.

3. The combination with a sea-wall or the like, of a series of piles, B, connected at top by a cross beam or beams, B', and placed at a suitable distance from the wall, a series of secondary piles placed seaward from the piles and having elongated end piles, *a*, lugs or inverted hooks, *m*, *m*, placed upon said end piles and arranged to receive a bar or beam placed beneath said lugs or hooks and above the seaward part of the section, to hold the section in its inclined position when used as a breakwater, substantially as and for the purpose herein set forth.

4. The combination with a sea-wall or the like, of a series of supporting-piles, placed at a suitable distance therefrom, a second series of piles placed seaward from the section-supporting piles, and end piles provided with lugs or inverted hooks, *m*, *m*, a section or platform pivotally supported upon the supporting-piles and constructed and arranged to pass its seaward end between secondary piles when depressed, and a removable transverse beam or bar, the whole constructed and arranged to retain the section in either its horizontal or its inclined position according as it is used as a walk or a breakwater, substantially as herein set forth.

5. The combination with a sea-wall or the like, having a ledge along its seaward face, a series of supporting-piles placed at a suitable distance therefrom, a section or platform pivotally supported upon said piles, a secondary series of piles placed seaward from the supporting-piles and arranged to receive the seaward end of the section when said end is depressed and means for retaining said end in its depressed position to insure stability of position when the section is used as a breakwater, substantially as herein set forth.

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Witnesses:
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