(No Model.)

J. M. CORNELL.

DOCK.

No. 379,861. Patented Mar. 20, 1888.

Fig. 1.

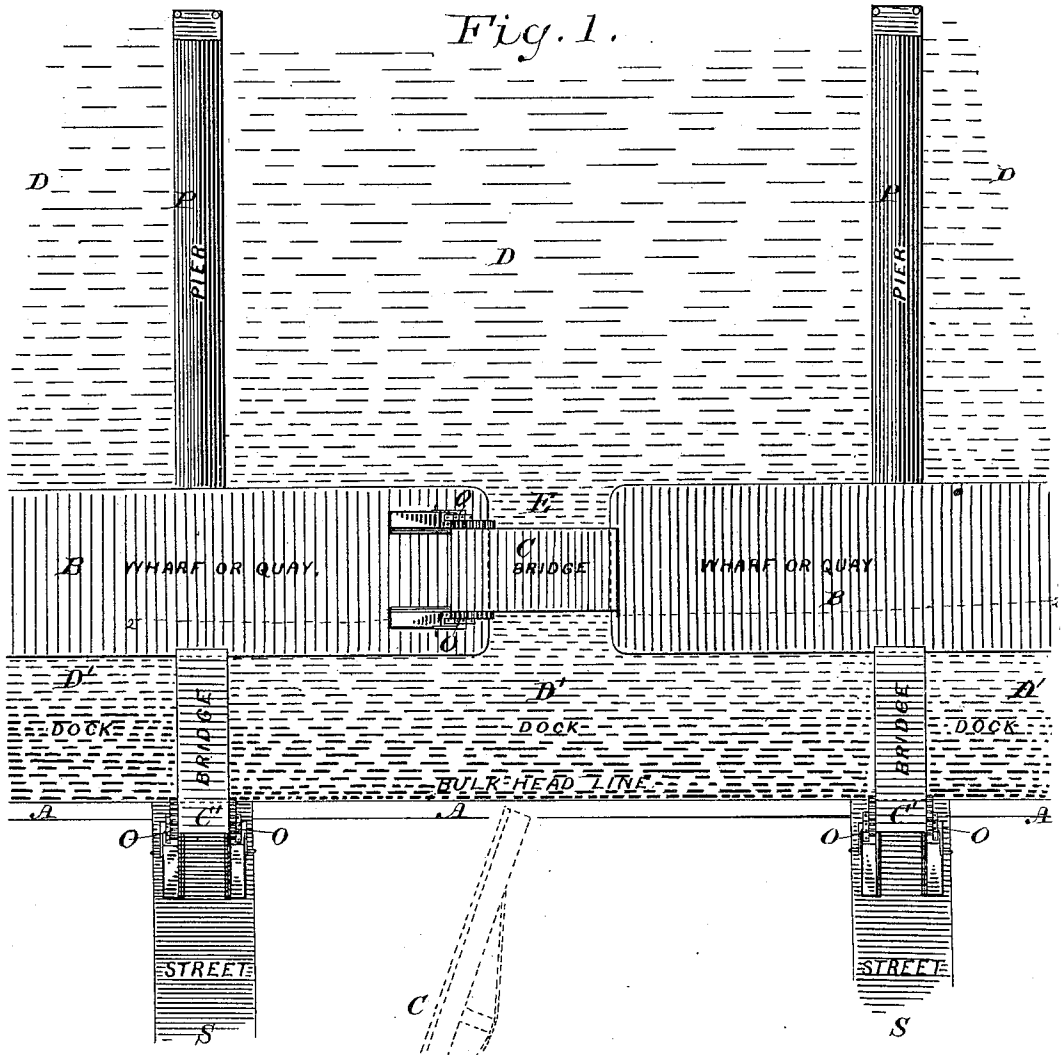
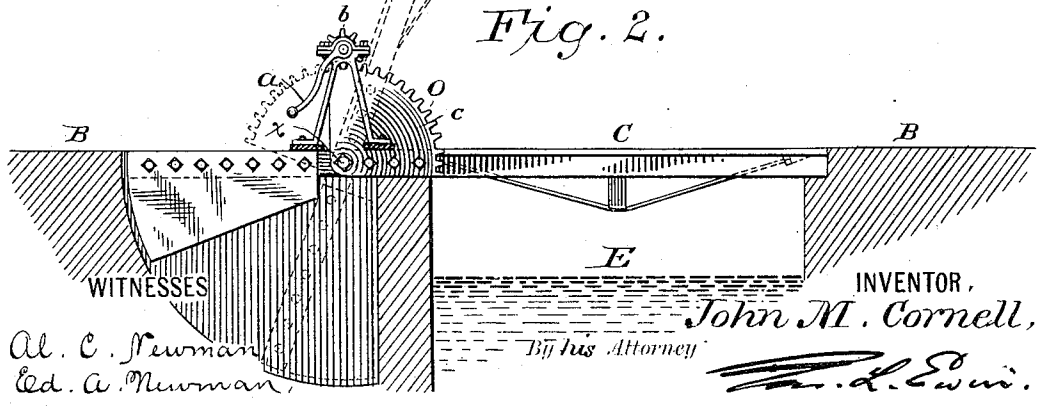


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN M. CORNELL, OF NEW YORK, N. Y.

DOCK.

SPECIFICATION forming part of Letters Patent No. 379,861, dated March 20, 1888.

Application filed December 15, 1887. Serial No. 258,001. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. CORNELL, a citizen of the United States, and a resident of New York, in the State of New York, have invented a new and useful Improvement in Docks, of which the following is a specification.

The present invention relates to those docks which are formed in connection with wharves or quays and piers along river, lake, or harbor fronts, for the accommodation of vessels loading, discharging, or waiting for cargoes and passengers. Its object is to materially increase the dock area available in connection with a given length of bulk-head or sea-wall.

This invention consists in certain novel combinations of wharves or quays, bulk-heads or sea-walls, and bascule bridges, or other suitable draw-bridges, as hereinafter set forth and claimed, whereby said object is effected.

A sheet of drawings accompanies this specification as part thereof. Figure 1 of these drawings is a fragmentary plan view of a system of docks, illustrating this invention. Fig. 2 represents a vertical section on the line 2 2, Fig. 1, showing one of the draw-bridges in elevation on a larger scale.

Like letters refer to like parts in both figures.

A A, Fig. 1, may represent an ordinary bulk-head or sea-wall, of wood or stone, extending continuously along a river-front, lake-front, or harbor-front, with a sufficient depth of water alongside the same for dock purposes.

B B represent successive sections of an outer bulk-head or sea-wall, parallel or substantially parallel to said bulk-head or sea-wall A, distant therefrom, say, thirty-five (35) feet, and each of sufficient width and area to constitute a serviceable wharf or quay, say, forty (40) feet wide.

P P, Fig. 1, represent piers, of wood, iron, or stone, projecting outward from the respective wharves or quays B, at mid-length and in line with streets or approaches S.

In addition to the ordinary slips or docks, D, Fig. 1, between the piers P, to which latter ocean steamships and the like may make fast, I thus provide a series of docks, D′, extending continuously alongside the bulk-head or sea-wall A, of sufficient capacity for schooners and other smaller vessels, with entrances E—say thirty (30) feet wide—between the successive wharves or quays; and, owing to the location of the dock-entrances midway between the piers, they are not liable to be obstructed by vessels lying at or approaching or leaving the piers.

Communication between the respective wharves or quays and between each of the latter and the streets is afforded by draw-bridges C C′. Bascule bridges are represented as a preferred kind of draw-bridge for this use; but any suitable kind may be employed. Operating mechanism O, of any approved kind, for the respective bridges completes the arrangement. By way of example I have represented hand-cranks *a*, Fig. 2, working pinions *b*, the latter mounted in fixed frames and meshing with sector-racks *c*, bolted to the edges of the bridges concentric with their pivots *x*. (These parts are shown disproportionally large for clearness.)

By simply lifting any of the draw-bridges which may be in the way, vessels may be admitted to any section of the docks D′, and from one section to another, so that they may load or unload at the bulk-head A at any desired point, and may pass along the same from point to point without incurring the loss of time and extra hazard incurred in leaving and re-entering the outer docks, D, to clear the piers.

Instead of a single pier at mid-length, two or more piers may abut on each wharf or quay, and other like modifications will suggest themselves to those skilled in the art.

Having thus described my said improvement in docks, I claim as my invention and desire to patent under this specification—

1. The combination, substantially as herein specified, of a continuous bulk-head or sea-wall and a sectional outer bulk-head or sea-wall substantially parallel with the former, its respective sections constituting wharves or quays, the same forming a continuous dock or series of docks along said continuous bulk-head, with entrances thereto between said wharves or quays.

2. The combination, substantially as herein specified, of a continuous bulk-head or sea-wall, a sectional outer bulk-head or sea-wall substantially parallel with the former and separated therefrom by a continuous dock or se-

ries of docks, and piers projecting outward from the respective sections of said outer bulk-head or sea-wall at mid-length, for the purposes set forth.

3. The combination, substantially as herein specified, of a continuous bulk-head or sea-wall, a sectional outer bulk-head or sea-wall, substantially parallel with the former and separated therefrom by a continuous dock or series of docks, piers projecting outward from the respective sections of said outer bulk-head or sea-wall, and draw-bridges provided with suitable operating mechanism and spanning the dock-entrances between said sections, and also spanning said continuous dock in line with the respective piers, for the purpose set forth.

JOHN M. CORNELL.

Witnesses:
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