

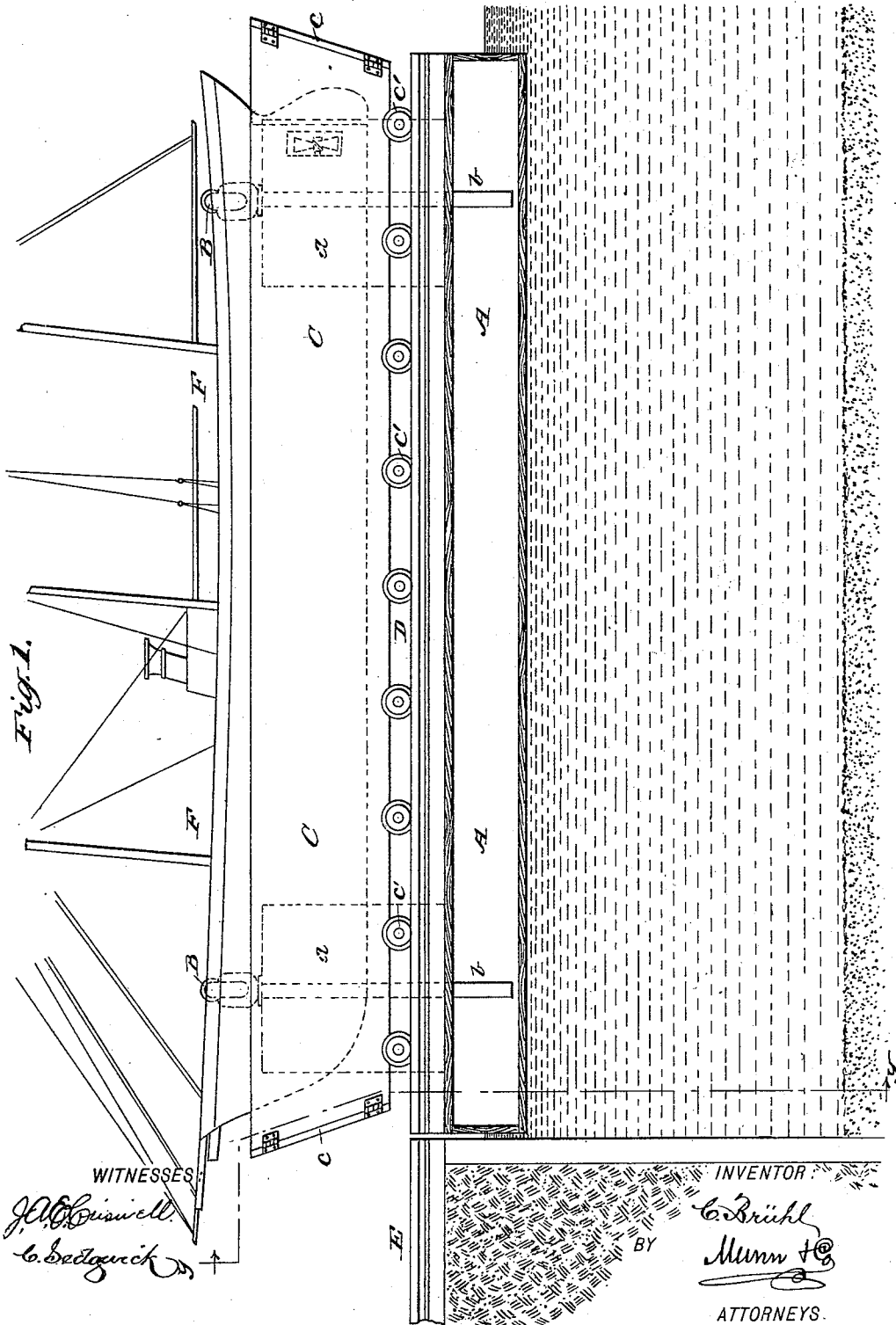
(No Model.)

2 Sheets—Sheet 1.

C. BRÜHL.
VESSEL TRANSPORTING APPARATUS.

No. 467,079.

Patented Jan. 12, 1892.



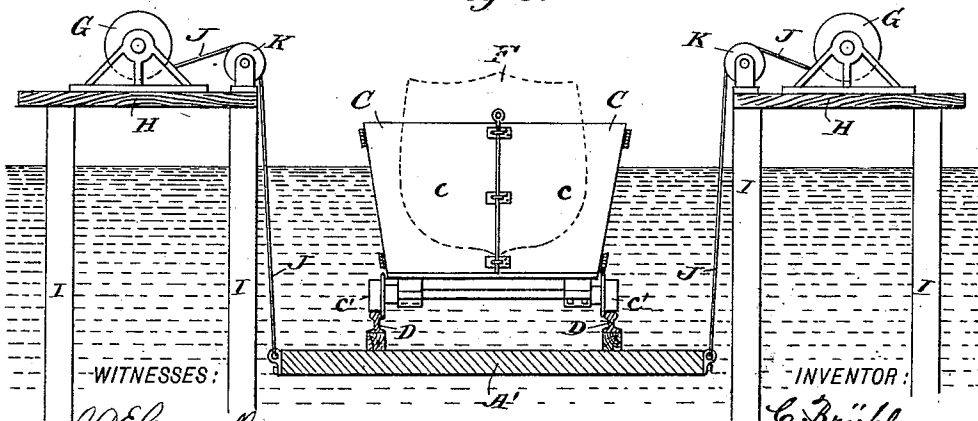
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Fig. 3.



WITNESSES:

J. E. Griswell,
C. Sedgwick

- INVENTOR.

C. Brühl
Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

CHRISTOPHER BRÜHL, OF BROOKLYN, NEW YORK.

VESSEL-TRANSPORTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 467,079, dated January 12, 1892.

Application filed July 8, 1890. Serial No. 358,034. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER BRÜHL, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Vessel-Transporting Apparatus, of which the following is a full, clear, and exact description.

My invention relates to an apparatus for transporting vessels overland from one water-way to another, or over an isthmus, to shorten voyages, and has for its object to provide a simple and efficient apparatus of this character by which a vessel of any size may be lifted bodily from one water-way and moved overland while afloat to the other water-way and launched thereon, and all without injurious strains on the vessel or its cargo and with economy of time and labor.

The invention will first be described, and then will be particularly pointed out in the claims hereinafter set forth.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improved vessel-transporting apparatus with a vessel afloat in the dock-carriage, which is lifted to the level of the land-railway, the float being in vertical longitudinal section on the line x x in Fig. 2. Fig. 2 is a vertical transverse section of the apparatus and vessel, taken on the line y y in Fig. 1; and Fig. 3 is a transverse vertical sectional view of the apparatus, showing a modified form of dock-carriage platform and the dock-carriage lowered into position either to receive or discharge a vessel.

Where the water is deep enough to admit of its use, I prefer to employ a hollow pneumatic lifting dock or caisson A, of the usual or any approved construction and shown with opposite side trucks a a , which sustain the pumps B, and their suction or feed pipes b , by which the caisson is freed from water to make it available by its pneumatic power or air lifting force to raise the caisson, and a dock-carriage C, which is preferably mounted on series of wheels c' , running on suitable tracks D on the caisson and adapted to align with railway-tracks E at either terminus of a rail-

way constructed over an isthmus or land intervening between two oceans or water-ways on which a vessel F, floated in the dock-carriage C, is to sail.

I prefer to supplement the lifting-power of the pneumatic caisson or dock A by hoisting mechanisms of any suitable character arranged at each side of the caisson. I show for this purpose powerful hoisting-drums G, which are set upon floorings or supports H, sustained above the level of the water by piles I or other suitable foundations erected in or on the river or harbor bottom. The hoisting ropes or cables J, which run from the drums G, pass over guide pulleys or sheaves K on the flooring H and extend down to the opposite sides of the pneumatic caisson A, to which they will be made fast in any suitable manner. The caisson is preferably provided at opposite sides with anti-friction guide pulleys or sheaves a' a' , which ease and steady the vertical movements of the caisson and its floating dock-carriage. The series of hoisting-drums may be operated simultaneously by any suitable power connections not necessary to show or describe.

I make the dock-carriage C sufficiently large to tightly hold ample water to float the largest vessel F employed. To assure docking the vessel easily and quickly and also for launching it again, I provide the ends of the carriage C with doors or gates c , which may be the full width of the carriage and will be swung open to admit or discharge the vessel, and when closed will be locked by any suitable bolts or fastenings to retain the water in the carriage for floating the vessel therein while in transit overland.

Instead of using the pneumatic lifting dock or caisson A, I may use a simple strong platform A', on which to lay tracks D for sustaining the wheeled dock-carriage C, and in this case the hoisting ropes or cables J will be connected to opposite sides of the platform and will be depended upon for lifting the dock-carriage with or without the vessel to the level of the land-railway terminus. The particular advantage of this platform A' over the caisson A is that it may be used in shallower water with good results.

The operation of my invention is very simple and effective. When a vessel F reaches one terminus of the land-railway E, the dock-carriage C will be lowered after its end doors 5 c next the vessel are opened, and when it is at proper depth the vessel will be run into the carriage and the doors c will then be closed behind it, and the vessel may then be steadied by fenders f at either side. The caisson A, 10 or it may be the platform A', will now be raised by the pumps and hoisting-gearing, either alone or in conjunction, until the tracks D, on which the dock-carriage C rests, are level with the tracks E of the land-railway, 15 whereupon the carriage will be run off of the caisson or platform onto these tracks D, and thence overland with the floating vessel in it to the other side of the isthmus or to the other water-way, where a like caisson or platform A 20 or A' will also be stationed, and when the dock-carriage is run off the land-railway onto this caisson or platform it will be lowered until the water-level in the dock-carriage C is at the same height as the water-way, and 25 the outer end doors c of the carriage will then be opened to allow the vessel F to be drawn from it and launched upon the water-way.

It will be seen that by my improved apparatus a vessel is lifted bodily from one water- 30 way and is floated while being transported overland and is launched again into the farther water-way without breaking or shifting cargo or straining the ship and with economy of time and labor.

35 Any suitable engines or motive power may be used to draw the vessel-loaded dock-carriage over the land-railway, as will readily be understood.

Any suitably-constructed land-roadway be-

tween the two water-ways and on which road- 40 way the vessel-floating-dock carriage may be drawn overland would be the substantial equivalent of the preferred track railway shown and described.

Having thus described my invention, I 45 claim as new and desire to secure by Letters Patent—

1. A vessel-transporting apparatus comprising a land-railway and a dock-carriage for receiving a vessel and floating it while in 50 transit over said railway, substantially as described.

2. A vessel-transporting apparatus comprising a land-railway and a dock-carriage having end gates or doors for receiving a ves- 55 sel and floating it when the gates are closed and while in transit over said railway, substantially as described.

3. A vessel-transporting apparatus comprising a land-railway, a dock-carriage for re- 60 ceiving and floating a vessel, a float or platform beneath the carriage, and means for adjusting the float or platform to bring the carriage to the railway-level, substantially as 65 described.

4. A vessel-transporting apparatus comprising a land-railway, a dock-carriage for receiving and floating a vessel, a pneumatic float or platform beneath the carriage, pumps emptying the float of water, and auxiliary 70 mechanism adjusting the float and carriage to the level of the railway, substantially as described.

CHRISTOPHER BRÜHL.

Witnesses:

GEORGE DEEKER,

GEORGE PRITTING.