

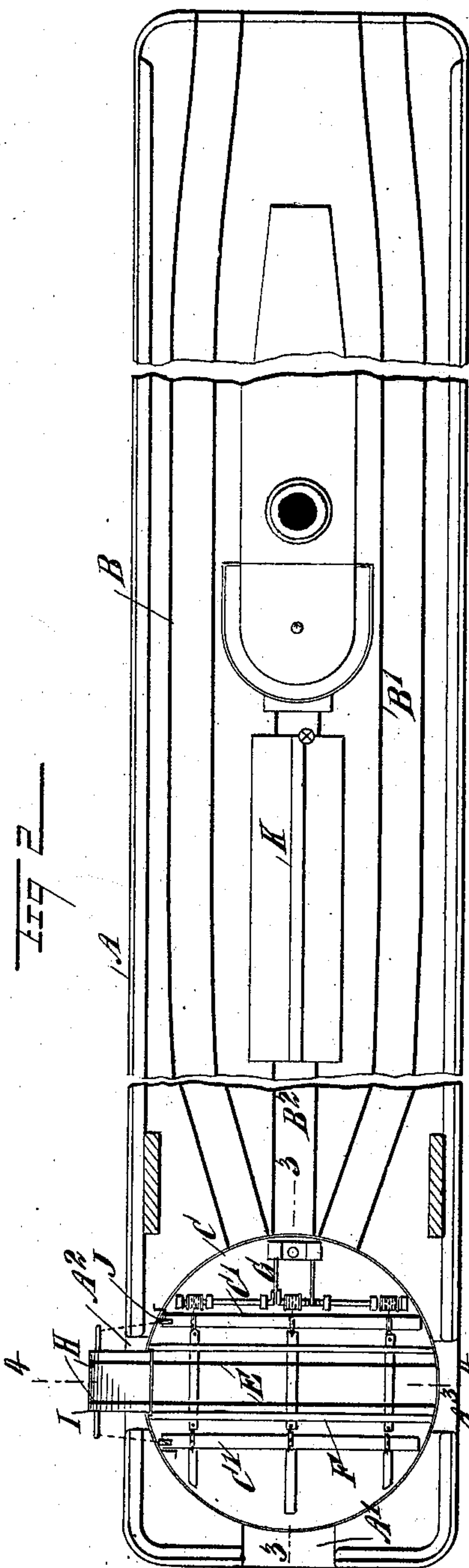
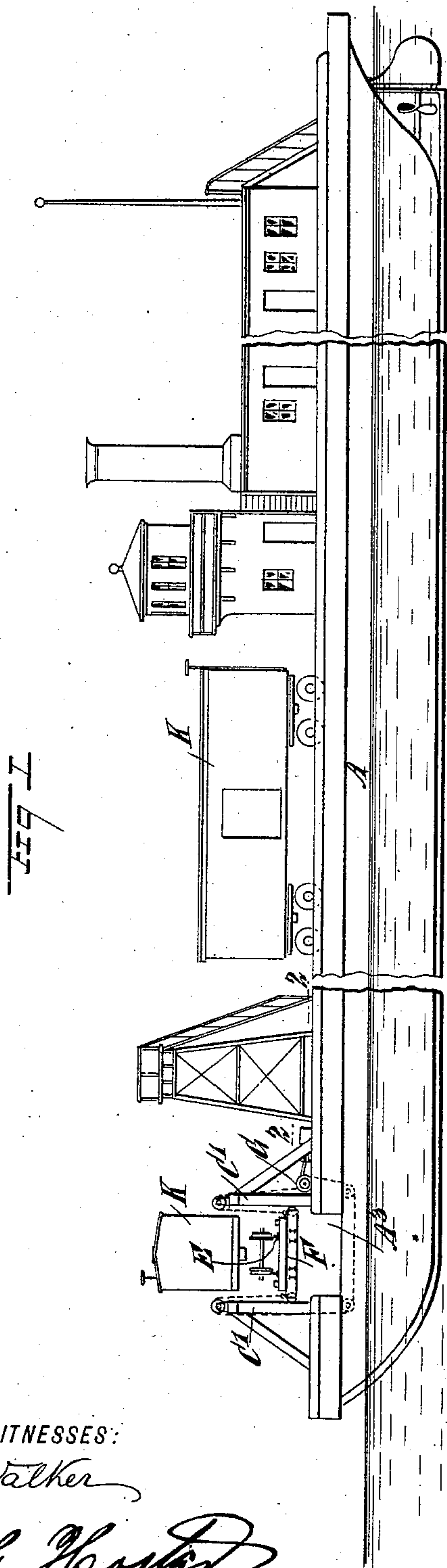
(No Model.)

2 Sheets—Sheet 1.

W. G. BERG.
TRANSFER BOAT.

No. 576,941.

Patented Feb. 9, 1897.



WITNESSES:

H. Walker

Thos. G. Hester

INVENTOR

Walter G. Berg

BY

Munn & Co

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig 3

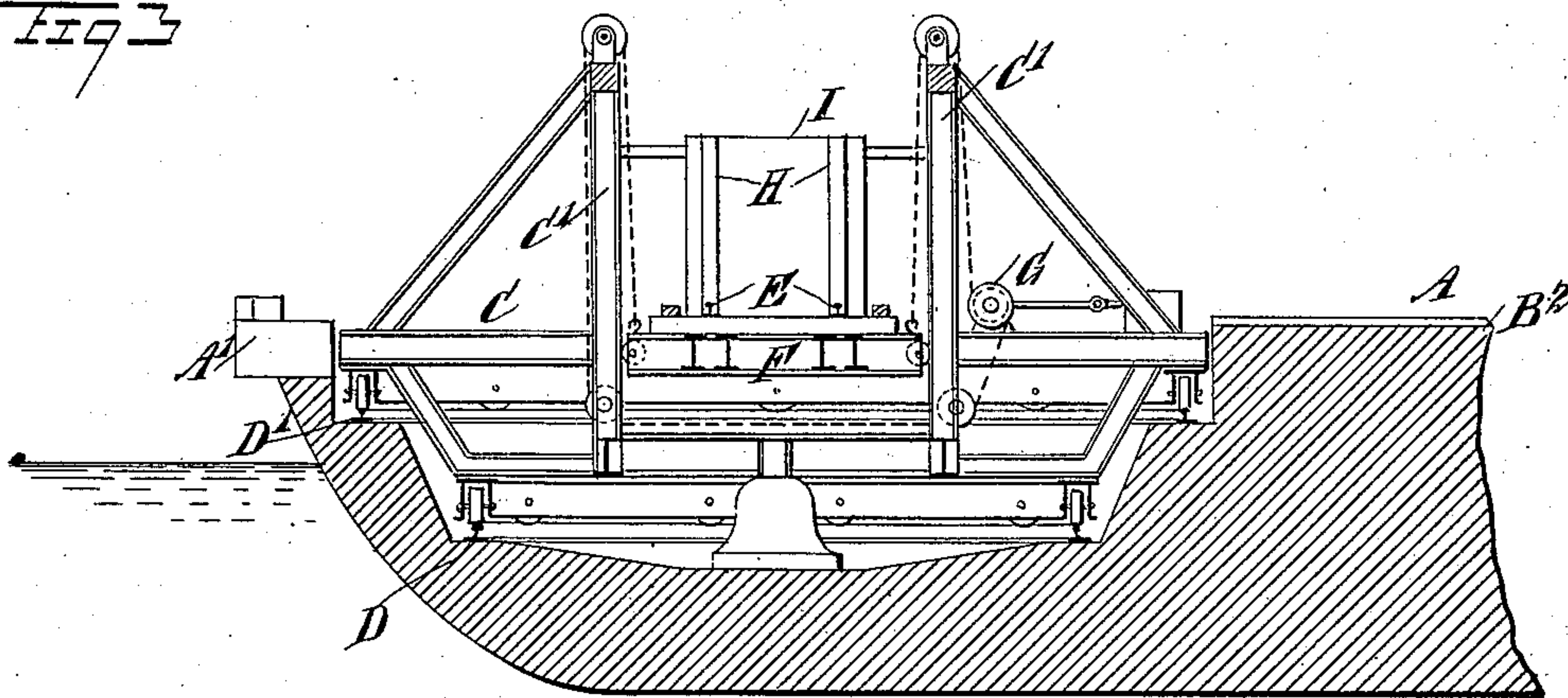


Fig 4

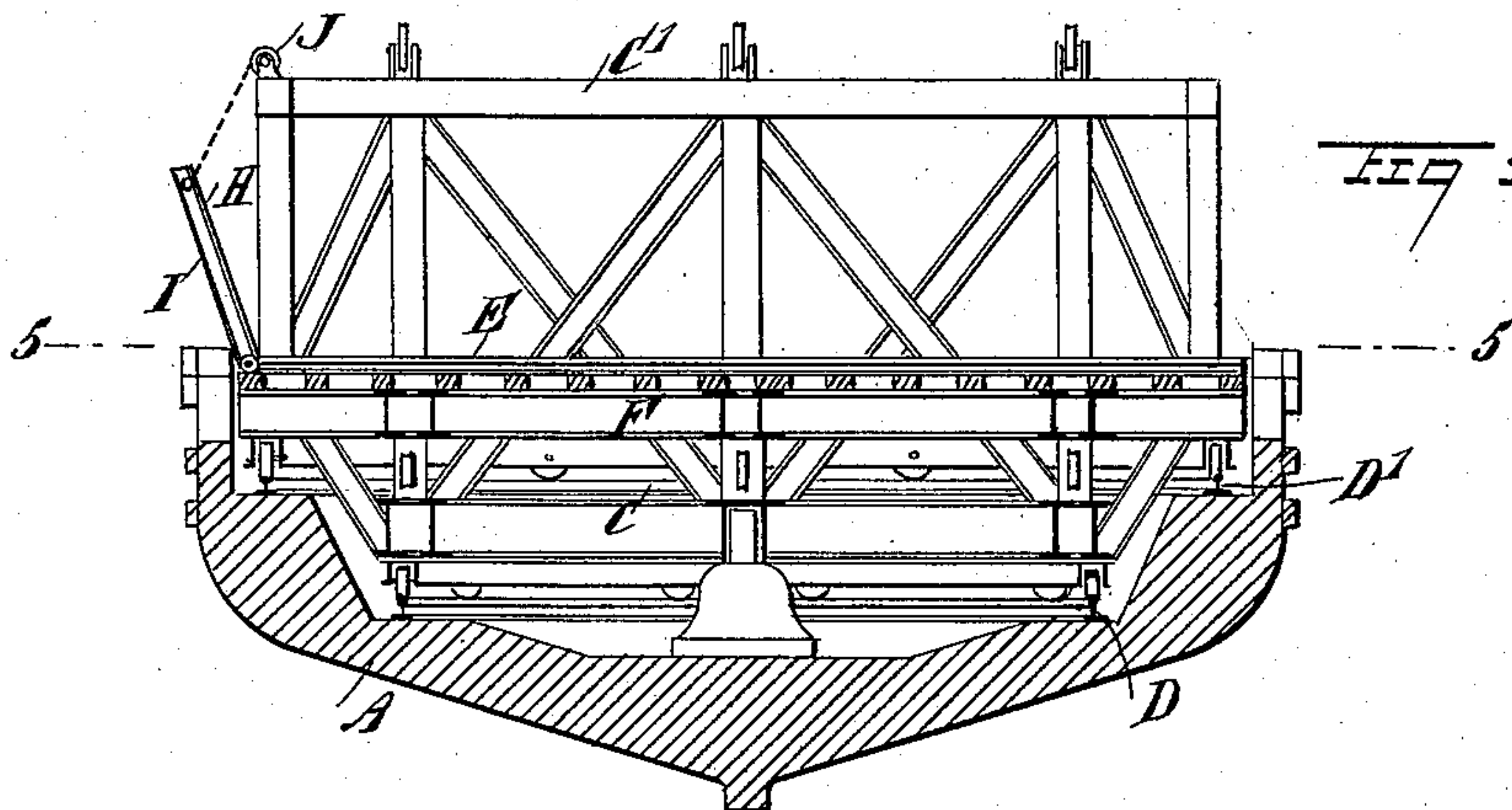
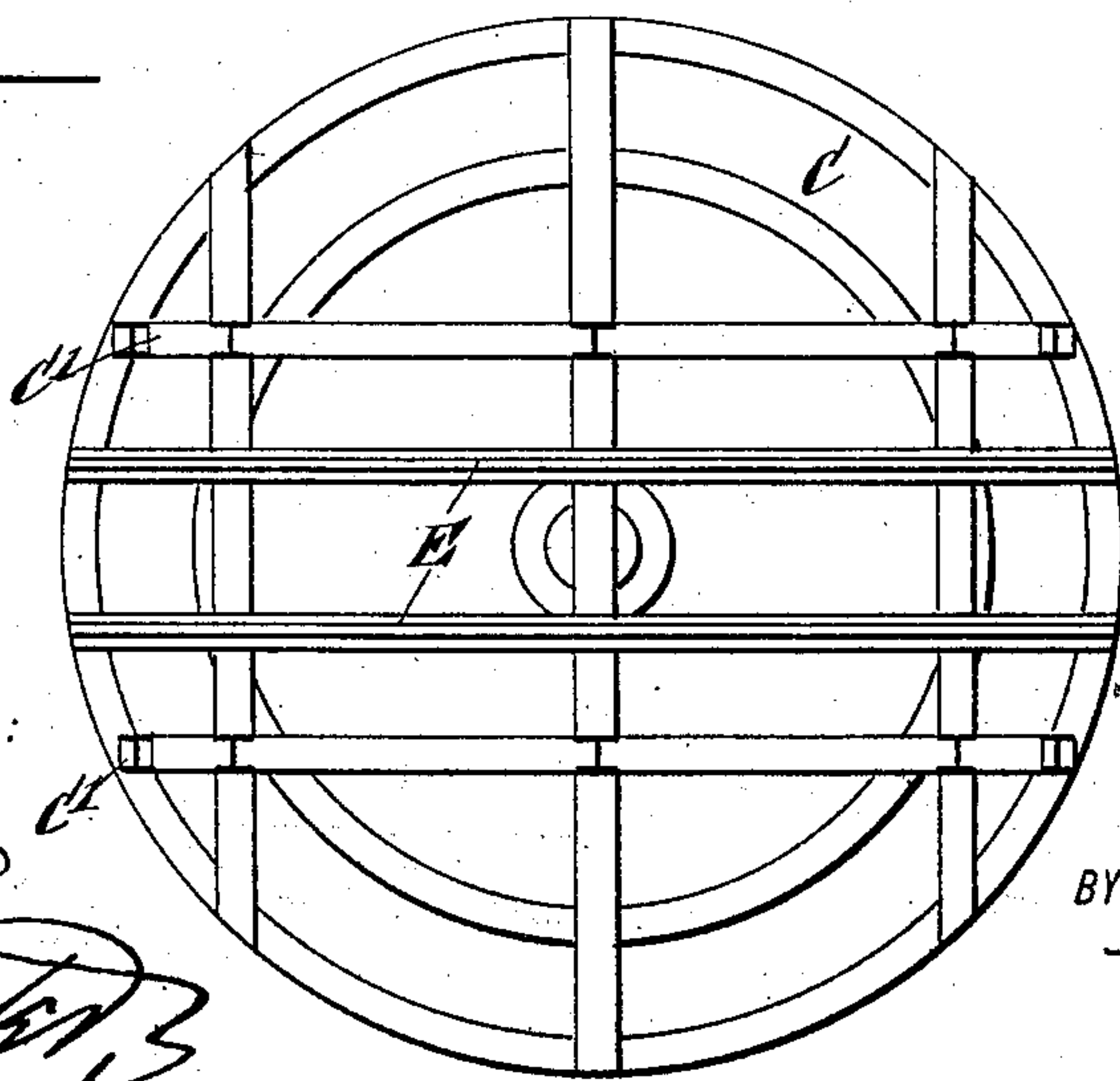


Fig 5



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UNITED STATES PATENT OFFICE.

WALTER G. BERG, OF NEW YORK, N. Y.

TRANSFER-BOAT.

SPECIFICATION forming part of Letters Patent No. 576,941, dated February 9, 1897.

Application filed November 22, 1895. Serial No. 569,806. (No model.)

To all whom it may concern:

Be it known that I, WALTER G. BERG, of New York city, in the county and State of New York, have invented a new and Improved Transfer-Boat, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved transfer-boat designed for transporting railroad-cars or other vehicles across or along rivers, harbors, lakes, canals, or other waterways, and arranged to permit of readily transporting the car or other vehicles from the boat to a pier or landing, or vice versa, irrespective of the variations in the height of the different piers or landings relatively to the boat, the level of the latter changing according to its load and the fluctuations of the water-level, the boat being also arranged to deliver the cars without breaking bulk directly to their destination in the yards, piers, warehouses, &c., located at various points along the water-front without requiring transfer-bridges, cradles, inclines, or other expensive permanent transfer structures to be built at such points.

The invention consists principally of a boat provided with a vertically-movable platform arranged to permit of running a car or other vehicle upon the platform and raising or lowering the car or vehicle according to the difference in height between the pier or landing and the boat.

The invention also consists of certain parts and details and combination of the same, as will be fully described hereinafter and then pointed out in the claims.

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

Figure 1 is a side elevation of the improvement. Fig. 2 is a plan view of the same with part in section on the line 2 2 of Fig. 1; Fig. 3, an enlarged sectional side elevation of part of the improvement on the line 3 3 of Fig. 2. Fig. 4 is a transverse section of the same on the line 4 4 of Fig. 2, and Fig. 5 is a sectional plan view of the turn-table on the line 5 5 of Fig. 4.

In delivering car-load freight to consignees situated along a water-front, as heretofore practiced, two methods were usually followed.

By one method it was necessary to first run the cars from the railroad terminus over a transfer-bridge upon an ordinary transfer-boat, and then the boat was towed by a special tug-boat to a local freight-station, at which the cars were transferred ashore by means of another transfer-bridge, or more generally where the boat was moored alongside the pier or bulkhead at the freight-station and the freight then unloaded by hand. In either case the consignee had to call for the freight at the freight-station and cart it to his yard or warehouse. By the second method, as heretofore practiced, the cars were run upon a track next to the water on a pier or bulkhead at the railroad terminus, and then the freight was transferred upon a lighter, which was towed by a tug-boat to a local freight-station or directly to a pier or bulkhead used by the consignee, and then the freight was unloaded over the string-piece. In either case two handlings of the cargo were necessary, and in the first case the consignee had to cart the freight from the local freight-station, while in the second case the freight, after being unloaded from the lighter over the string-piece on the dock alongside the lighter, had to be moved back, as a rule, to a more convenient place in the consignee's yard or warehouse. Thus by the systems heretofore in use it required lighterage and a double handling of the freight, with the possibility of a third handling, to stow the freight properly after delivery by the lighter on a dock alongside the lighter, or it required the cartage of the freight from a local freight-station by the consignee, and a handling of the freight at the station by the railroad company. Furthermore, considerable difficulty was experienced in unloading freight by the difference in the level between the piers and the boat, owing to the fluctuations of the water-level and the position of the boat in the water, due to its load. Furthermore, certain classes of freight are liable to receive more or less injury by rehandling after being safely stowed in the car at the shipping-point.

Now in order to avoid the above-mentioned difficulties and deliver the freight in a car directly and promptly to the consignee in his yard, warehouse, or pier situated at or near the water-front, without handling the freight

in transit and without requiring much space on the consignee's property and only a small outlay on his part is the object of the invention presently to be described in detail.

5 As shown in the drawings, I employ a flat, wide, and long boat A, carrying on its deck several lines of railroad-tracks B, B', and B², of which the latter is mostly used as a shunt or switch track for a purpose hereinafter
10 more fully described. The tracks B B' run from one end of the boat, along the deck thereof, to a suitable turn-table C, mounted at the other end of the boat, as is plainly illustrated in Figs. 1 and 2. The switch-track B² like-
15 wise runs to this turn-table C and extends a suitable distance in the middle of the boat to permit of transferring one or more cars from either track B or B' by means of the turn-table C upon the said switch-track. The
20 turn-table C is mounted to turn on one, two, or more circular tracks D D', arranged in the hold of the boat A, at one end thereof, as is plainly illustrated in Figs. 3 and 4. A track E, held on the top of a platform F, carried by the
25 turn-table C, is adapted to be moved in register with any of the tracks B, B', or B², on turning the turn-table correspondingly, so as to permit of running a car from any of the side tracks onto the track E, or from the lat-
30 ter upon any of the tracks B B' B².

The platform F is adapted to be raised or lowered on the turn-table C by means of a suitable hoisting mechanism actuated by a
35 hoisting-engine G, held on the top of the turn-table C, or other suitable source of power. The chains, ropes, or the like used for raising or lowering the platform F pass over pulleys journaled in the upper part of a truss-
40 work C', built on the turn-table C and forming a guideway for the platform F. The track E is adapted to register with a track H, held on an apron I, pivoted on one end of the platform F and adapted to be swung up or down by means of a suitable hoisting de-
45 vice J, held on the trusswork C', as indicated in Figs. 2 and 4. This apron I, when swung into a horizontal position to bring the tracks H and E in horizontal alinement, makes the connection between the turn-table and the
50 track on the pier or bulkhead to which the car is to be run. Suitable adjustable appliances are provided for making a proper connection with the rails of the track ashore and for holding the boat firmly to the pier while
55 transferring a car.

Now it is understood that in order to transfer the freight-cars K from a railroad terminus at the water-front to a pier or bulkhead situated at another point along the water-
60 front it is necessary to run said cars first upon the tracks B and B', after which the boat A steams to a pier on which all or some of the cars are to be transferred, and when the boat A arrives at such pier then the first car on
65 either track B or B' next to the turn-table C is run upon the track E, the latter being then in its position in horizontal alinement with

the tracks. When this has been done and the height of the pier varies from the level of the tracks on the boat, then the platform F, 70 with the car thereon, is raised or lowered, as the case may be, so as to bring the track E in horizontal alinement with the tracks on the pier, after which the apron I is swung down into a horizontal position to make a direct 75 horizontal connection between the track E and the track on the pier or bulkhead.

Now if the car is alongside the pier and the track thereon runs at right angles to the boat A, then it is necessary to turn the turn-table 80 C and bring its track E and the car thereon into a right-angular position relatively to the longitudinal axis of the boat, as indicated in Fig. 2, to establish connection between the pier-track and the track E on the platform 85 by means of the apron I. Thus it will be seen that the car on the platform F can be turned, according to the position of the track, on the pier or bulkhead and can be raised or lowered, according to the difference in the 90 levels of the pier or bulkhead and the deck of the boat A. The boat A next to the turn-table C is provided with a long cut-out portion A' and side cut-out portions A² and A³, into which the apron I can be lowered to es- 95 tablish connection between the pier and the track E at the time the pier and the deck of the boat are at the same level or the pier lower than the deck of the boat.

By the arrangement described the car can 100 be run off from the boat either at the front or from either of the sides, according to the relative position of the boat alongside the pier.

It is understood that cars can be transferred from the pier to the boat in the reverse 105 order from that above described.

Now it will be seen that by the arrangement described the cars are taken on board at the railroad terminus in one string over the usual form of transfer-bridge, cradle, or 110 incline, or singly via the special mechanical appliance for that purpose on the boat, and then the latter proceeds on its trip around the harbor, stopping to put off cars on the short stub tracks provided at the various 115 yards and business establishments along the water-front. The boat on its return-trip takes on outgoing cars or empty cars to deliver the same via the transfer-bridge, &c., to the railroad company at the railroad ter- 120 minals.

It is understood that any suitable form of power or mechanical appliance for turning the turn-table C or for raising or lowering the platform F or swinging the apron I up and 125 down can be used to accomplish the desired end.

By having the turn-table more than one track can be used on the boat and a car can be turned at right angles or at any angle to 130 the line of tracks on the boat and be delivered to the pier over the side of the boat instead of over the end of the boat. Furthermore, by the use of the turn-table any desired

car in the string of cars on a track can be unloaded at the pier, it being understood that the cars on that track standing in front of this car to be taken from the boat are transferred by the turn-table to the switch or side track B², and then the desired car is run by the turn-table and platform to the pier. Suitable means may be employed for moving the cars from the tracks over the platform and from the latter to the pier, or vice versa, also proper blocking devices for temporarily holding the car while on the platform.

I do not limit myself to the special construction of any of the parts enumerated, as they can be greatly varied without deviating from the spirit of my invention.

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

1. The combination of a turn-table, a platform held to turn therewith and vertically movable in relation thereto, and an apron hinged to said platform at the periphery thereof, substantially as described.

2. The combination of a turn-table, and a platform held to turn therewith and capable of independent vertical movement without changing its original angular position relatively to a horizontal plane, substantially as described.

3. A boat provided with a turn-table, a plat-

form held to turn therewith and movable vertically in relation thereto while remaining substantially horizontal, and an apron hinged to said platform and held to turn as well as to rise and fall therewith, substantially as described.

4. The combination of a turn-table, supports held to turn therewith, a platform suspended from said supports and capable of being moved bodily in a vertical direction, and a hoisting device connected to the platform, substantially as described.

5. The combination of a turn-table, supports held to turn therewith, a platform suspended from said supports and capable of being moved bodily in a vertical direction, an apron hinged to said platform at the periphery thereof, and a hoisting device connected to the platform, substantially as described.

6. The combination of a turn-table, supports held to turn therewith, a platform carried by said supports so as to turn with the turn-table, the said platform being also bodily movable in a vertical direction relatively to said support, and a hoisting device connected to the platform, substantially as described.

WALTER G. BERG.

Witnesses:

THEO. G. HOSTER,
A. A. HOPKINS.