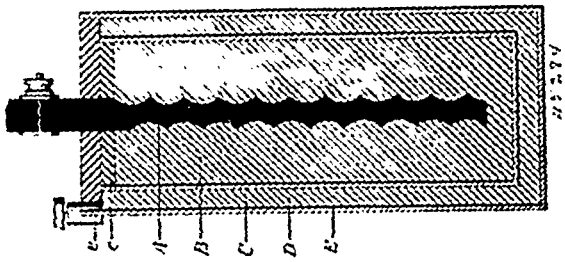
flow of air, but no valve for stopping the flow of steam through the same, substantially as described. 2nd. A steam vacuum water tank having all its inlets and outlets water sealed, substantially as specified. 3rd. The combination of the tank, the inlet therefor, the discharge pipe, the steam inlet, and the spray reservoir and connections, a valve in the water discharge pipe adapted to open when steam is admitted to the tank to discharge the water past said valve, and a dome above the valve into which a certain quantity of water is forced during the passage of water through the pipe, so that when the valve closes, the water from the dome will fall into the space about the valve, and be retained there by the valve forming a water seal for the water discharge pipe, substantially as described. 4th. The combination of the vacuum water elevator, the discharge pipe therefor, a reserve tank, a valve controlling the passage of water through the discharge pipe or into the reserve tank, and an outlet for said reserve tank, substantially as specified. 5th. The combination of the vacuum water elevator, the discharge pipe therefor, a reserve tank, a valve controlling the passage of water through the discharge pipe, or into the reserve tank, said valve being controlled by the water in the reserve tank, so that when the reserve tank is full the communication with the tank will be closed, and when the water in the tank is low the valve will be opened and water will discharge into the tank, substantially as described. 6th. The combination of the discharge pipe, the vacuum tank to which it is connected, a reserve tank, said reserve tank having a contracted upper portion, an opening in the discharge pipe through which water may pass into the reserve tank, a valve in said pipe, and a float in the contracted portion of the reserve tank controlling the valve, substantially as described. 7th. The combination of the vacuum tank, the discharge pipe therefor connected to a goose neck hanging over a track, a steam pipe adapted to be connected to the steam supply pipe of a locomotive or tender, and connected directly to the vacuum tank, a reserve tank mounted above the level of the track so that the water will flow from said tank to the tender by gravity, a valved opening in the discharge pipe of the vacuum tank, a handle for operating said valve, whereby on opening the valve water in the reserve tank will flow through the goose neck by gravity, an opening in the discharge pipe above the said valved opening through which the water from the vacuum tank will flow into the reserve tank, with a valve controlling the flow of water either through the opening or through the discharge pipe and a float operating the said valve, substantially as described. 8th. The combination of a tank, a spray reservoir, water supply and outlet for the tank, with an air seal communicating with the tank and the spray reservoir, said air seal being beyond the suction limit of the tank, substantially as described. 9th. The combination of the tank, the water inlet and the water outlet therefor, a steam supply pipe entering the tank at the top, a spray reservoir, pipes forming communication between the spray reservoir and the upper and lower portions of the tank, and extending beyond the suction limit of the tank, substantially as described. 10th. The combination of the tank, inlets and outlets therefor, a reservoir, pipes d and d^1 forming the communication between the reservoir and the tank, and extending below the suction line of the tank, with a point d^2 on one of said pipes so that the pipes can be driven into the ground, substantially as described. 11th. The combination of a vacuum tank, the water inlet and outlet therefor, a steam inlet pipe adapted to be coupled to a steam generator, and a water seal device in said steam pipe, substantially as specified. 12th. The combination of a vacuum water tank, steam inlet pipe having a loop extending below a water level, an opening in the base of said loop, and a valve for said opening which will close on the passage of steam through the pipes, and will open when steam is cut off and allow water to flow into the loop, thereby making a water seal for the pipe, and preventing the admission of air to the tank through the pipes, substantially as described. 13th. The combination of the vacuum tank, the steam inlet therefor, a check valve in said steam inlet pipe, a steam exhaust pipe communicating with the tank, and a steam actuated valve closing said pipe when steam is turned into the supply pipe, said valve allowing the steam to escape through the steam exhaust pipe when the live steam is cut off, substantially as described. 14th. The combination of the tank, the steam supply pipe therefor, an exhaust pipe entering the tank, a valve casing said pipe while steam is entering the tank, and a series of outlets connected with said pipe, arranged at different levels in the tank, substantially as described. 15th. The combination of the tank, the steam supply pipe therefor, the steam exhaust pipe, a valve closing said pipe when steam is entering the tank, a manifold connected with the exhaust pipe, and a series of pipes depending from the said manifold, said pipes being of different lengths and open to receive steam from the tank when the steam supply is cut off, substantially as described.

No. 45,284. Galvanic Battery. (*Batterie galvanique.*)

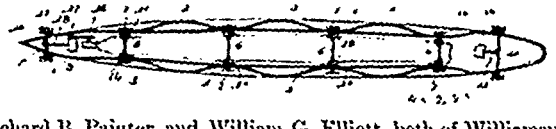
Harry T. Johnson, New York, State of New York, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. In a dry battery, the combination of a containing cup or cylinder forming the positive electrode, a semi-solid filling within the same, and a negative electrode having an uneven surface embedded in said filling, substantially as shown and described. 2nd. In a galvanic battery, the combination of a cup-shaped positive electrode, a porous diaphram or cup within the same, a semi-solid mixture containing an excitant between the same and said positive electrode, a negative electrode surrounded by said porous diaphragm, and having an uneven surface, and a semi-solid filling between the surface of the electrode and said diaphragm, substantially as shown and described. 3rd. In a dry battery, the combination of a containing cup or cylinder forming the positive



electrode, a semi-solid filling within the same, comprising the exciting and depolarizing agents of the battery, and a negative electrode transversely corrugated or ribbed to form an uneven surface, such corrugated or ribbed portion of the negative electrode being embedded in said semi-solid filling, substantially as shown and described.

No. 45,285. Ship. (*Navire.*)



Richard B. Painter, and William G. Elliott, both of Williamsport, Pennsylvania, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. The combination with the hull of a vessel provided with arches or cavities formed therein at intervals along its side, and adapted to be covered by a shutter and provided with removable hatches, of a series of transverse shafts arranged coincident with the cavities and terminating in the same, propellers carried by the shafts, and means for operating the shafts, substantially as specified. 2nd. The combination with a vessel provided at intervals along its side with arches or cavities, of a series of transverse shafts arranged coincident with and terminating in the arches, propellers mounted on the shafts within the arches, and front and rear propeller-carrying shaft arranged at each side of the bow and stern of the vessel, propeller-wheels arranged upon the outer ends of the front and rear shafts, the blades of said wheels being twisted, and means for operating the transverse and the front and rear shafts, substantially as specified. 3rd. The combination with the hull of a vessel, the sides of which are provided with cavities, of a series of propeller-carrying shafts arranged coincident with and terminating in the cavities, front and rear shafts arranged at the bow and stern, respectively, means for operating the same and the transverse shaft, twin propeller-wheels mounted upon each of the front and rear shafts, said wheels having their blades spaced apart and arranged in annular series, the blades of one series alternating with those of the other, substantially as specified. 4th. The combination, with a vessel, a series of transverse shafts arranged therein and extending from its sides, and front and rear shafts carrying propeller-wheels, of a rear engine for operating the rear shafts, the front engine for operating the front shafts, an electric motor arranged adjacent to each of the transverse shafts, a dynamo connected therewith and connections between the front engine and the dynamo and from the dynamo to the motors, substantially as specified. 5th. The vessel, having an inner wall combined with an outer wall, compoundly curved and at intervals contacting with the inner wall of the vessel, forming a series of water-tight compartments, and between the same a series of caves, propellers arranged in the caves, and cans for operating said propellers, substantially as specified. 6th. The combination, with the vessel having an inner wall and an outer wall compoundly curved and alternately contacting with the inner wall, thus forming a series of water-tight compartments and intermediate arches, of transverse shafts terminating in the arches, propellers carried by the shafts and means for operating the shafts, and an outer wall for removably covering the arches, substantially as specified.

No. 45,286. Brake for Railroad Cars. (*Frein de chars.*)

Ogden W. Dean, Chicago, Illinois, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. The combination, in braking apparatus, of the power lever, the brake levers and the lifting devices, with an equalizing lever joined at its centre to the power lever, at one end to the brake levers and at the other end to the lifting devices, substantially as set forth. 2nd. The combination, with the power lever, the brake levers and the lifting devices, of the lever C^1, a connection between the power lever and said lever C^1, joined to the latter near its centre, a connection from one end of said lever C, to the brake levers and a connection from the other end thereof to the lifting devices, substantially as specified. 3rd. In devices for lifting the car, the