A. GAFFNEY.

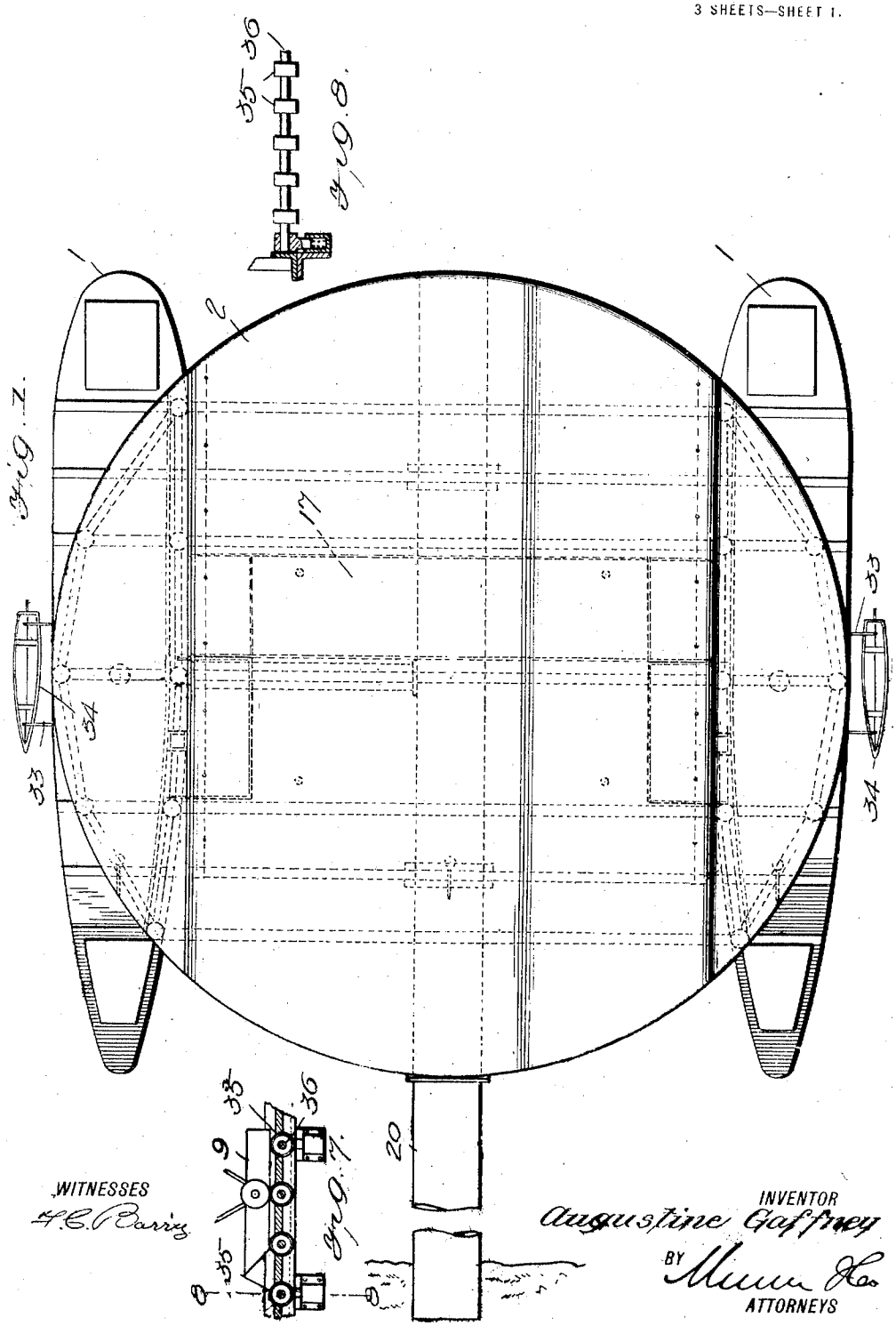
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APPLICATION FILED DEC. 1, 1917.

1,334,445.

Patented Mar. 23, 1920.

3 SHEETS—SHEET 1.



WITNESSES

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INVENTOR

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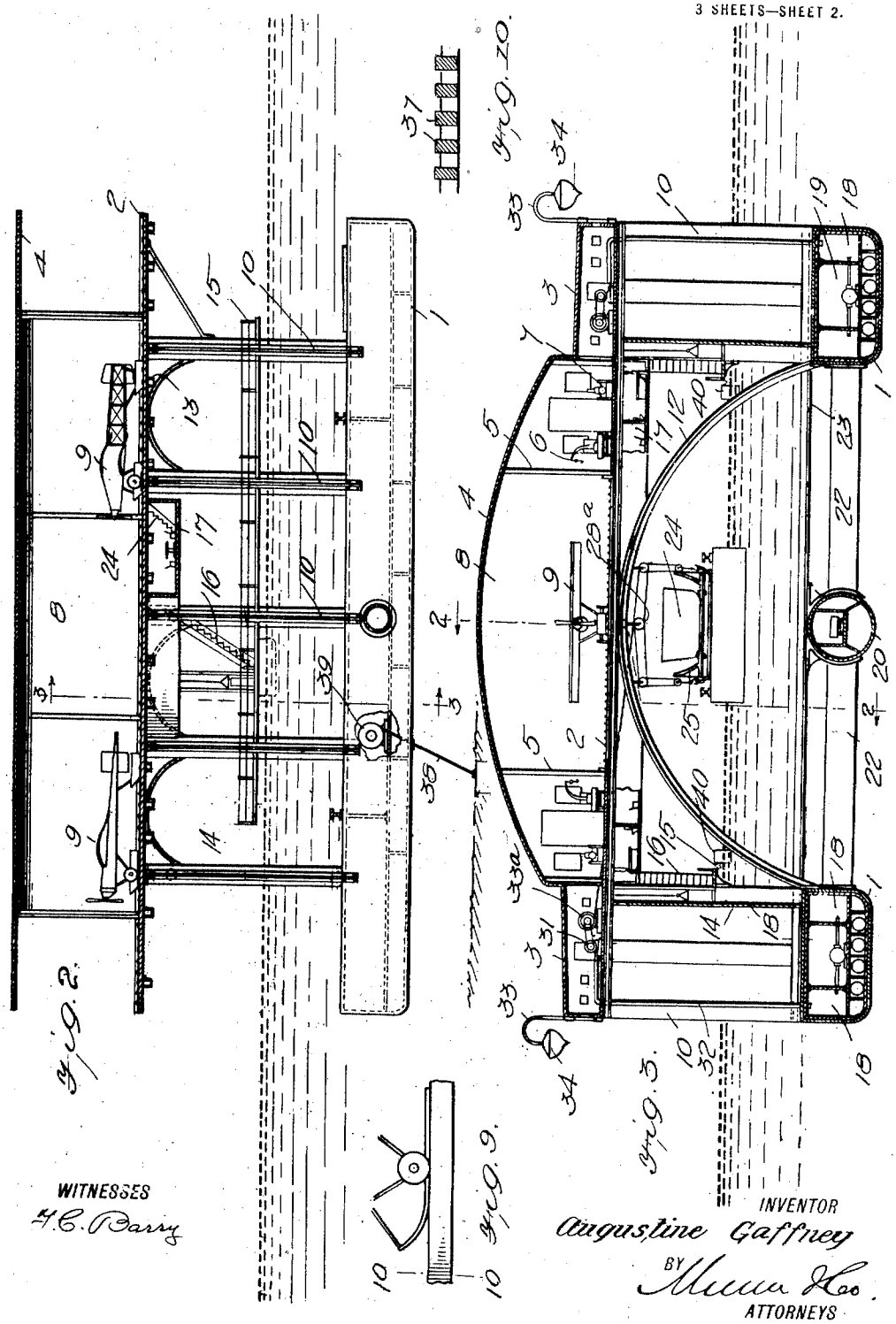


Fig. 2.

Fig. 20.

Fig. 3.

Fig. 9.

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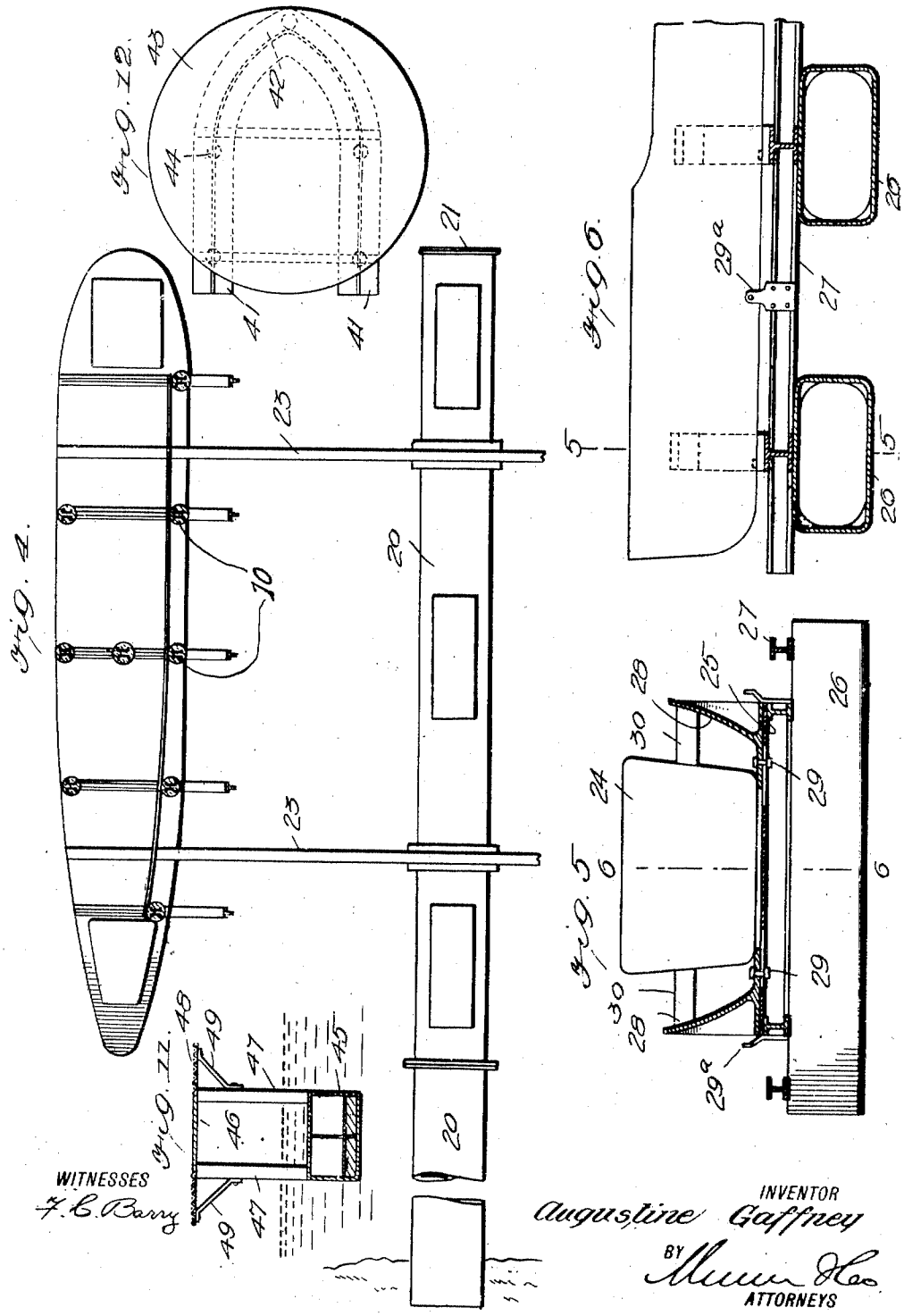
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UNITED STATES PATENT OFFICE.

AUGUSTINE GAFFNEY, OF NEW YORK, N. Y.

LANDING-STAGE FOR VESSELS AND LAND-VEHICLES.

1,334,445. Specification of Letters Patent. Patented Mar. 23, 1920.

Application filed December 1, 1917. Serial No. 204,977.

To all whom it may concern:

Be it known that I, AUGUSTINE GAFFNEY, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Landing-Stages for Vessels and Land-Vehicles, of which the following is a specification.

My invention is an improvement in landing stages for air vessels, naval vessels, merchant vessels, gasolene and electric driven cars of every character, containing power plant for propelling landing stage, for submerging the landing stage, for the hoisting of airplanes, patrol boats and cargoes, operating means for the repair of aero vessels and naval vessels, lighting, wireless telegraph, long distance telephone, searchlights, winches, guns and the like; also for operating railroad cars.

In the drawings:

Figure 1 is a top plan view of the improved landing stage;

Fig. 2 is a section on the line 2—2 of Fig. 3;

Fig. 3 is a section on the line 3—3 of Fig. 2, both views looking in the direction of the arrows adjacent the line;

Fig. 4 is a top plan view of one of the pontoons, the landing tunnel and connections;

Fig. 5 is a section on the line 5—5 of Fig. 6;

Fig. 6 is a section on the line 6—6 of Fig. 5;

Fig. 7 is a sectional view through the mechanism for aeroplane landing;

Fig. 8 is a section on the line 8—8 of Fig. 7;

Fig. 9 is a view similar to Fig. 7, showing a modified construction;

Fig. 10 is a section on the line 10—10 of Fig. 9;

Fig. 11 is a transverse vertical section of a modified construction; and

Fig. 12 is a top plan view of another modified construction.

In the embodiment of the invention shown in Figs. 1 to 11, inclusive, a pair of pontoons 1 is provided, which are arranged in spaced parallel relation, and are connected by a superstructure which they support. This superstructure consists of a deck or platform 2 of circular form, which is provided at each side with a decked-in compartment 3, the said compartments being covered over by an arched cover 4, the said cover extending between the compartments 3.

This roof or cover, as shown in Fig. 3, is supported at each side of the center of the platform by columns 5, and at the opposite sides of the platform between the columns and the compartments 3 may be arranged cranes, indicated at 6, for a purpose to be presently described, and guns, indicated at 7, for defending the landing stage.

The space 8 beneath the cover or roof and between the columns 5 and which opens at each end of the cover as shown more particularly in Fig. 2, is a hangar or landing stage for aerial vessels indicated at 9. This platform 2 is supported from the pontoons by columns 10, and the pontoons are connected, and the central portion of the platform is supported by arch beams 12. These arch beams extend from one pontoon to the other, the ends being secured to the pontoons, while the central portion engages the under side of the platform 2.

The platform itself is further supported by cross bars 13, which extend transversely of the platform between the pontoons. Elevators 14 are provided, leading from the compartments 2 to the pontoons, and these elevators communicate with landing stages 15 arranged on the inner faces of the inner row of columns 10, and the said stages communicate also by means of companions 16 with staterooms arranged just below the platform 2 and supported by the platform and the columns. These staterooms 17 may be of any usual or desired construction and arrangement.

The pontoons are designed to contain ballast tanks 18 for containing air or water, to lift or submerge the pontoons, and each pontoon contains a central longitudinally extending compartment 19 for holding supplies such, for instance, as oil, gasolene, fresh water and other supplies.

A tunnel construction 20 is arranged between the pontoons and at about the level of the same, the said tunnel construction being closed at one end, as indicated at 21 and being adapted for connection at the other with the land, as shown in Fig. 4. Lateral passages 22 lead from the tunnel to the pontoons, as shown in Fig. 3, and the

tunnel thus furnishes a convenient means of access to the pontoons, the superstructure and the hangar. The pontoons are connected at the level of the tunnel by cross beams 23, and, as shown in Fig. 4, the columns 10 are preferably T-bars. It will be noticed from an inspection of Fig. 2 that companionways 24 lead from the staterooms 17 to the top of the superstructure. The space above the cross bars 23 and below the arch bars 12 forms a basin for receiving naval vessels 24, and a dry-dock 25 is arranged within this basin for assisting in the repair of such vessels. This dock 25 is raised and lowered by means of pontoons 26, as many in number as may be found advisable or necessary, and these pontoons are connected by rails 27, the said pontoons being arranged at spaced intervals, and they are adapted to be carried in the compartments 19 of the pontoons when not in use.

The dry-dock is adjustable, the side walls 28 of the dock being movable toward and from each other on the base of the dock, as shown in Fig. 5, and being held in adjusted position by the bolts and nuts 29. Each side wall carries shores or anchor blocks 30, which engage the side walls of the vessel to hold it in upright position. The dock, together with the vessel, is also lifted by means of block and tackle indicated at 28^a, which may be operated by a suitable winch for this purpose. The block and tackle engages eyes on brackets 29^a on the base rails of the dock.

Means is also provided for driving out the water from the compartments 18 when it is desired to lift the pontoons. Said means comprises a suitable pump 31 which is connected by a pipe 32 with one of the compartments 18, the said tanks communicating. This pump is driven by a motor 33^a, and the said motor may also drive the elevators 14. By means of the pump 31 and the pipe 32 the water may be readily exhausted from the tanks or may be placed therein.

Davits 33 are provided at the opposite sides of the platform, the said davits supporting boats 34. The landing stage of the hangar, that is, that portion of the platform between the columns 5, may be as shown in Figs. 7 and 8 or as shown in Figs. 9 and 10. In Figs. 7 and 8 wheels 35 are journaled upon shafts 36 which extend transversely of the pontoons and platform, the wheels being within slots or openings extending parallel with the axes of the pontoons. These wheels are rubber tired, as shown, and it will be evident that the landing of the air vessels will be without shock and without friction. In Figs. 9 and 10 the hangar floor is composed of spaced parallel bars 37. This construction is especially adapted for hydroaeroplanes, while that of Figs. 7 and 8 is especially adapted for aeroplanes.

An anchorage is provided, as indicated at 38^a, and the cable or chains 38 will wind upon a suitable winch 39 within the pontoons, it being understood that two cables are used, one upon each pontoon. These winches will assist in submerging the pontoons when desired.

The main deck, that is, the compartments 8 and the workshops between the columns 5 and compartments 3, will contain the elevators, companionways, ventilators, shafts and hatchways leading to the hull, davits, winches and lashings for hydroplanes and cargoes. The guns may be mounted in the hangar as well as in the space between the columns 5 and the compartments 3. The compartments 3 and 17 provide officers' quarters, hospital, cabins for passengers, dining saloon, writing room, library, smoking room, lavatories, kitchens, pantries and store rooms.

Lighters, indicated at 40, will be used for communication between the vessels 24 and the landing stages 15. In Fig. 12 is shown a construction wherein the pontoons 41 are connected at the front by a bow 42, making the pontoon continuous at the front and providing a prow for the structure. The platform 43 is supported by columns 44 from the pontoon, and the said platform carries the same superstructure as shown in Figs. 2 and 3.

In Fig. 11 is shown another embodiment of the invention, wherein a single pontoon 45 supports the deck 46 and superstructure. Columns 47 are arranged between the pontoon and the deck, and that portion of the deck outside of the column is preferably of perforate material, as indicated at 48. These portions are braced against the columns by braces 49, and the perforate portions of the deck are designed to lessen wind resistance.

It will be understood that in practice the hangar floor or landing stage is formed from spaced parallel bars in both instances, the spaces between the bars providing openings for the wheels in the construction of Figs. 7 and 8.

I claim:

1. A device of the character specified, comprising pontoons, a rigid connection between the pontoons, a superstructure supported by the pontoons, said superstructure comprising a deck, a roof inclosing the deck, opposite sides of the said deck being walled in to form working compartments, the central portion of the deck being a landing stage and hangar for aerial vessels and opening at both ends of the superstructure, means for supplying water to the pontoons to submerge the same and for removing the water therefrom, a dry-dock between the pontoons, the space between the pontoons forming a basin for vessels and for the dry-dock, and

the said dry-dock consisting of pontoons detachably connected and adapted to be stored in the first named pontoons.

2. A device of the character specified, comprising pontoons, a rigid connection between the pontoons, a superstructure supported by the pontoons, said superstructure comprising a deck, a roof inclosing the deck, opposite sides of the said deck being walled in to form working compartments, the central portion of the deck being a landing stage and hangar for aerial vessels and opening at both ends of the superstructure, means for supplying water to the pontoons to submerge the same and for removing the water therefrom, and a dry-dock between the pontoons, the space between the pontoons forming a basin for vessels and for the dry-dock.

3. A device of the character specified, comprising spaced substantially parallel rigidly connected pontoons, a superstructure supported by the pontoons and comprising a landing stage and hangar for aerial vessels, a tunnel structure between the pontoons and adapted to extend to the land to form a passageway, and lateral passages leading from the tunnel structure to the pontoons, said pontoons being submersible.

4. A device of the character specified, comprising spaced pontoons, a superstructure connecting the pontoons and supported thereby, a tunnel structure between the pontoons and adapted to extend to the landing, and lateral passages leading from the tunnel structure to the pontoons.

5. A device of the character specified, comprising spaced pontoons, a superstructure supported by the pontoons above the same and forming between the pontoons and below the superstructure a basin, and a dry-dock within the basin, said dry-dock comprising detachably connected pontoons adapted to be stored in the first named pontoons when not in use, the dry-dock being adjustable.

6. A device of the character specified, comprising spaced pontoons, a superstructure supported by the pontoons above the same and forming between the pontoons and below the superstructure a basin, and a dry-dock within the basin, said dry-dock comprising detachably connected pontoons adapted to be stored in the first named pontoons when not in use.

7. A device of the character specified, comprising pontoons, a superstructure supported by the pontoons and having a covered landing stage for aerial vessels, said stage having openings extending longitudinally of the same and shafts arranged transversely of the openings, and wheels journaled on the shafts, the wheels being within the openings.

8. A device of the character specified, comprising pontoons, a superstructure supported by the pontoons and having a covered landing stage for aerial vessels, said landing stage having wheels journaled therein and extending above the level of the stage for engagement by the aerial vessel.

AUGUSTINE GAFFNEY.

Witnesses:
FELIX SHERRY,
MAY SHERRY.