

SEÑORES

SUPERINTENDENCIA DE INDUSTRIA Y

DIVISION DE NUEVAS CREACIONES

L. C.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



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Referencia: Expediente 07-44023 sobre HANGAR FLOTANTE.

Por medio de la presente me refiero al Concepto técnico 1565 de agosto 12 de 2010 y en respuesta al requerimiento planteado por el Examinador, hago llegar a su consideración un nuevo pliego de reivindicaciones, esperando hacer claridad sobre el alcance de mi propuesta, y adicionalmente les comento algunos puntos sobre las características del Hangar en cuestión:

El Hangar flotante de nuestra invención es ante todo un diseño de una instalación militar a pedido de la Armada Nacional con fines de defensa territorial en litorales, ríos, y áreas lacustres.

Su diseño y construcción como instalación flotante, remolcable, sin uso de motores propulsores, facilita su ubicación en cualquier superficie acuática de nuestra geografía.

Su construcción metálica y blindada ofrece seguridad a sus ocupantes, especialmente personal militar de patrullaje.

Lo anterior y no obstante su arquitectura naval no obsta para que sea de utilización en otros campos como hospitales flotantes, turismo y hotelero.

El hangar flotante de la invención presente no es un muelle para reparación de embarcaciones (tipo dársena) tal como se aclaró en la respuesta anterior, respecto del antecedente allegado en la patente U. S 4 111 144 de 1978 durante el primer examen de fondo.

Creemos que con las aclaraciones anteriores y la nueva redacción del capítulo de reivindicaciones, ese Despacho tendrá a bien otorgarnos el título solicitado

Atentamente

JAMES OSORIO LEON

CC 16. 352 888

Notificaciones a Avenida Calle 17 No 432-38 Fontibón

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Se de-glosó en 2020
del exp. 06-56831
09-11-10
es

REIVINDICACIONES

1. Hangar flotante construido en piezas metálicas con una instalación de casamatas blindadas defensivas, con una base de pontones (10) de flotación y rodeado de unos anillos elásticos (42) amortiguadores de impacto contra los muelles, constituido por una instalación que se caracteriza por comprender dos pisos o cubiertas (11) y (12) blindadas y por llevar en uno de sus frentes y en sus costados laterales unas áreas o zonas (39) y (40) como zonas de seguridad rodeadas de unas barras metálicas (46) y (43) en cada una.
2. Hangar flotante conforme a la reivindicación 1 caracterizada porque los pontones (10) de flotación colocados debajo de la primera cubierta o piso, con base en su volumen hueco sirven como almacén, arsenal o base de montaje para plantas eléctricas o de tratamiento de aguas.
3. Hangar flotante según la reivindicación 1 que comprende adicionalmente una instalación de malacates y guayas metálicas para instalar las barras metálicas para las zonas de seguridad (39) y (40).
4. Hangar flotante conforme a la reivindicación 1 donde las cubiertas o pisos (11) y (12) van protegidas exteriormente con lámina metálica.

Aug. 16, 1932.

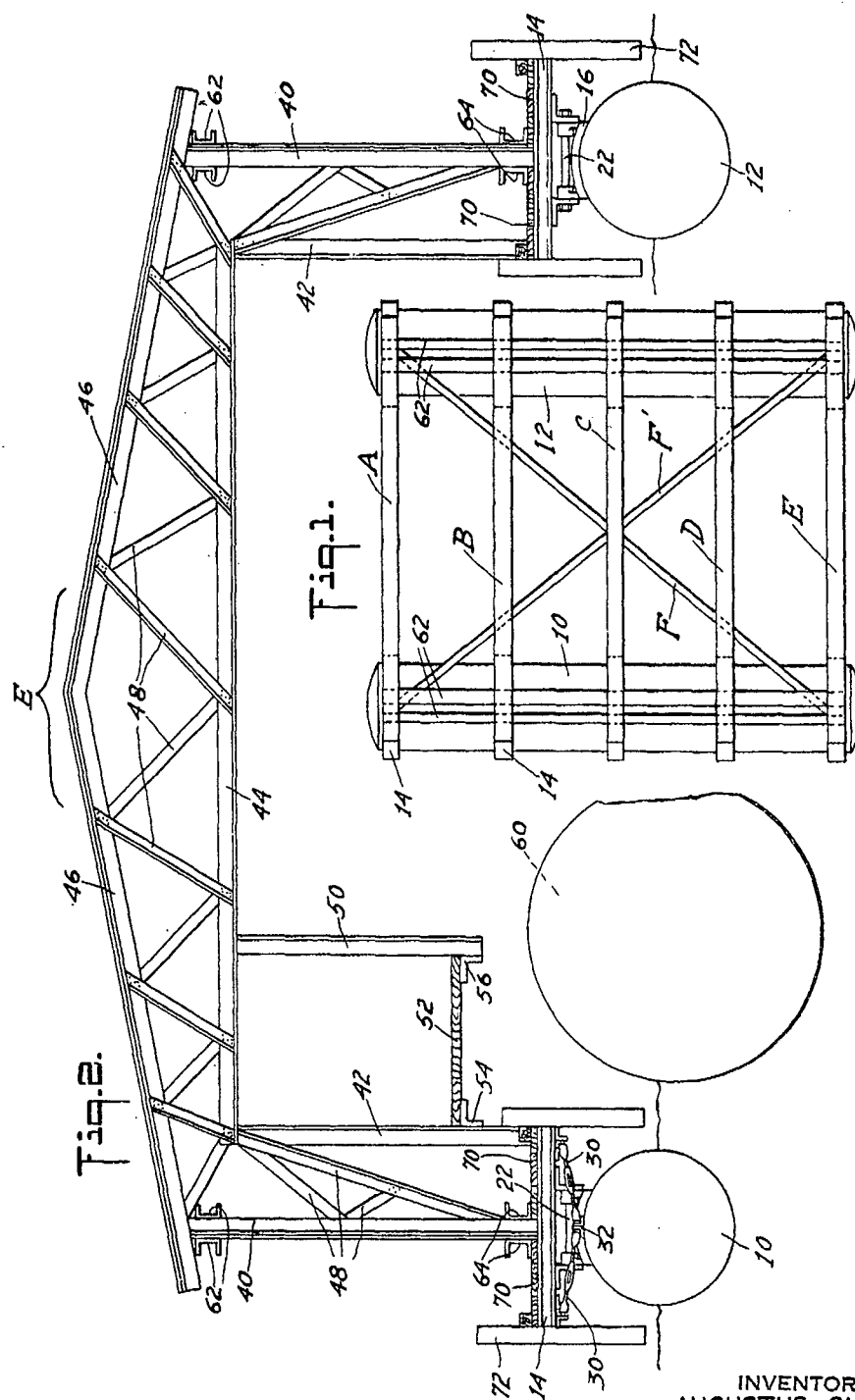
A. SMITH

1,871,475

FLOATING WHARF

Filed July 28, 1931

3 Sheets-Sheet 1



INVENTOR
AUGUSTUS SMITH
by his attorneys

Howe and Howe

Aug. 16, 1932.

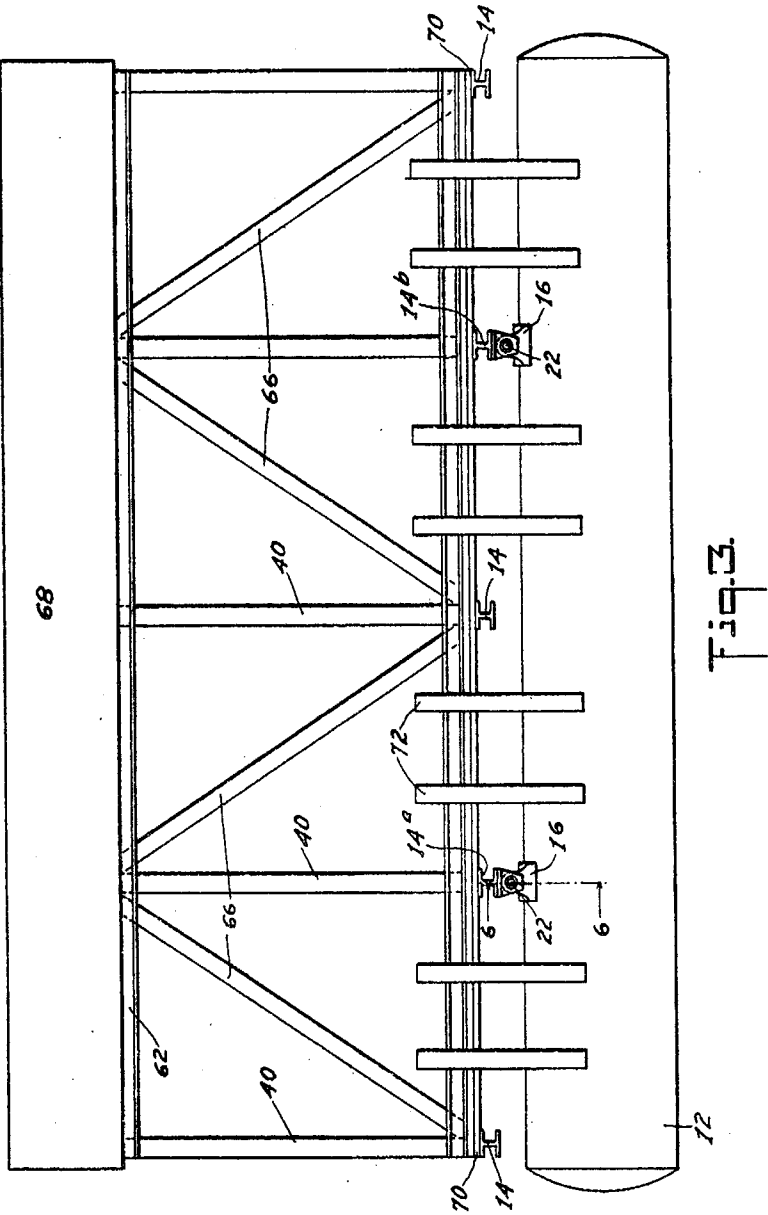
A. SMITH

1,871,475

FLOATING WHARF

Filed July 28, 1931

3 Sheets-Sheet 2



INVENTOR
AUGUSTUS SMITH
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Houston and Houston

Aug. 16, 1932.

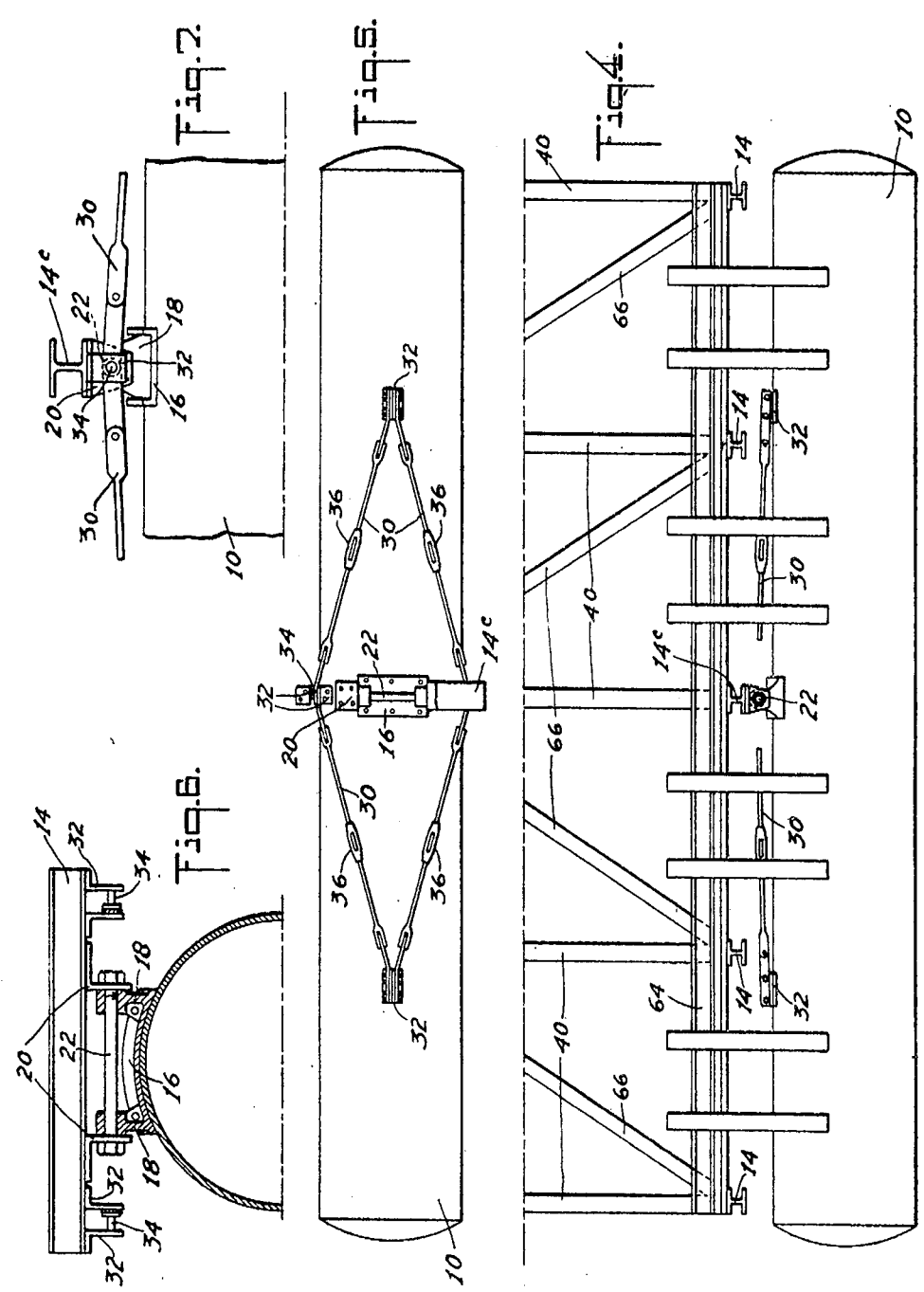
A. SMITH

1,871,475

FLOATING WHARF

Filed July 28, 1931

3 Sheets-Sheet 3



INVENTOR
AUGUSTUS SMITH
by his attorneys

Horsman and Howard

UNITED STATES PATENT OFFICE

AUGUSTUS SMITH, OF ROSELLE, NEW JERSEY, ASSIGNOR TO BERGEN POINT IRON WORKS, OF BAYONNE, NEW JERSEY, A CORPORATION OF NEW JERSEY

FLOATING WHARF

Application filed July 28, 1931. Serial No. 553,659.

This invention relates to floating structures supported by pontoons and is an improvement on the construction described and claimed in my Patent 1,723,213 patented August 6, 1929.

Devices of this type are useful as houseboats, floats, boat houses, docks, marine gas and oil stations and for a variety of other purposes.

It is an object of this invention to provide a floating wharf which is particularly adapted for use as a marine filling station or boat house.

Another object is to provide a floating wharf particularly adapted for the above uses and which will be free from the warping or twisting action to which ordinary rafts are subjected by reason of irregular wave motion of the water.

Another object is to provide a floating wharf which may be constructed at minimum expense commensurate with good quality and sturdiness of construction.

Other objects will be apparent as my invention is described in connection with the accompanying drawings.

Referring to the drawings—

Figure 1 is a diagrammatic plan view of my invention before the roof and decks are put on, showing the relative positions of the various trusses and cross braces.

Fig. 2 is an end elevation of a floating wharf embodying the principles of my invention.

Fig. 3 is an elevation view of the right side of the invention as shown in Fig. 2.

Fig. 4 is an elevation view of the lower half of the left side of the construction shown in Fig. 2.

Fig. 5 is a plan view of the left pontoon and the apparatus for securing it to the superstructure of the wharf.

Fig. 6 is a transverse section view taken on line 6—6 of Fig. 3 showing the connection between the pontoons and superstructure.

Fig. 7 is a fragmentary side elevation view showing the connection of the left pontoon to the superstructure.

My invention employs the geometrical principle that a line and a point determine

a plane. Since it is desirable that the platform or foundation of any floating structure which is to be used for the purposes for which I intend my construction, be as nearly as possible in a single plane at all times, I support my construction upon buoyant devices such as two pontoons which contact with the superstructure along a line and at a point respectively. Thus there is established a supporting plane which, though subject to tilting by waves, frees the superstructure of the warping and twisting action that ordinary rafts and floats encounter. Each pontoon can pitch and toss independently of the other, and each can tilt the wharf as the plane determined by the line and point is tipped due to the wave motion. It should be understood that a system of pontoons or other buoyant devices, may be substituted for the two pontoons which are used in the preferred construction hereinafter more particularly described.

Referring to the drawings, the superstructure of the floating wharf is supported on two parallel cylindrical pontoons 10 and 12 which are connected to certain I-beams 14 *a, b, c*, of a number of such beams (designated generically by numeral 14) which are parallel to one another and arranged transverse to the pontoons in a plane above them. These beams 14 are arranged in two parallel rows and are connected to the superstructure of the wharf on opposite parallel sides thereof.

The novel means about to be described, which I employ to connect the pontoons with the I-beams 14 *a, b, c*, makes it possible to rotate the pontoons while they are in position, so that they may be cleaned and painted without taking the wharf into a dry dock or removing the pontoons. This novel means comprises an arcuate saddle 16 having the same radius of curvature as the pontoons, and a pair of arms 18 formed integrally with and projecting up from the saddle. These arms have coaxial bores cast or drilled through them parallel to the beams 14. A pair of angle irons 20 are secured to the bottom of the beams 14 *a, b, c* with their legs projecting downwardly in parallel relation and spaced apart the same distance as the arms

18 so that the legs lie against the arms 18. Holes registering with bores in the arms 18 are formed in the legs and a bolt or connecting pin 22 is passed therethrough thus holding the saddle to the beam. The saddle 16 may be bolted to the pontoon or it may be secured by tie bands passing around the pontoons or any of a number of other ways of detachably securing the saddle to the pontoon may be used. The saddle may be formed with one or more stiffening ribs to give strength to it if desired.

The pontoon 12 is secured by the aforesaid saddle connections 16 to two of the I-beams 14a, 14b on the right hand side of the superstructure. The saddles, as shown in Fig. 3, are preferably spaced equally from each other and from the ends of the pontoon, though they may be spaced otherwise. Although I prefer to secure the pontoon 12 at only two points as shown, it will be obvious that this pontoon may be secured to the superstructure at any number of points in the line established by said two points, for the reason that, following out the principle of my invention, this pontoon should support and be connected to the superstructure by a number of connections all of which are in a straight line.

The left pontoon 10 has only one saddle connecting it at its middle with the I-beam 14c at the center of the left side of the wharf. With only this one connection of the pontoon and superstructure the tendency of the pontoon 10 to oscillate about a vertical axis would impose too much strain on the saddle. Hence, I provide four guy rods 30 two of which each have their outer ends bolted to a lug, angle iron or like construction, 32, secured to the top of the pontoon 10 between the saddle and one end of the pontoon while the other two are similarly connected to the pontoon at a point between the saddle and the other end of the pontoon.

The other ends of the guy rods are connected to the I-beams 14c, by means of two pairs of spaced angle irons 32 secured to the under side of beam 14c, a pair being located at each end of the beam 14c. A pin or bolt 34 passes through the downwardly extended arms of each pair 32 and through the guide rods connected therewith and this pin 34 is coaxial with pin 22.

The guide rods whose outer ends are connected at one end of the pontoon 10, have their inner ends connected respectively between different pairs of angle irons, i. e., to opposite ends of the I-beam 14c. In like manner the guy rods connected at the other end of the pontoon, have their inner ends connected to different ends of the I-beam 14c.

Turn buckles 36 are incorporated in each guy rod so that a firm tie between the pontoon and beam 14 may be had. It will be observed that with the guy rods under tension

it is particularly important to have the axis of the pins 22 and 34 coaxial, so that the pontoon may rock freely about that axis although it is adequately held against rotation on any other horizontal or vertical axis.

The superstructure is susceptible to wide variation within the scope of my invention and it should be understood that I do not limit myself to the specific form herein described. The form herein shown is merely an example or preferred form.

The superstructure comprises a plurality of parallel trusses A, B, C, D, E, the number depending on the length of the wharf desired. Each truss, as shown in Fig. 2, may consist of a pair of spaced vertical members 40, 42 at each side, the inner members 42 being shorter than the outer members 40. A horizontal member 44 connects the inner members 42 at their tops while a pair of inclined jointed members 46, serving as roof beams, connect the outer vertical members 40. Members 40, 42, 44 and 46 are suitably connected by cross braces 48 the number and position of which may be varied to suit the particular requirements of use of the wharf.

In case the wharf is to be used as a marine filling station one or more platforms within the wharf may be constructed. For this purpose certain or all of the trusses may be provided with vertical members 50 suspended from the horizontal member 44 and cooperating with the vertical members 42 to support the platform 52 which rests on horizontal angle bars 54, 56, connecting the vertical members 42, 50 respectively. Obviously the height and extent of this platform may be varied depending on the size and position of the oil tanks 60 which may be floated beneath the wharf. On the other hand, the platform may be modified or replaced by some other construction depending on the use to which the wharf is put.

The series of trusses A—E are connected to one another by parallel channel beams 62, 64 secured respectively to the tops and bottoms of the vertical members 40. Diagonal braces 66 connecting the top and bottom of neighboring vertical members 40 may be provided. Any suitable roof 68 may be laid on the top truss members 46.

The centers of the I-beams 14 are connected to the bottoms of vertical members 40 and one end of each I-beam is connected to the bottom vertical member 42 in the same truss as the member 40 to which the middle of that particular I-beam is connected. A deck 70 may be laid on the I-beams 14 and conventional guards 72 may be secured thereto to protect the wharf when boats come along side.

In order to make the superstructure more rigid and to keep the corners of the wharf from sagging in case of unequal loading, diagonal trusses F (see Fig. 1) are provided in the upper part of the superstructure, these

trusses being constructed so as to act as levers supported from the central truss C as a fulcrum. The superstructure may be left open at both ends or it may be closed at one end leaving the other free for ingress and egress of boats, or oil or gas tanks or other floating craft. It will be observed that when the superstructure is constructed as described the members 40, 62, 64, 66 (see Figs. 3 and 4) form vertical side trusses over the pontoons and act to transmit the weight from the wharf to the pontoons, the right truss transmitting the weight along a line including the two points of connection with pontoon 12, and the left truss transmitting the weight through the single connecting point to pontoon 10. The vertical members 40, of course, are common to the side trusses and trusses A—E.

From the foregoing it will be apparent that I have provided a floating wharf which may be constructed without excessive cost or difficulty and which is not subject to the warping and twisting stresses of ordinary floating structures.

Many modifications within the scope of my invention will occur to those skilled in the art therefore I do not limit myself to the specific construction shown.

I claim:—

1. A floating wharf comprising a rigid superstructure, buoyant devices supporting said superstructure, certain of said devices being connected, as a unit, to said superstructure along a straight line on one side, and certain of said devices being connected, as a unit, to said superstructure at a point on the other side thereof, and being rockable vertically.

2. A floating wharf comprising a rigid superstructure open at least one end to permit ingress and egress, buoyant devices supporting said superstructure certain of said devices being connected, as a unit, to said superstructure along a straight line on one side, and certain of said devices being connected, as a unit, to said superstructure at a point on the other side thereof and being rockable vertically.

3. A floating wharf comprising a rigid superstructure open at opposite ends to permit ingress and egress, buoyant devices supporting said superstructure certain of said devices being connected, as a unit, to said superstructure along a straight line on one side, and certain of said devices being connected, as a unit to said superstructure at a point on the other side thereof and being rockable vertically.

4. A floating wharf comprising a rigid superstructure, a pair of parallel pontoons, one of said pontoons supporting said superstructure along a straight line at one side of the superstructure, the other pontoon supporting said superstructure at a point on the other side thereof, said second pontoon being vertically rockable about said point.

5. A floating wharf comprising a rigid superstructure open at least at one end to permit ingress and egress, a pair of parallel pontoons, one of said pontoons supporting said superstructure along a straight line at one side of the superstructure, the other pontoon supporting said superstructure at a point on the other side thereof, said second pontoon being vertically rockable about said point.

6. A floating wharf comprising a rigid superstructure open at opposite ends to permit ingress and egress, a pair of parallel pontoons, one of said pontoons supporting said superstructure along a straight line at one side of the superstructure, the other pontoon supporting said superstructure at a point on the other side thereof, said second pontoon being vertically rockable about said point, and being rockable vertically.

7. A floating wharf comprising a superstructure, a plurality of pontoons supporting said superstructure on a plane defined by a line and a point which are the loci of the connections between said pontoons and superstructure, said superstructure comprising a plurality of parallel trusses having their ends joined and cross-braced to form a rigid whole, said trusses being spaced above the water level whereby a passage through the wharf is provided.

8. In a floating wharf, a superstructure comprising a plurality of parallel trusses, side trusses connecting said parallel trusses, buoyant devices supporting said superstructure by connections with said side trusses, certain of said buoyant devices being connected with one of said side trusses along a line, and certain of said buoyant devices being connected with another of said side trusses at that point, whereby said superstructure is supported upon a plane defined by said line and point.

9. In a floating wharf, a superstructure comprising a plurality of parallel trusses, said parallel trusses having horizontal portions spaced sufficiently above the water level to provide a passage for ingress and egress to and from the wharf, side trusses connecting said parallel trusses, buoyant devices supporting said superstructure by connections with said side trusses, certain of said buoyant devices being connected with one of said side trusses along a line, and certain of said buoyant devices being connected with another of said side trusses at a point, whereby said superstructure is supported upon a plane defined by said line and point.

10. In a floating wharf, a superstructure comprising a plurality of parallel trusses, side trusses connecting said parallel trusses, said side and parallel trusses having vertical members in common, buoyant devices supporting said superstructure by connections with said side trusses, certain of said buoyant devices being connected with one of said side trusses

along a line, and certain of said buoyant devices being connected with another of said side trusses at a point, whereby said superstructure is supported upon a plane defined by said line and point.

11. A floating wharf having a superstructure comprising a plurality of parallel trusses, means securing said trusses together at their ends, diagonal trusses acting as levers and supported from a central truss of said parallel trusses as a fulcrum, and buoyant means supporting said superstructure upon a tiltable plane.

12. A floating wharf having a superstructure comprising a plurality of parallel trusses, side trusses connecting said parallel trusses, diagonal trusses acting as levers and supported from a central truss of said parallel trusses as a fulcrum, and buoyant means supporting said superstructure upon a tiltable plane.

13. A floating wharf having a superstructure comprising a plurality of parallel trusses, side trusses connecting said parallel trusses, diagonal trusses acting as levers and supported from a central truss of said parallel trusses as a fulcrum, and buoyant means supporting said superstructure upon a tiltable plane, said parallel and diagonal trusses having horizontal members spaced sufficiently above the water level to provide passage for ingress and egress to and from the wharf.

14. A floating wharf having a superstructure comprising a plurality of parallel trusses, side trusses connecting said parallel trusses, said trusses having vertical members in common, diagonal trusses joining and supporting the corners of the wharf, and buoyant means supporting said superstructure upon a tiltable plane.

15. A floating wharf having a superstructure comprising a plurality of parallel trusses, side trusses connecting said parallel trusses, said trusses having vertical members in common, diagonal trusses joining and supporting the corners of the wharf, and buoyant devices supporting said superstructure upon a plane, said plane being defined by connections of certain of said buoyant means with one of said side trusses, located in a straight line, and by a point connection between certain of said buoyant means with another of said side trusses.

16. A floating structure, a cylindrical pontoon for supporting said structure, connections between said structure and pontoon comprising a saddle having an arcuate seat, said saddle being detachably secured to said pontoon whereby said pontoon may be rotated while in supporting position, and a pivot pin connecting said saddle with said structure.

17. A floating structure, a cylindrical pontoon for supporting said structure, connections between said structure and pontoon

comprising a saddle having an arcuate seat, said saddle being detachably secured to said pontoon whereby said pontoon may be rotated while in supporting position, and a pivot pin connecting said saddle with said structure and a plurality of guide rods connected with said pontoon and pivotally connected with said structure, said pivotal connection being coaxial with said pivot pin.

18. A floating structure, a cylindrical pontoon for supporting said structure, connections between said pontoon and structure comprising a saddle having an arcuate seat whose radius of curvature is the same as that of the pontoon, a pair of arms extending from said saddle, a pair of legs depending from said structure and a pivot pin passing through said arms and legs for securing said saddle to said structure, and guyrods to relieve the pivot pin.

19. A floating structure, a cylindrical pontoon for supporting said structure, connections between said pontoon and structure comprising a saddle having an arcuate seat whose radius of curvature is the same as that of the pontoon, a pair of arms extending from said saddle, a pair of legs depending from said structure and a pivot pin passing through said arms and legs for securing said saddle to said structure, said saddle being detachably secured to said pontoon whereby said pontoon may be rotated while in supporting position.

In testimony whereof I have signed my name to this specification.

AUGUSTUS SMITH.