

No. 824,107.

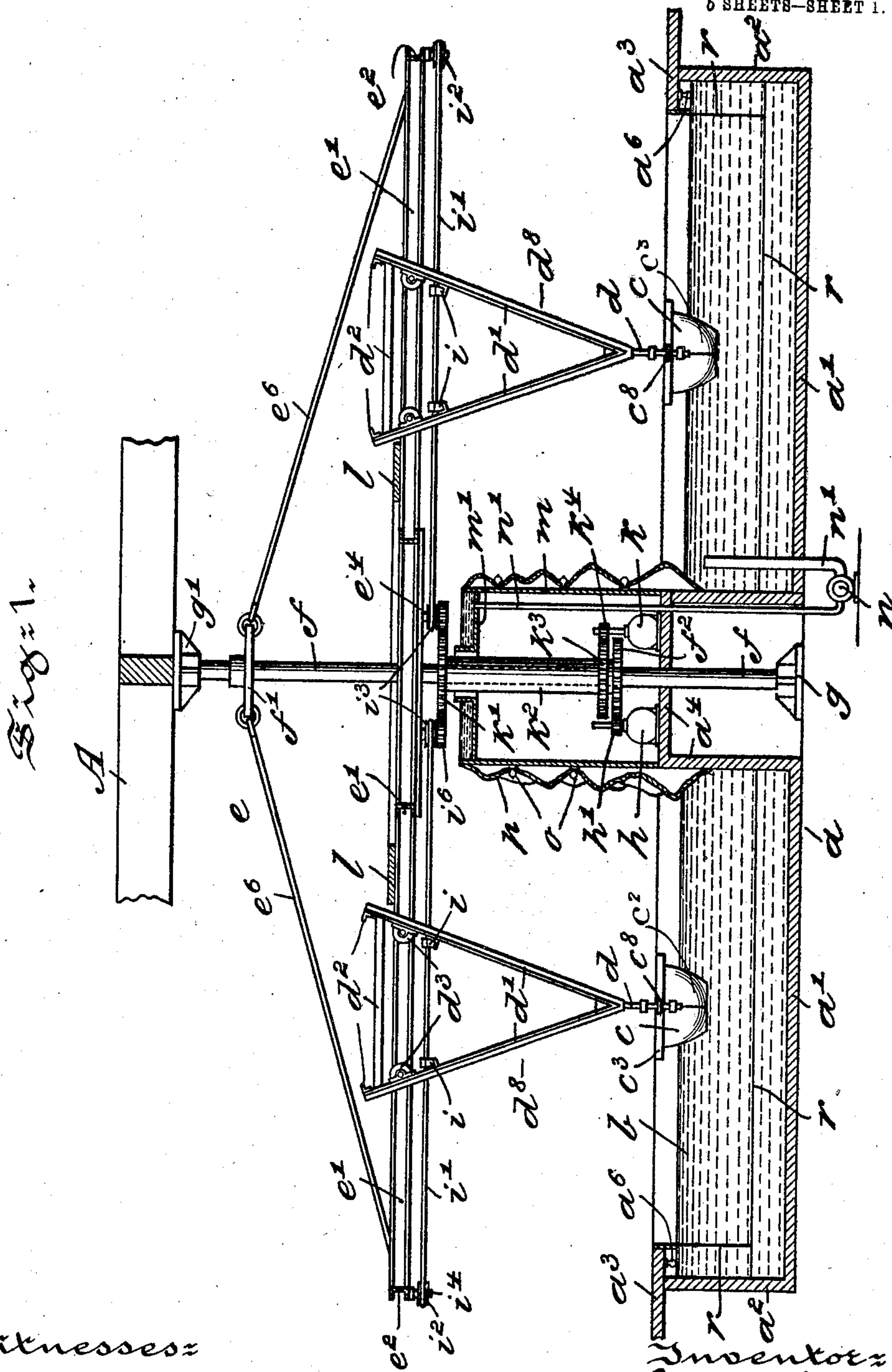
PATENTED JUNE 26, 1906.

R. A. FOWDEN.

AQUATIC AMUSEMENT APPARATUS.

APPLICATION FILED FEB. 3, 1905.

5 SHEETS—SHEET 1.



Witnesses:  
Wilhelm Vogt  
Thomas M. Smith.

Inventor:  
Robert A. Fowden.  
By J. Walter Dugan  
Attorney.

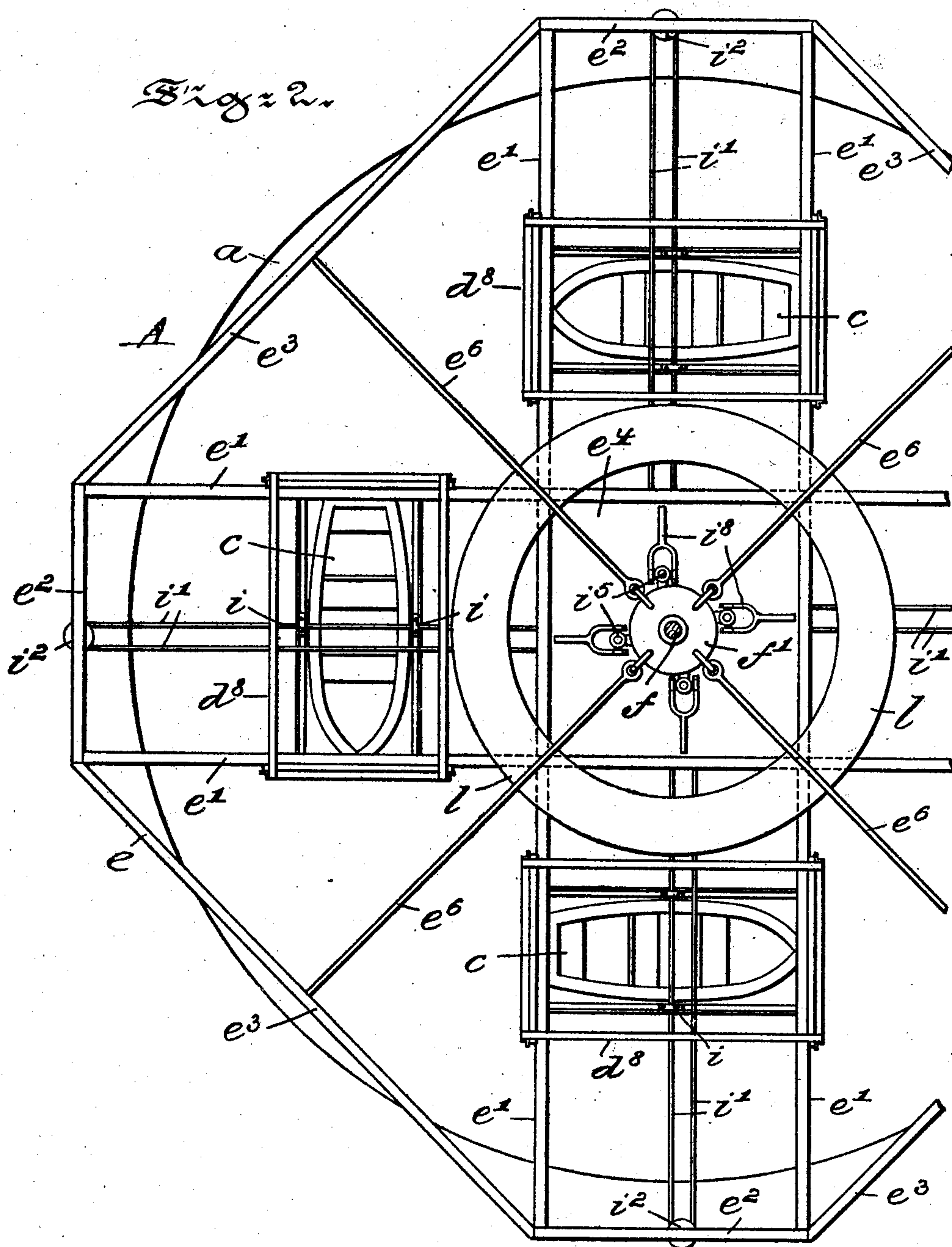
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By J. Walter Dwyer  
Attorney.

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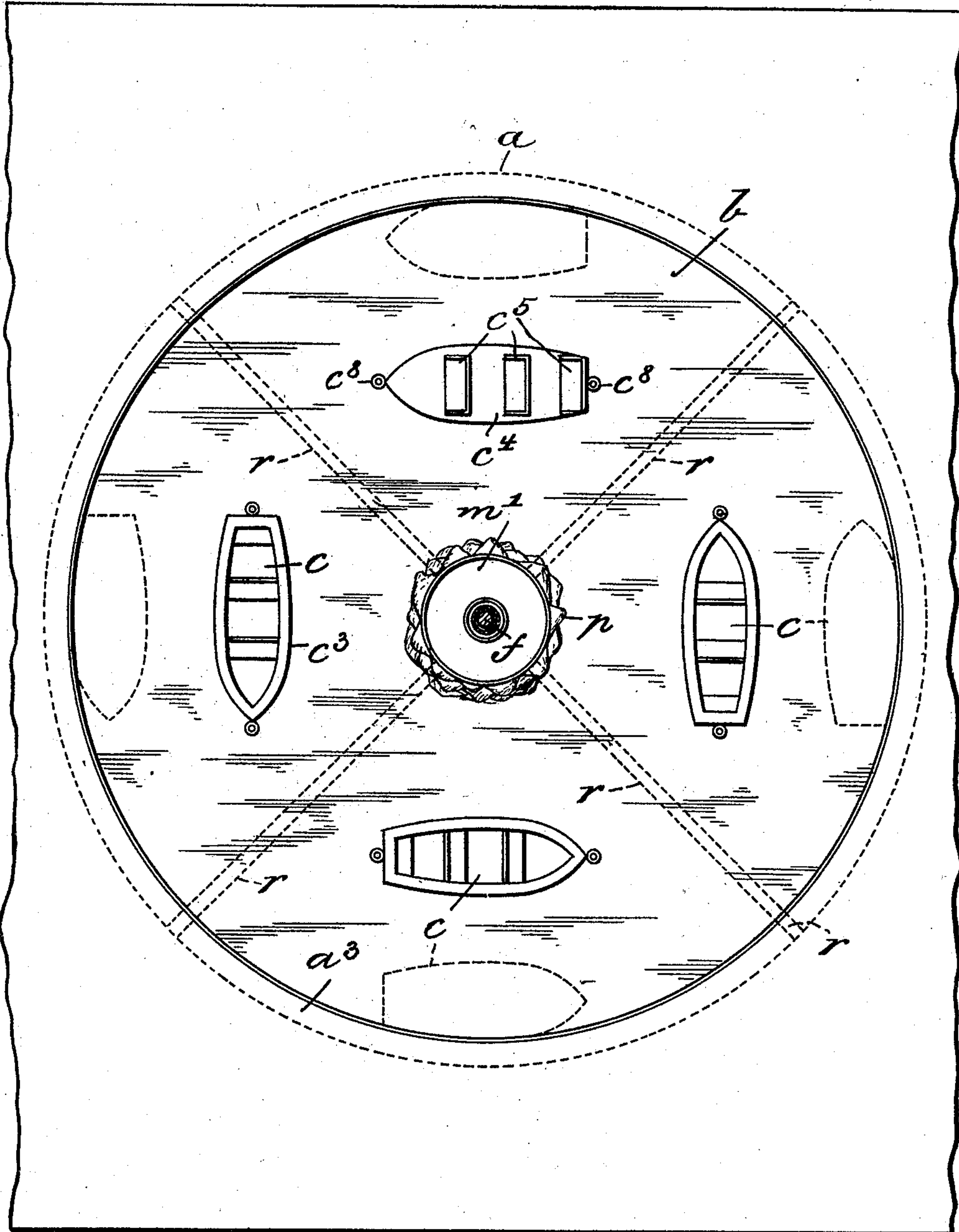
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5 SHEETS—SHEET 3.

*Fig. 3.*



Witnesses:  
Wilhelm Vogt  
Thomas M. Smith

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Robert A. Fowden,  
By J. Walter Dwyer  
Attorney



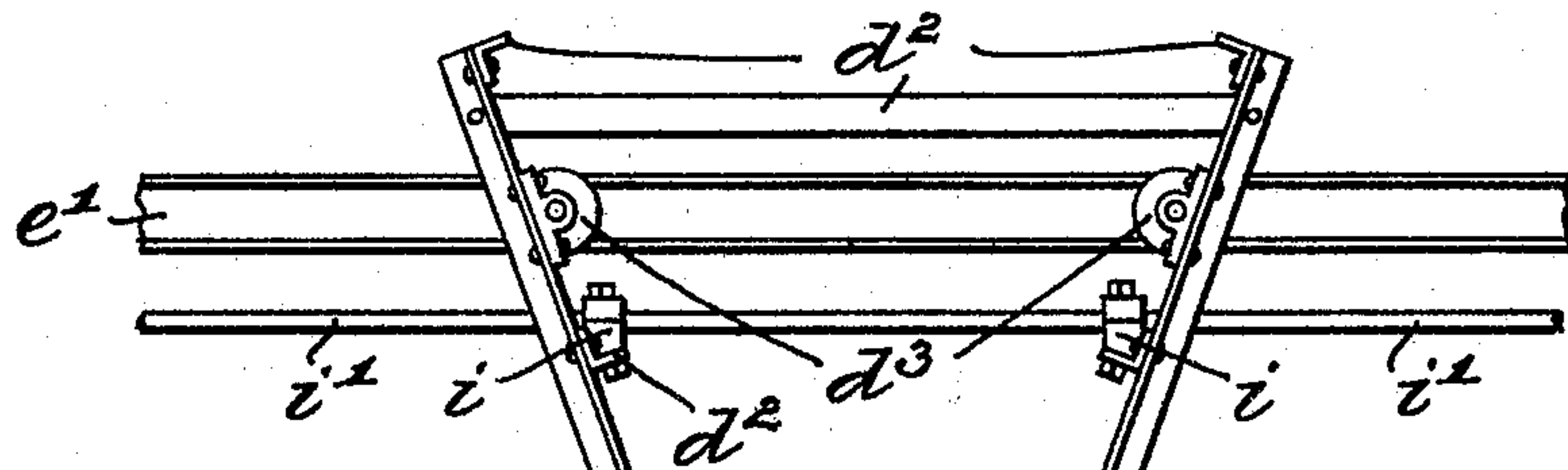
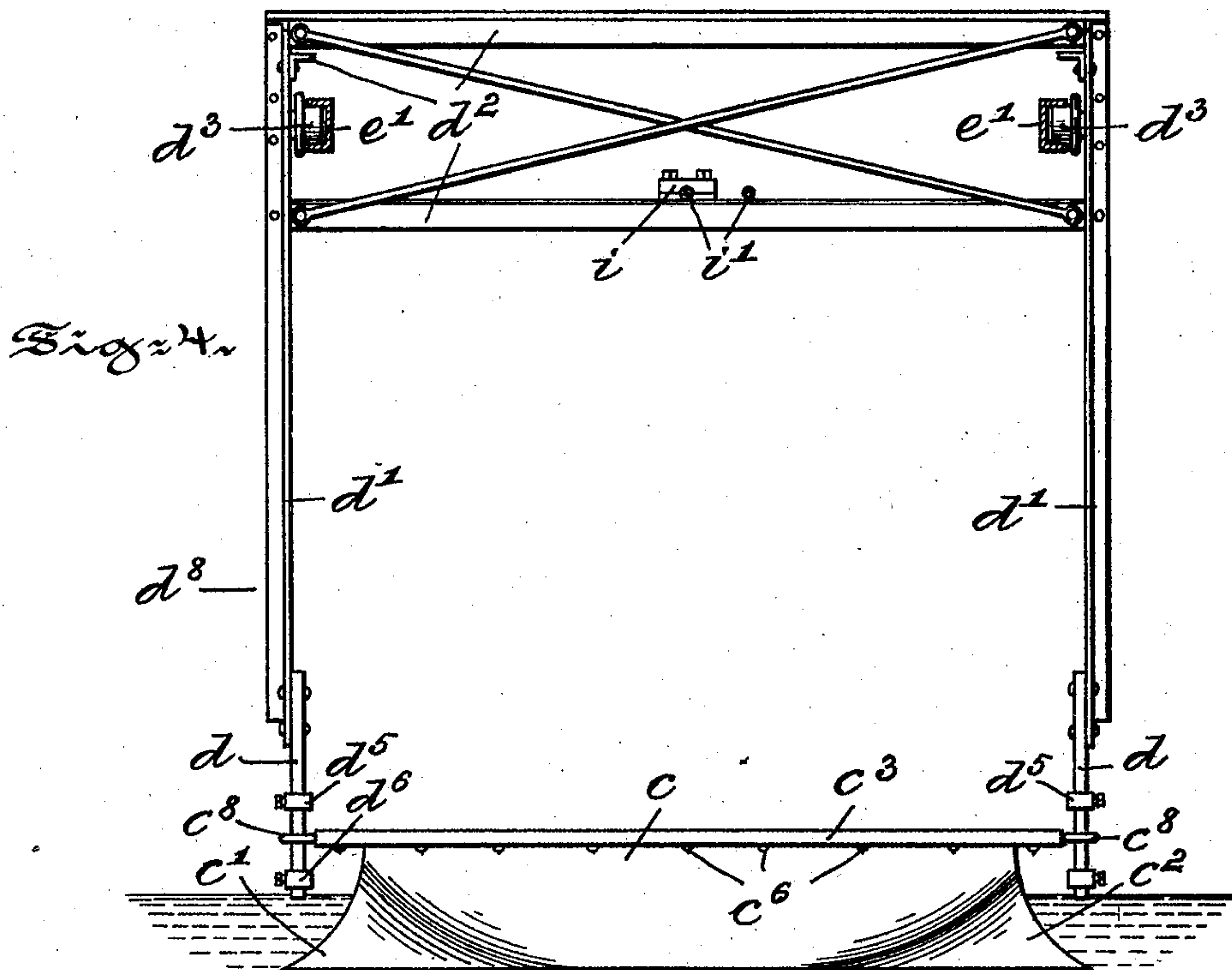
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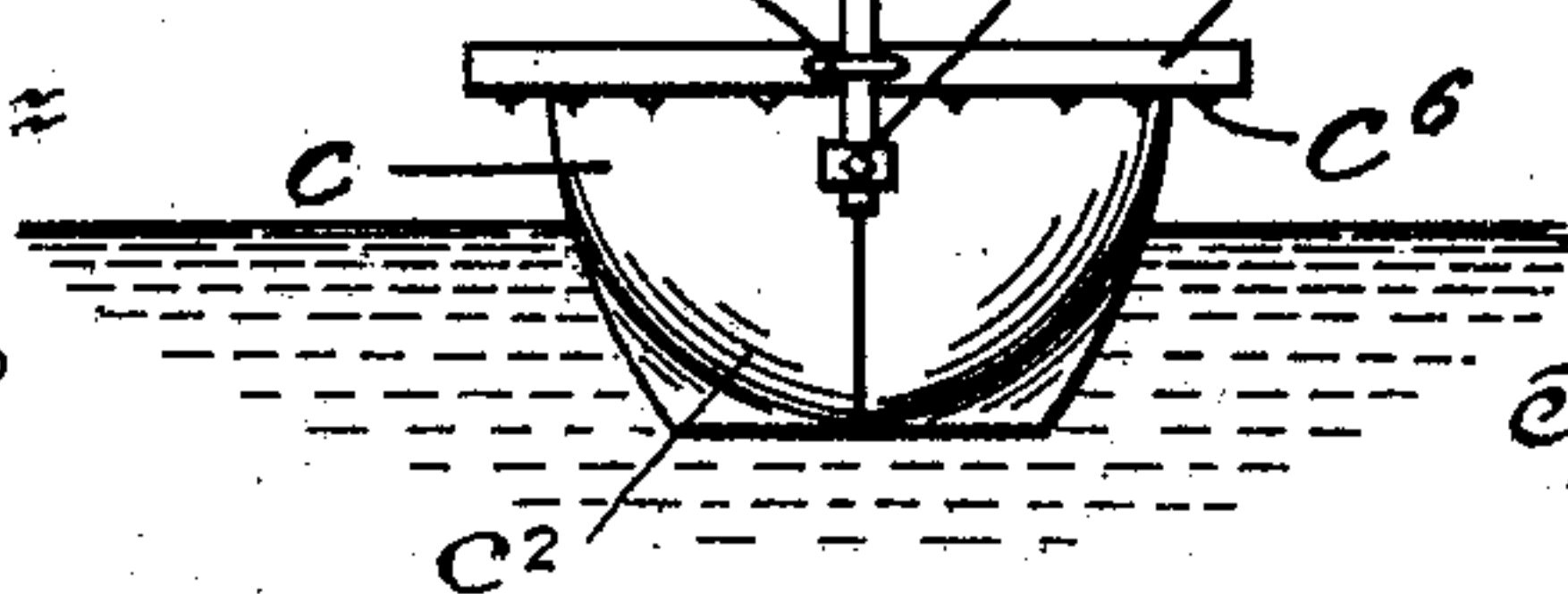
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5 SHEETS—SHEET 4.



Witnesses:  
Wilhelm Töft  
Thomas M. Smith



Inventor:  
Robert A. Fowden,  
By J. Walter Dwyer,  
Attorney.

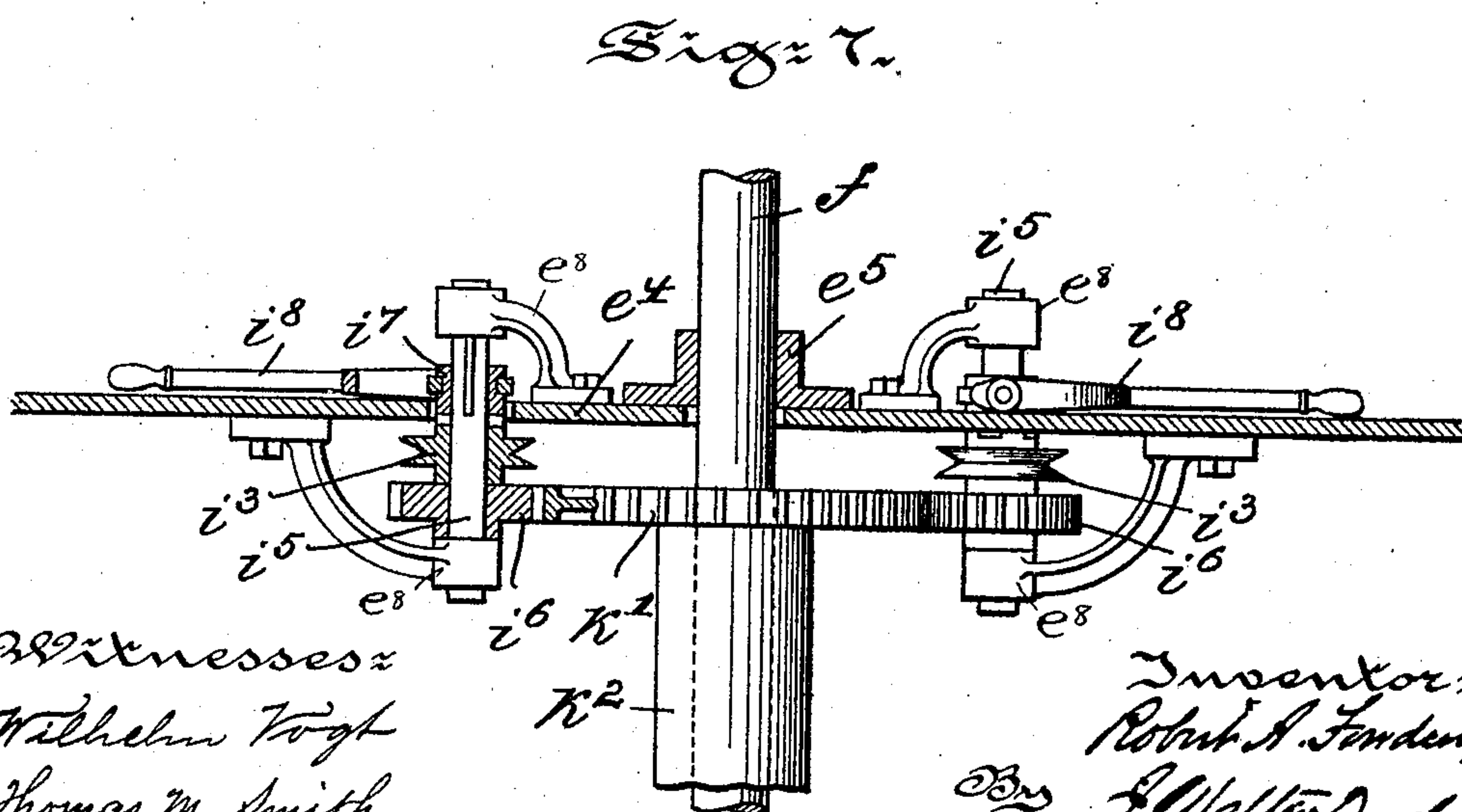
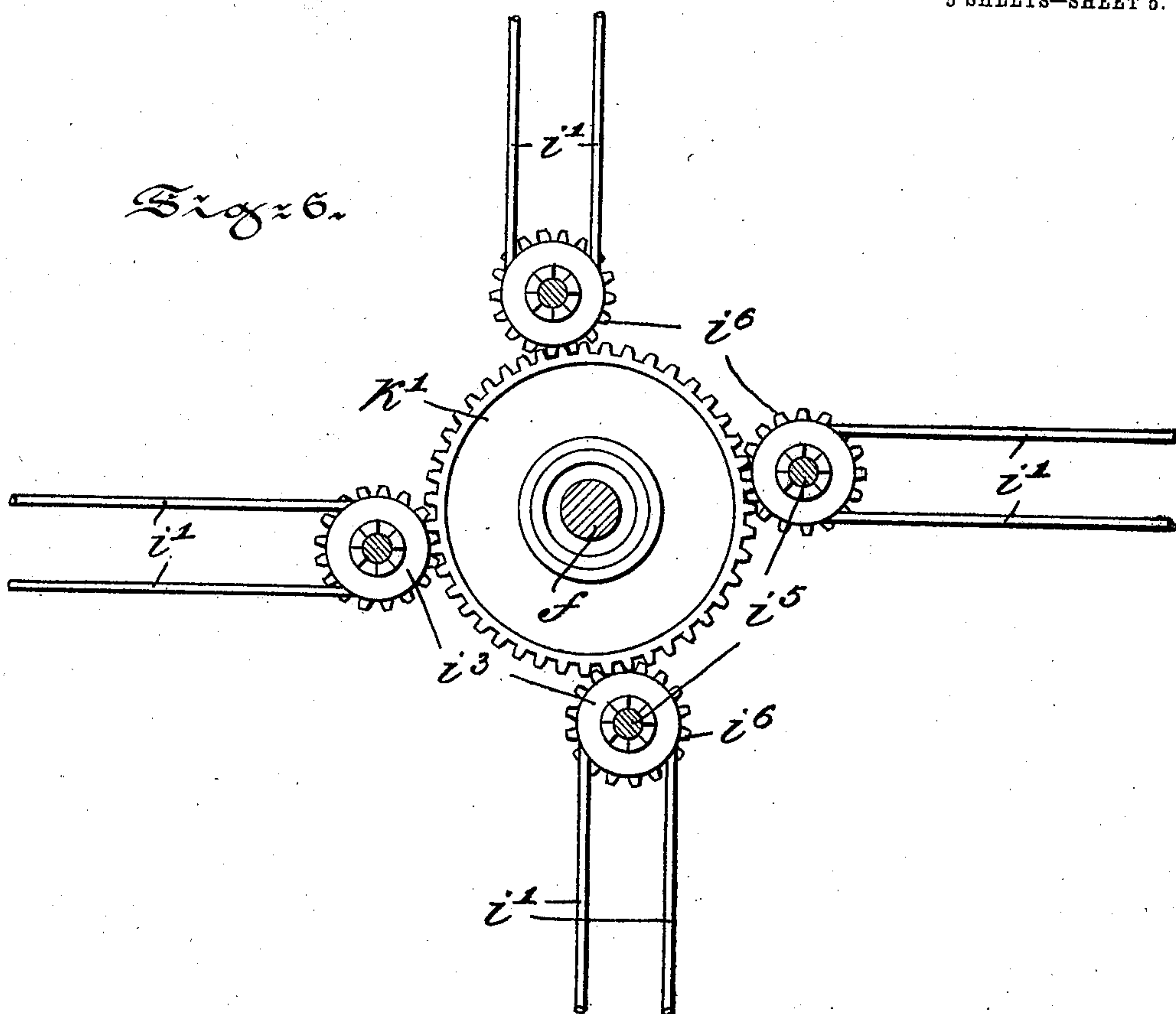
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5 SHEETS—SHEET 5.



Witnesses:  
Wilhelm Vogt  
Thomas M. Smith.

Inventor:  
Robert A. Fowden,  
By J. Walter Dugan  
Attorney.



# UNITED STATES PATENT OFFICE.

ROBERT A. FOWDEN, OF PHILADELPHIA, PENNSYLVANIA.

## AQUATIC AMUSEMENT APPARATUS.

No. 824,107.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed February 3, 1905. Serial No. 243,933.

*To all whom it may concern:*

Be it known that I, ROBERT A. FOWDEN, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Aquatic Amusement Apparatus, of which the following is a specification.

My invention has relation to an aquatic amusement apparatus; and in such connection it relates more particularly to a water-carousal especially adapted for pleasure and other resorts.

The principal objects of my invention are, first, to provide means to move boats or other buoyant bodies for the carrying of persons in a substantially circular path in a body of water within a reservoir and forming the course for the travel of boats; second, to provide means to move the buoyant bodies or boats laterally toward and away from a landing to permit of the embarking and disembarking of persons to and from the boats or the like; third, to so connect the boats with actuating means as to permit of a free rocking and pitching movement thereof when desired; fourth, to provide the revolving framework of the apparatus with means to permit of the collection of fares during the travel of the boats or the like in their circular path within the body of water of the reservoir, and, fifth, to provide the reservoir with obstructions so as to resist the free movement of the water which is imparted to the same by the boats or other bodies in their movement in a prescribed path.

My invention, stated in general terms, consists of an aquatic amusement apparatus constructed and arranged in substantially the manner hereinafter described and claimed.

The nature, scope, and characteristic features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a longitudinal sectional view of the aquatic amusement apparatus, illustrating in side elevation boats placed in a body of water confined in a reservoir and arranged within a structure, brackets connecting the same with a revolving framework, and mechanism to move said boats toward and away from a landing-place formed of a platform which surrounds the reservoir embodying main features of my invention. Fig. 2 is a top or plan view of a portion of the amuse-

ment apparatus shown in Fig. 1. Fig. 3 is a detail view illustrating in diagram and top or plan view the arrangement of boats with respect to each other and their lateral movements toward and away from a landing-place. Figs. 4 and 5 are detail views, enlarged, illustrating in side and front elevation a bracket connecting a boat with the revolving framework of the amusement apparatus. Fig. 6 is a detail view, enlarged, illustrating in top or plan view and in section mechanism to move the boats toward and away from the landing-place therefor; and Fig. 7 is a detail view, enlarged, illustrating in section and side elevation mechanism to disconnect the mechanism moving the boats laterally from the driving mechanism therefor.

Referring to the drawings, *a* is a reservoir of preferably circular outline formed by horizontal and vertical walls *a'* and *a''*, constituting the bottom and side walls thereof, which walls may be constructed of any suitable material. The side walls *a''* are surmounted by an overhanging platform *a'''*, which may form the continuation of the flooring of a structure A, serving as a landing-place, a portion of which has been shown in Fig. 1 and in which the amusement apparatus is preferably housed.

Centrally arranged within the reservoir *a* is a structure *a''''*, which, in conjunction with the bottom and side walls *a'* and *a''*, serves to form the reservoir *a* and to confine a body of water *b* therein, as shown in Fig. 1. The level of the body of water *b* is preferably slightly below the overhanging platform *a'''*, which forms a landing-place for boats *c*, normally occupying a position midway between the landing-place *a'''* and the structure or platform *a''''*. Each of the boats *c* employed is of the usual construction, but is preferably provided with ram-prows *c'* and *c''*, which when the boats are moved through the water serve to raise and throw the same over and sideways, and thus to effectually heighten the effects of a rapid movement of the boats *c* through the water. In addition thereto each boat is preferably provided with a projecting gunwale *c'''*, which serves to contact with the landing-place *a'''*, as will be readily understood in conjunction with Fig. 1 and which on account of its width also affords a comfortable support for the feet of persons during embarking or disembarking to and from the boats when the same occupy a position adjacent to the landing-place *a'''*, as



shown in dotted lines in Fig. 3. The boats *c* may also be provided with a platform *c*<sup>4</sup>, upon which benches or chairs *c*<sup>5</sup> are placed to accommodate timid persons objecting to climbing into and out of the boat. The overhanging gunwale *c*<sup>3</sup> of the boats *c*, as well as the overhanging platform *a*<sup>3</sup>, affords a protected place for the mounting of lights *c*<sup>6</sup> and *a*<sup>6</sup>, which by being reflected in the water considerably heightens the spectacular effect of this amusement apparatus.

As shown in Figs. 3, 4, and 5, at each end of the boats *c* is arranged an eyepiece *c*<sup>8</sup>, through which loosely passes a rod *d* of a V-shaped arm *d*<sup>7</sup>, two of which, united by angle-irons *d*<sup>2</sup> at their free ends, form a bracket *d*<sup>8</sup>, which by means of rollers *d*<sup>3</sup>, engaging channel-irons *e*<sup>1</sup>, are connected with a movable framework *e* of the amusement apparatus, to be presently more fully described. Above and below the eye *c*<sup>8</sup> of the boat *c* on the rods *d* are arranged adjustable collars *d*<sup>5</sup> and *d*<sup>6</sup>, between which the eyes *c*<sup>8</sup> may freely move to permit a pitching movement of the boat when passing through the water, in addition to a rolling movement, which is freely permitted by the flat eyes *c*<sup>8</sup>, loosely surrounding the bolts *d* of the bracket *d*<sup>8</sup>. If, however, such pitching and rolling movements of the boats are not desired, the same may be rigidly clamped to the rods *d* by bringing the collars *d*<sup>5</sup> and *d*<sup>6</sup> thereof into engagement with the eye *e*<sup>8</sup> and then bolting the same to the rods *d*. The boats *c* may carry any number of persons without danger of being swamped, since in case of an overload the framework *e*, by means of the brackets *d*<sup>8</sup>, will readily support the boats in the water and in this manner render the same at all times perfectly safe. The V-shaped or triangular arms *d*<sup>7</sup> of the brackets *d*<sup>8</sup>, owing to their construction, effectually resist the centrifugal force tending to move the boats *c* toward the landing-place *a*<sup>3</sup> when traveling through the water and also will move the same forward with any speed desired.

As shown in Figs. 1 and 2, the revolving framework *e* of the amusement apparatus preferably consists of channel-irons *e*<sup>1</sup>, connected at their free ends and with each other by channel-irons *e*<sup>2</sup> and *e*<sup>3</sup>, forming an octagon of irregular outline. Within the intersection of the channel-iron *e*<sup>1</sup> is arranged a plate *e*<sup>4</sup>, which, by means of a flanged collar *e*<sup>5</sup>, connects the inner portion of the framework *e* with a shaft *f*, as shown in Fig. 7. The outer ends of the framework *e* are supported by rods *e*<sup>6</sup>, secured to a collar *f*<sup>7</sup> of the shaft *f*, which is securely connected to the structure *A* and held in vertical position therein by bearings *g* and *g*<sup>1</sup>, as shown in Fig. 1. The shaft *f* and framework *e*, carried by the same, may be rotated by any suitable source of power, among others by a motor *h*, mounted on the platform *a*<sup>4</sup>, which drives the shaft *f*

by means of a pinion *h*<sup>1</sup> meshing with a gear-wheel *f*<sup>2</sup>, rigidly secured to the shaft *f*. When the framework *e* is rotated, its movement by means of the brackets *d*<sup>8</sup> is transmitted to the boats *c*, which are moved by the same in a circular path in the body of water *b*, preferably midway between the landing *a*<sup>3</sup> and platform *a*<sup>4</sup>.

In order to permit of the ready embarking and disembarking of persons desirous of taking a ride in the boats *c*, the same are moved toward and away from the landing *a*<sup>3</sup> during the travel thereof by the following preferred mechanism. Each of the brackets *d*<sup>8</sup>, by means of clamps *i*, is secured to an endless cable or chain *i*<sup>1</sup>, passing over sheaf-wheels *i*<sup>2</sup> and *i*<sup>3</sup>, carried by shafts *i*<sup>4</sup> and *i*<sup>5</sup>, one of which, *i*<sup>4</sup>, is secured to a channel-iron *e*<sup>2</sup> and the other, *i*<sup>5</sup>, to the plate *e*<sup>4</sup> of the framework *e* by means of brackets *e*<sup>8</sup>. As shown in Figs. 1 and 7, the shafts *i*<sup>5</sup> are rotated by pinions *i*<sup>6</sup>, meshing with a gear-wheel *k*<sup>1</sup>, secured to a sleeve *k*<sup>2</sup>, loosely mounted on the shaft *f*. The sleeve *k*<sup>2</sup> at its lower end is provided with a gear-wheel *k*<sup>3</sup>, which by means of a pinion *k*<sup>4</sup>, meshing therewith, receives a rotary movement in either direction from a motor *k* or any other suitable source of power independent of the shaft *f*. By the rotary movement imparted to the shafts *i*<sup>5</sup> the cables or chains *i*<sup>1</sup>, by means of the sheaf-wheels *i*<sup>3</sup>, will be moved, and the boats *c*, connected therewith by means of the brackets *d*<sup>8</sup>, will be shifted laterally and radially toward the landing *a*<sup>3</sup> from the position shown in full lines into the position shown in dotted lines in Fig. 3. After this position has been reached the movement of the motors *k* and *h* is stopped in any suitable manner (not shown) to permit persons occupying the boats *c* to freely and safely leave the same. After the boats have been again occupied both motors *h* and *k* are started, and the same are moved forward and sideways into the position shown in full lines in Fig. 3, after which the same will be moved in a substantially prescribed circular path. It will be understood, however, that the boats may be moved into any position intermediate or close to the landing *a*<sup>3</sup> or inner platform *a*<sup>4</sup> and that one or more of the boats may be kept in such a position independent of the lateral movements of the other boats by uncoupling the respective sheaf-wheels *i*<sup>3</sup> from their shafts *i*<sup>5</sup>. For this purpose each of the shafts *i*<sup>5</sup> is provided with a sleeve *i*<sup>7</sup>, which by means of an arm *i*<sup>8</sup>, resting on the plate *e*<sup>4</sup>, is brought into and out of engagement with the sheaf-wheel *i*<sup>3</sup>, as shown in Fig. 3. This arrangement of disconnecting a sheaf-wheel *i*<sup>3</sup> from its actuating-shaft *i*<sup>5</sup> permits of a withdrawal of one or more of the boats *c* from service and of repair of the same without in the least interfering with the operation of the boats *c* remaining in action.

As shown in Fig. 6, that portion of the



cables or chains  $i'$  to which the brackets  $d^8$  of the framework  $e$  is clamped is held directly in alinement with the central axis of the shaft  $f$ , so as to permit of a direct lateral and radial movement of the boats  $c$  when moved toward and away from the landing  $a^3$ . In order to permit of the free and unobstructed collection of fares and without any loss of time in doing so, the revolving framework  $e$  is provided with an annular platform  $l$ , from which an attendant with the aid of an implement (not shown) may reach any of the persons occupying a seat in any of the boats and collect the fares. The platform  $a^4$  is preferably provided with a superstructure  $m$ , the roof  $m'$  of which forms a receptacle for water, which is pumped into the same from the reservoir  $a$  by means of a pump  $n$  and pipes  $n'$ . From this receptacle  $m'$  the water is permitted to overflow and by its descent over the walls of the superstructure  $m$  forms a fountain, which is preferably illuminated by lights  $o$ , secured to the superstructure and over which the water is conducted by sheet metal  $p$ , bent into a shape to imitate rocks and the like, as shown in Fig. 1.

In order to prevent the free movement of the water in the reservoir  $a$ , which movement is produced by the boats traveling in a certain direction therein, the bottom  $a'$ , as well as the side walls  $a^2$  of the reservoir  $a$ , are provided with obstructions, which in the present instance consists of strips  $r$ , placed radially with respect to the shaft  $f$ , as shown in Figs. 1 and 3. These strips  $r$  efficiently resist the free movement of the water and limit the same to such an extent as to be considerably less than the speed of the boats irrespective of the length of time the same are moved through the water.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an aquatic amusement apparatus, a reservoir adapted to contain a body of water, buoyant bodies located in said body of water, a shaft arranged in said reservoir, a framework carried by said shaft and held by the same a certain distance above said body of water, means slidably arranged on said framework and extending downward to said body of water to engage said buoyant bodies and to move the same through said body of water in a circular path and laterally therein.

2. In an aquatic amusement apparatus, a reservoir adapted to contain a body of water, buoyant bodies located therein, a shaft arranged in said reservoir, a framework carried by said shaft and held by the same a certain distance above said body of water, means carried by said framework and extending downward to said body of water to engage said buoyant bodies at opposite ends so as to prevent sinking of the same in said body of water when overloaded, means for rotating

said shaft and framework to move by said extending means said buoyant bodies in a substantially circular path in said body of water and means for shifting said extending means on said framework to move said bodies laterally in said water.

3. In an aquatic amusement apparatus, a reservoir adapted to contain a body of water, buoyant bodies located therein, a shaft arranged in said reservoir, a framework carried by said shaft and held by the same a certain distance above said body of water, means carried by said framework and extending downward to said body of water to engage said buoyant bodies at opposite ends so as to prevent sinking of the same by limiting the downward movement of said bodies in the water, means adapted to rotate said shaft and framework to move by said extending means said buoyant bodies in a substantially circular path in the water of said reservoir, and means to independently actuate said extending means radially on said framework so as to move by the same said buoyant bodies laterally in the water of said reservoir.

4. In an aquatic amusement apparatus, a reservoir adapted to contain a body of water, boats adapted to be placed therein, a landing-platform surrounding said reservoir, a shaft arranged in said reservoir, a framework carried by said shaft, brackets carried by said framework and adapted to connect the same with said boats, a movable cable connected with each of said brackets and adapted when actuated to shift the same laterally and radially with respect to said shaft on said framework so as to move said boats toward and away from said landing-platform, and means adapted to actuate said cable.

5. In an aquatic amusement apparatus, a reservoir adapted to contain a body of water, boats adapted to be placed therein, a landing-place for the same surrounding said reservoir, a shaft arranged in said reservoir, a framework carried by said shaft, brackets carried by said framework and adapted to connect the same with said boats, a cable connected with each of said brackets, a driving mechanism for each of said cables carried by said framework, means adapted to rotate said shaft and framework to move said boats in the reservoir in a substantially circular path by said brackets, means adapted to independently actuate said driving mechanism and by the same said cables to move said boats during their movement laterally and radially with respect to said shaft toward and away from said landing-place, and means adapted to couple and uncouple the driving mechanism for said cables so as to prevent shifting of certain of said boats.

6. In an aquatic amusement apparatus, a reservoir adapted to contain a body of water, boats adapted to be placed therein, a shaft, a revolving framework carried by said shaft,



brackets slidably arranged on said frame-  
work and having rods, means connected with  
each of said boats and adapted to loosely en-  
gage said rods, and means arranged on said  
5 rods adapted to rigidly clamp the boats there-  
to by engaging the connecting means thereof.

7. In an aquatic amusement apparatus, a  
reservoir adapted to contain a body of water,  
boats adapted to be placed therein, a shaft  
10 arranged in said reservoir, a framework car-  
ried by said shaft, brackets carried by said  
framework and adapted to connect the same  
with said boats, means adapted to rotate said  
shaft and framework so as to move said boats  
15 in a substantially circular path by said  
brackets, in combination with means ar-  
ranged in said reservoir adapted to resist  
free movement of the water, when set in mo-  
tion by said boats.

20 8. In an aquatic amusement apparatus, a

reservoir adapted to contain a body of water,  
boats adapted to be placed therein, a shaft  
arranged in said reservoir, a framework car-  
ried by said shaft, brackets carried by said  
framework and adapted to connect the same 25  
with said boats, means adapted to rotate  
said shaft and framework to move said boats  
in a substantially circular path by said brack-  
ets in said reservoir, in combination with  
strips secured to the bottom and sides of said 30  
reservoir and radially disposed with respect  
to said shaft to resist free movement of the  
water, when set in motion by said boats.

In testimony whereof I have hereunto set  
my signature in the presence of two subscrib- 35  
ing witnesses.

ROBERT A. FOWDEN.

Witnesses:

J. WALTER DOUGLASS,  
THOMAS M. SMITH.