(No Model.)

2 Sheets—Sheet 1.

E. G. SOLOMON.

YACHT RACING TOY.

No. 568,808. Patented Oct. 6, 1896.

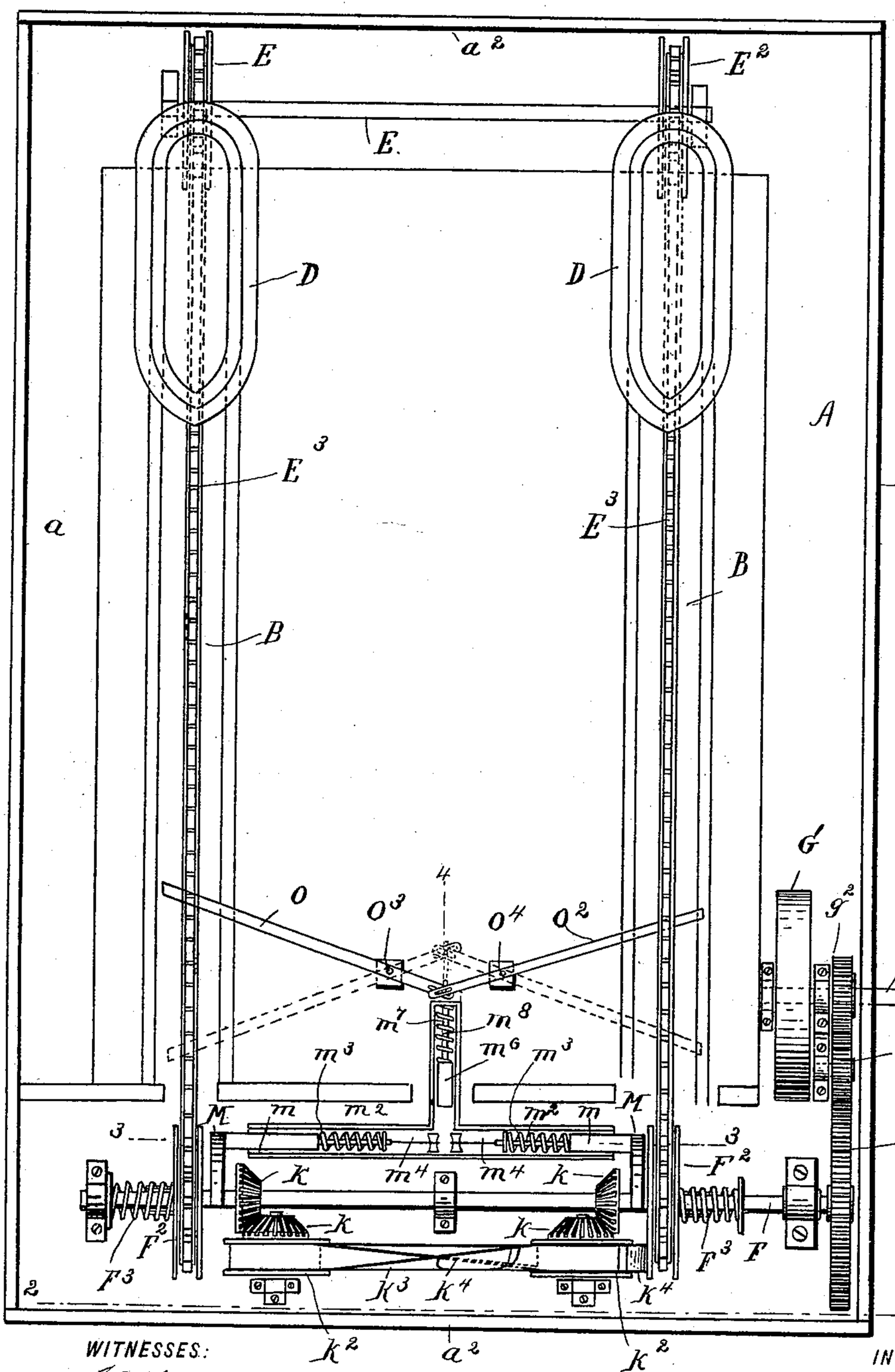

FIG. 1.

WITNESSES:

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INVENTOR

Emmet Gamaliel Solomon.

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(No Model.) 2 Sheets—Sheet 2.

E. G. SOLOMON.

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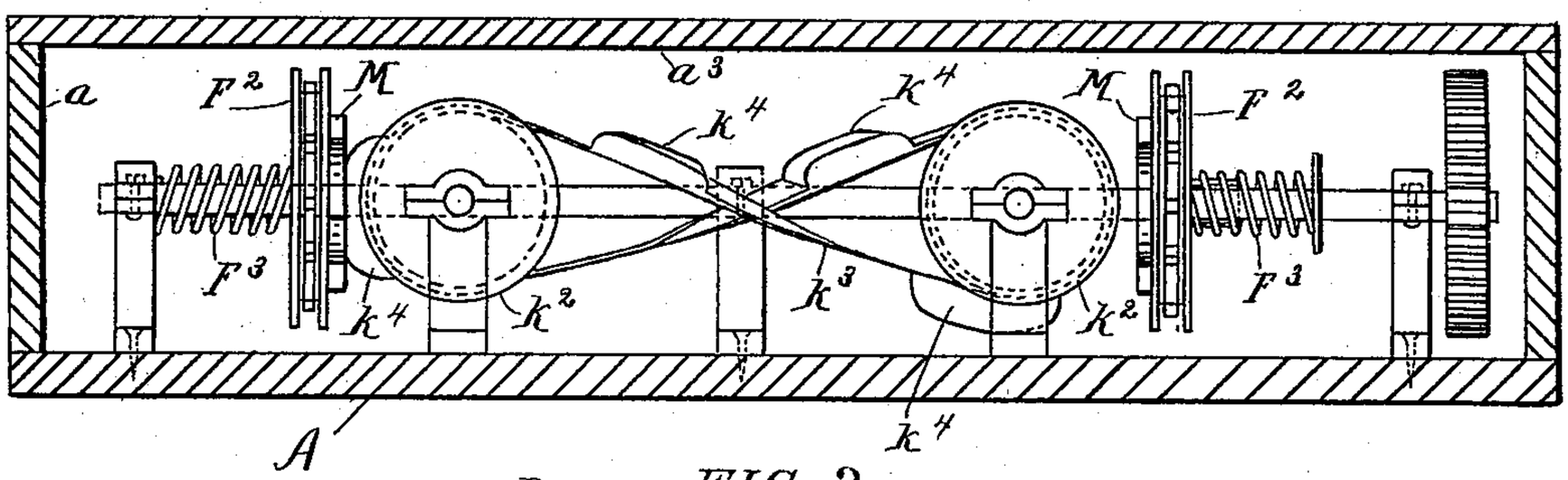

FIG. 2

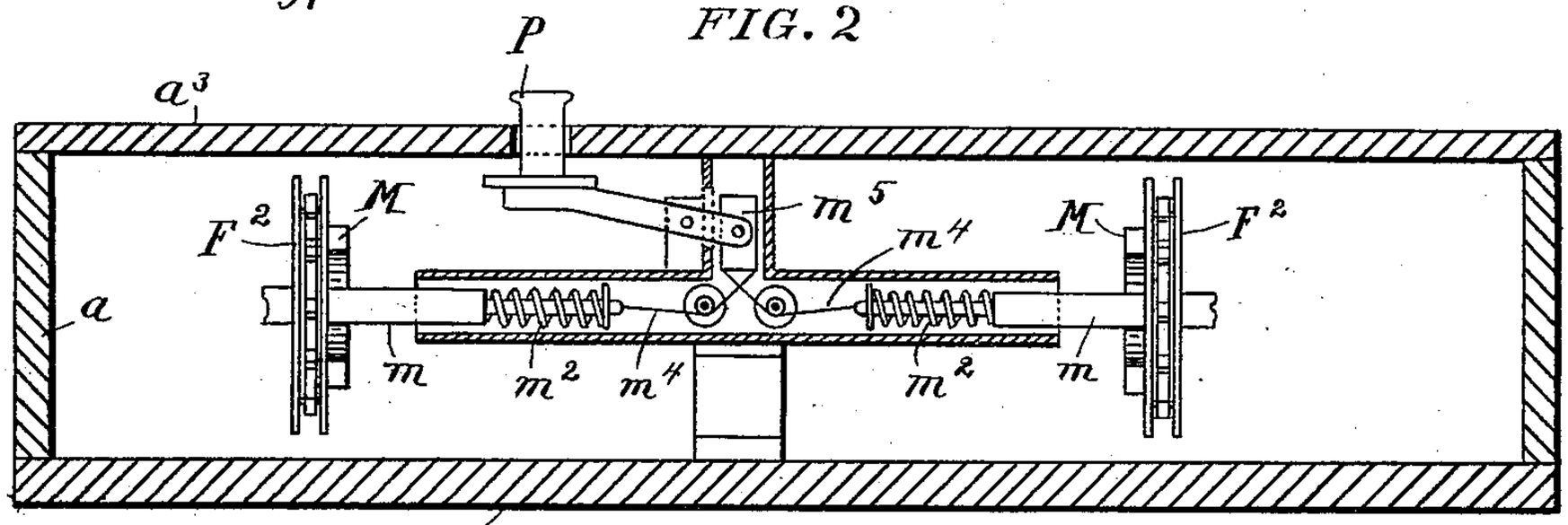

FIG. 3.

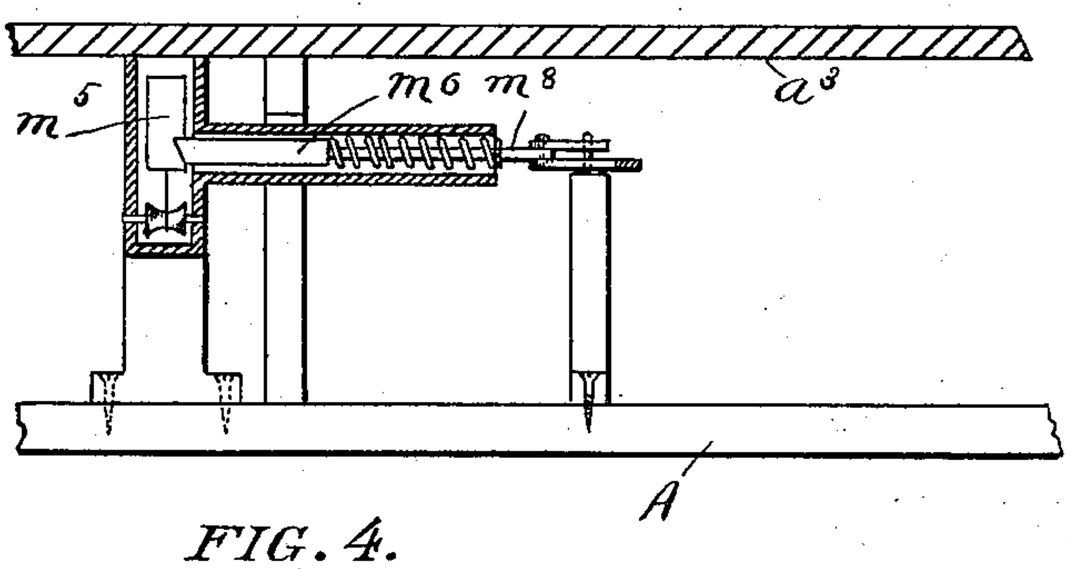

FIG. 4.

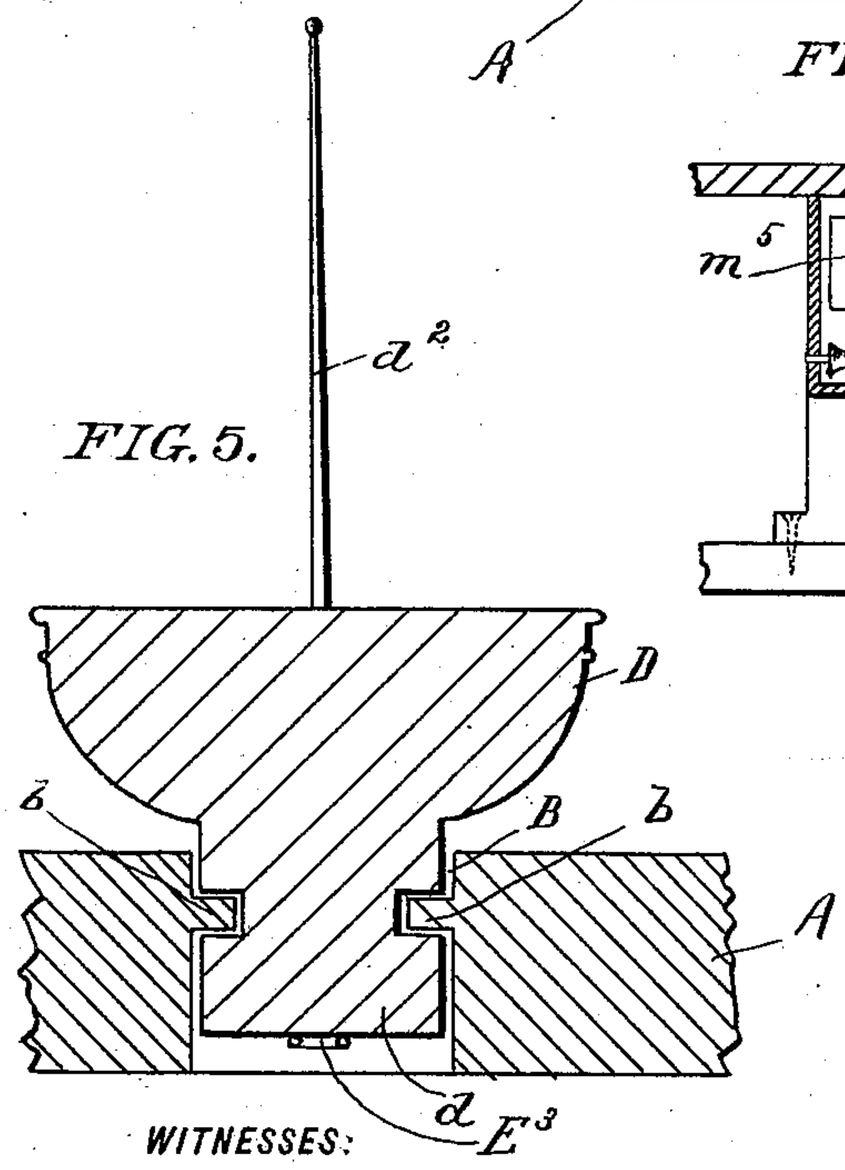

FIG. 5.

WITNESSES:

B. M. Holden.

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INVENTOR

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UNITED STATES PATENT OFFICE.

EMMET GAMALIEL SOLOMON, OF OMAHA, NEBRASKA.

YACHT-RACING TOY.

SPECIFICATION forming part of Letters Patent No. 568,808, dated October 6, 1896.

Application filed January 9, 1896. Serial No. 574,856. (No model.)

To all whom it may concern:

Be it known that I, EMMET GAMALIEL SOLOMON, a citizen of the United States, and a resident of Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Mechanical Yacht-Racing Devices, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention involves a mechanical device which is intended to represent a yacht-race, and the object thereof is to provide a device of this class which is entirely mechanical and by means of which a comparative representation of a yacht-race may be produced, a further object being to provide a device of this class in which the result of the race between the yachts cannot be foretold, and in which neither of the yachts can be given advantage over the other; and with this and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a plan view of my improved yacht-racing device with the upper cover which is applied to a portion thereof removed; Fig. 2, a section on the line 2 2; Fig. 3, a section on the line 3 3; Fig. 4, a section on the line 4 4, and Fig. 5 a sectional detail showing the method of connecting the yachts with the bottom of the device.

In the practice of my invention I provide a bottom board or plate A, which is rectangular in form, and which may be of any desired length and width, and which is provided with vertical side boards *a* and with vertical end boards a^2, and the rear portion of which, or that portion in which the operative mechanism is placed, is provided with a cover a^3.

The cover a^3 is not shown in Fig. 1, it being omitted so as to better show the operative mechanism, which I will now proceed to describe.

The bottom board A is provided adjacent to each side with oblong slots or ways B, at each side of which are formed flanges *b*, as shown in Fig. 5, and the yachts employed may be of any desired form and are represented at D, and are provided with keels *d*, which are free to slide in the ways B, and each yacht may also be provided with a mast d^2. Mounted at one end of the board is a shaft E, at each end of which is a sprocket-wheel E^2, each of which is arranged in line with one of the ways B, and mounted on each of said sprocket-wheels is a drive-chain E^3, and at the opposite end of the board A is a shaft F, on which are mounted similar sprocket-wheels F^2, over which said drive-chains E^3 are passed. Mounted adjacent to the right-hand side of the board A and near the end in which the shaft F is located is a spring-drum G, the shaft *g* of which extends through one of the sides of the box or casing, which is composed of the bottom A, the sides *a*, and the end pieces a^2, and mounted on the shaft *g* is a gear-wheel g^2, which is adapted to operate in connection with a gear-wheel g^3, which engages with and operates a gear-wheel g^4, mounted on the shaft F. Outside of the sprocket-wheels F^2 on the shaft F are arranged spiral springs F^3, one end thereof being adapted to bear upon said sprocket-wheels and the other ends being provided with suitable bearings secured to said shaft, and said springs being adapted to force the sprocket-wheels F^2 inwardly. These sprocket-wheels F^2 are free to slide upon the shaft F, on which they are held in place by the springs F^3 when the yachts are in motion, there being pins through the main shaft that said sprocket-wheels slip over.

Mounted on the shaft F inside of the sprocket-wheels F^2 are beveled gear-wheels K, which operate in connection with corresponding beveled gear-wheels *k*, mounted in line with said shaft outside thereof, and on the shafts of which are mounted drive-wheels k^2, over which passes a driving-belt k^3, which is provided on its outer surface with shoulders or lugs k^4, which are most clearly shown in Fig. 2, which are adapted to come in contact, when the device is in operation, with the sprocket-wheels F^2 and to force them outwardly and away from the pin or pins hereinbefore referred to, and thus to allow said wheels to turn faster, thereby running one of

the yachts ahead of the other for the time being. I also provide brakes M, which are semicircular in form, and the open ends of which are directed outwardly and inclose the shaft F, said brakes being adapted to operate upon the sprocket-wheels F^2, and said brakes are each provided with inwardly-directed arms m, provided with inwardly-projecting rods m^2, on which are spiral springs m^3, and the inner ends of the rods m^2 are connected with chains or cords m^4, which connect with a vertically-movable head or bolt m^5, Figs. 2 and 3, arranged at right angles to the arms m of the brakes, and said head or bolt m^5 is provided with a notch in the side thereof, in which operates a horizontal bolt m^6, which is operated by a spring m^7, mounted on the rod m^8, the outer end of which is pivotally connected with two similar levers O and O^2, which project in opposite directions and which are pivoted at O^3 and O^4, and which are adapted to be operated, respectively, by the yachts D, and when one of the boats reaches the end of the course it strikes against one of the levers, O or O^2, as the case may be, which operates the spring-operated head or bolt m^5, by means of which the brakes M are operated, so as to stop both yachts at exactly the same time, and the main shaft and the rubber band k^3 will keep on running after the yachts stop.

When it is desired to have a new race, all that is necessary is to pull both yachts back to the starting-point, as there is nothing to prevent it but the brakes M, and they will permit the backward movement of the boats to the starting-point, and when it is desired to start the race all that is necessary is to push down the button P, (shown in Fig. 3,) which operates a bell, (not shown,) and which is connected with the head or bolt m^5, and which removes the brakes M from contact with the sprocket-wheels F^2 and at the same time sets the levers O and O^2, as shown in Fig. 1. When the brakes M are removed from contact with the sprocket-wheels F^2, the latter slip back on the shaft F, over the pins hereinbefore referred to, and the yachts move as hereinbefore described, and during the time that the yachts are being pulled back to the starting-point the main shaft is running and it runs the rubber band k^3 with the rubber shoulders or projections k^4, formed thereon, so that when the yachts are once started there is no telling where the shoulders or projections k^4 on the shaft k^3 are, and therefore no one can tell which one is going to win the race, as the progress of the yachts will depend entirely upon the operation of these shoulders or projections k^4 upon the sprocket-wheels F^2, said sprocket-wheels being turned faster or stopped each time that one of them is struck by one of the shoulders or projections k^4 on the band k^3.

The brake-springs m^3 should be stronger than the sprocket-wheel springs F^3, and the projections or shoulders k^4 on the band k^3 are of various sizes, thereby giving various moves to the yachts, or may be arranged in any desired order and any preferred number thereof may be employed, and it is evident that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages, and I therefore reserve the right to make all such alterations therein and modifications thereof as fairly come within the scope of the invention.

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

1. The herein-described mechanical yacht-racing device, which comprises a bottom board or plate, longitudinal ways in which two yachts are adapted to travel, a shaft mounted transversely at each end of the bottom board or plate, and sprocket-wheels mounted thereon, provided with endless belts which are connected with said yachts, and means for revolving one of said shafts and for moving said yachts, one of said shafts being connected by means of suitable gearing with a spring-drum, and the sprocket-wheels mounted on said shaft being loosely connected therewith, and said shaft being also provided with beveled gear-wheels which operate in connection with corresponding beveled gear-wheels mounted at right angles to said shaft on which are mounted a belt provided with shoulders or projections which are adapted to operate in connection with said sprocket-wheels, substantially as shown and described.

2. The herein-described mechanical yacht-racing device, which comprises a bottom board or plate, longitudinal ways in which two yachts are adapted to travel, a shaft mounted transversely at each end of the bottom board or plate, and sprocket-wheels mounted thereon, provided with endless belts which are connected with said yachts, and means for revolving one of said shafts and for moving said yachts, one of said shafts being connected by means of suitable gearing with a spring-drum, and the sprocket-wheels mounted on said shaft being loosely connected therewith, and said shaft being also provided with beveled gear-wheels which operate in connection with corresponding beveled gear-wheels mounted at right angles to said shaft on which are mounted a belt provided with shoulders or projections which are adapted to operate in connection with said sprocket-wheels, and brakes suitably mounted adjacent to each of said sprocket-wheels, and provided with operating device connected with levers which are adapted to be operated by the yachts, substantially as shown and described.

3. The herein-described mechanical yacht-racing device, which comprises a bottom board or plate, longitudinal ways in which two yachts are adapted to travel, a shaft mounted transversely at each end of the bot-

om board or plate, and sprocket-wheels mounted thereon, provided with endless belts which are connected with said yachts, and means for revolving one of said shafts and for moving said yachts, one of said shafts being connected by means of suitable gearing with a spring-drum, and the sprocket-wheels mounted on said shaft being loosely connected therewith, and said shaft being also provided with beveled gear-wheels which operate in connection with corresponding beveled gear-wheels mounted at right angles to said shaft on which are mounted a belt provided with shoulders or projections which are adapted to operate in connection with said sprocket-wheels, and brakes suitably mounted adjacent to each of said sprocket-wheels, and provided with operating devices connected with levers which are adapted to be operated by the yachts, and a push-button in operative connection with said brakes, and by means of which the yachts may be put in motion, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 19th day of December, 1895.

EMMET GAMALIEL SOLOMON.

Witnesses:

ROLLIN E. HARRIS,

GEORGE A. OSTROM.