W. C. FOX.

WAVE MOTOR.

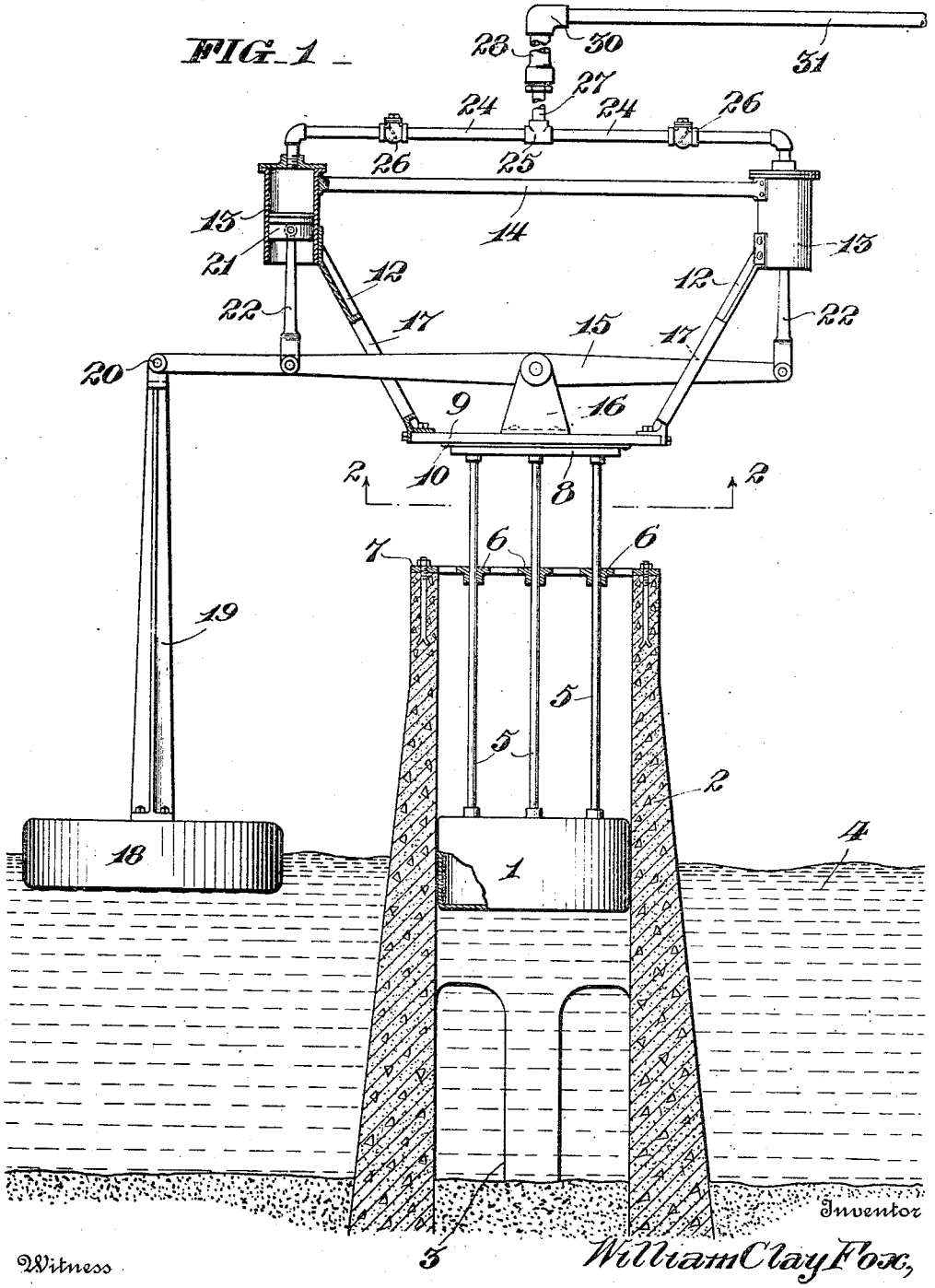
APPLICATION FILED SEPT. 14, 1916.

1,244,309.

Patented Oct. 23, 1917.

2 SHEETS—SHEET 1.

FIG. 1.



Witness

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2 SHEETS—SHEET 2.

FIG. 2.

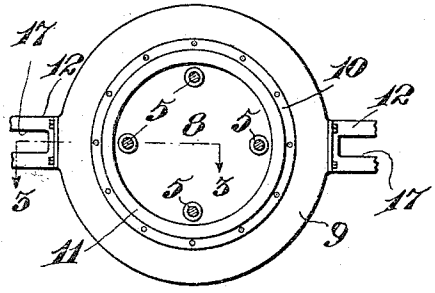


FIG. 3.

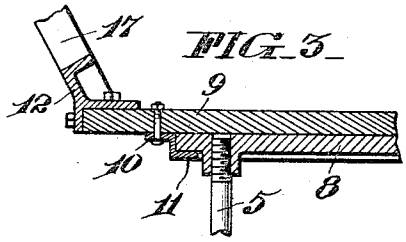
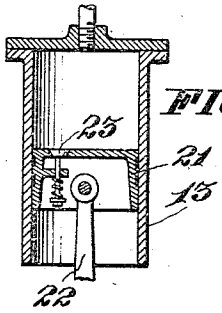


FIG. 4.



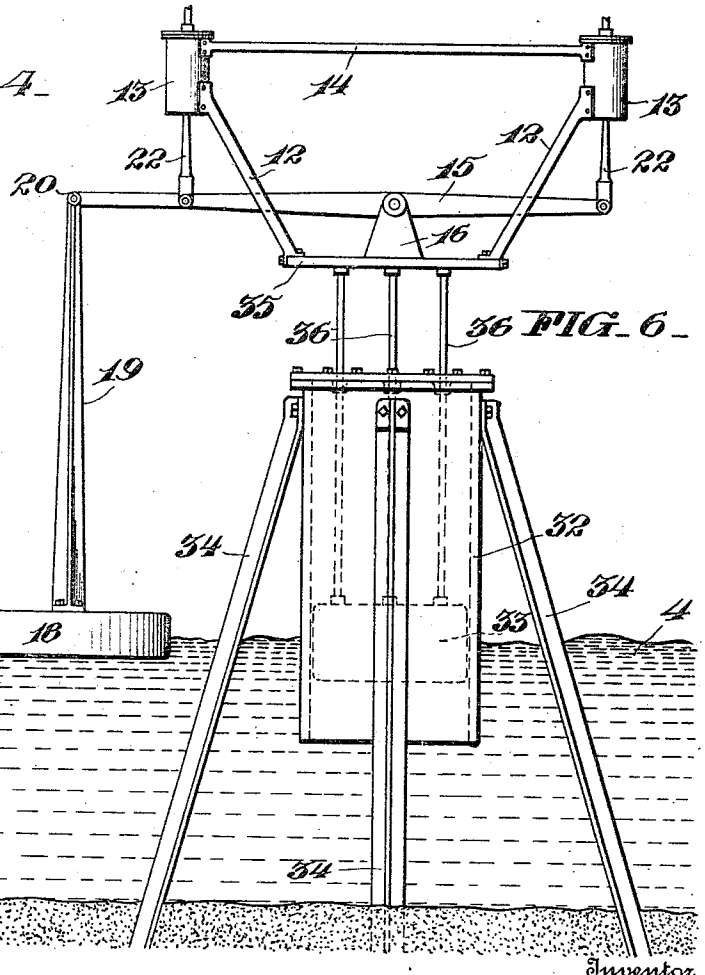
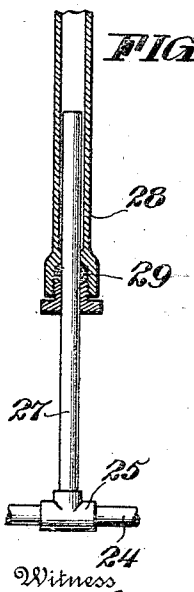


FIG. 6.

FIG. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM CLAY FOX, OF PENNS GROVE, NEW JERSEY.

WAVE-MOTOR.

1,244,309. Specification of Letters Patent. Patented Oct. 23, 1917.

Application filed September 14, 1916. Serial No. 120,016.

To all whom it may concern:

Be it known that I, WILLIAM CLAY FOX, a citizen of the United States, residing at Penns Grove, in the county of Salem and State of New Jersey, have invented certain new and useful Improvements in Wave-Motors, of which the following is a specification.

My invention relates to improvements in wave motors, an object of the invention being to provide a motor of the character stated which is supported entirely upon a float, the latter guided in its vertical movement within a suitable casing so as to rise and fall with the tide, but not materially affected by the motion of the waves.

A further object is to provide a motor of the character described, in which a float movable by the waves imparts motion to a lever and the latter to a plurality of air pumps so as to force air through an outlet pipe to be utilized for any desired power.

A further object is to provide a wave motor of extremely simple construction, and one which will be strong and durable in use.

With these and other objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings:

Figure 1 is a view in elevation, partly in vertical section, illustrating my improved wave motor.

Fig. 2 is a view in section on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary view in section on an enlarged scale on the line 3—3 of Fig. 2.

Fig. 4 is a view in longitudinal section through one of the pumps.

Fig. 5 is a view in longitudinal section showing the telescoping portions of the air outlet pipe, and

Fig. 6 is a view in elevation illustrating a modified form of motor.

Referring particularly to Figs. 1, 2, 3, 4 and 5, 1 represents a supporting float which is guided in its vertical movement by a casing 2. The latter may be of concrete, cement, or other composition suitably anchored in the ground and having openings 3 in its lower portion permitting a free circulation of the water indicated at 4, so as to cause the float 1 to rise and fall with the tide, but shield the same from the movement of the waves as far as possible.

A plurality of vertical rods 5 extend upwardly from float 1 through guides 6 in a perforated plate 7 which is secured to the top of casing 2. A table 8 is secured to the upper ends of rods 5 and supports a rotary platform 9. The platform 9 and table 8 are connected by an angle ring 10, the latter secured to the platform 9 and having its internal annular flange 11 projecting below the lower face of table 8. As the table 8 and ring 10 are circular, the platform 9 is permitted a free rotary movement on the table, yet securely supported by the table.

Inclined standards 12 are secured at their lower ends to the platform 9, and at their upper ends to air pump cylinders 13. The cylinders 13 are connected by a bar 14, which together with the standards 12 provides a rigid mounting for the pump cylinders.

A lever 15 is pivotally supported between its ends on a fulcrum block 16 secured to the center of platform 9. This lever 15 projects through slots 17 in the standards 12, and as these slots are relatively narrow, the walls thereof operate to prevent lateral movement of the lever, but permit a free fulcruming movement.

A lever operating float 18 supported on the surface of the water 4 is provided with a standard 19 pivotally connected to one end of the lever 15 as shown at 20 so that the movement of the float 18 causes the pivotal movement of lever 15.

Each pump cylinder 13 is provided with a piston 21, and pitmen 22 connect the pistons 21 with the lever 15 so that the movement of the lever causes a reciprocation of the pistons in their cylinders.

Each piston 21 has a spring pressed check valve 23 which permits the entrance of air back of the piston during the downward movement of the piston.

Outlet pipes 24 connect the ends of the respective cylinders 13 with a T-coupling 25 and are provided with check valves 26

to permit the flow of air in one direction only.

A vertical pipe 27 is connected to the T-coupling 25 and telescopes within a larger vertical pipe 28 to compensate for vertical movement of the motor, and to prevent leakage. A stuffing box 29 is provided around pipe 27 as shown clearly in Fig. 5.

Pipe 28 is connected by an elbow 30 with an outlet pipe 31, and conveys the air to any desired point for use.

By constructing my improved motor as above explained, the float 1, which supports the entire mechanism, rises and falls with the tide so that it always maintains the parts in proper relationship to the water.

As the platform 9 is free to turn on the table 8, the float 18 can move around the outside of casing 2 in accordance with the tide and operate with equal efficiency in any position.

The telescoping pipes 27 and 28 not only permit this rotary movement, but also compensate for various vertical movements.

In the modification shown in Fig. 6, I provide an outer casing 32 around the supporting float 33 which is held in vertical position by means of incline supports 34. The casing 32 is open at its lower end so as to admit the water thereto, to raise and lower the float in accordance with the tide. In this modification, a platform 35 is rigidly secured to the vertical rods 36 so that the motor has no rotary mounting as in the preferred form.

In other respects the construction is like the preferred form, and I have used the same reference numerals to indicate like parts.

Various slight changes may be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. A wave motor, comprising a vertically positioned stationary casing located in the water, extending above the surface and communicating with the water at a point below the surface of the water, a plate on the upper end of the casing having a plurality of openings therein, a supporting float located in the casing, a plurality of vertical rods secured to the float and projecting through the openings in the plate, a platform supported by the upper ends of the rods, a lever fulcrumed between its end on the platform, pumps operated by the lever, and a float supported on the water and connected to one end of the lever.

2. A wave motor, comprising a vertically positioned stationary casing, a supporting float in the casing, rods secured to the float and projecting through the top of the casing, a platform on the rods, slotted standards on the platform, pumps secured to the standards, a lever fulcrumed on the platform and projecting through the slotted standards, said lever operatively connected to the pumps, and a float connected to one end of said lever.

3. A wave motor, comprising a casing, a float in the casing, a platform supported by the float, a turn table on the platform, pump cylinders, slotted standards connecting the pump cylinders with the turn table, a bar connecting the cylinders, a lever fulcrumed on the platform and projecting through the slotted standards, pistons in the cylinders, rods connecting the pistons with the lever, and a float supported on the water and connected to one end of the lever.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM CLAY FOX.

Witnesses:
ELEANOR F. MURRAY,
WILLIAM CONWAY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."