

R. D. WIRT.

WAVE MOTOR.

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1,037,390.

Patented Sept. 3, 1912.

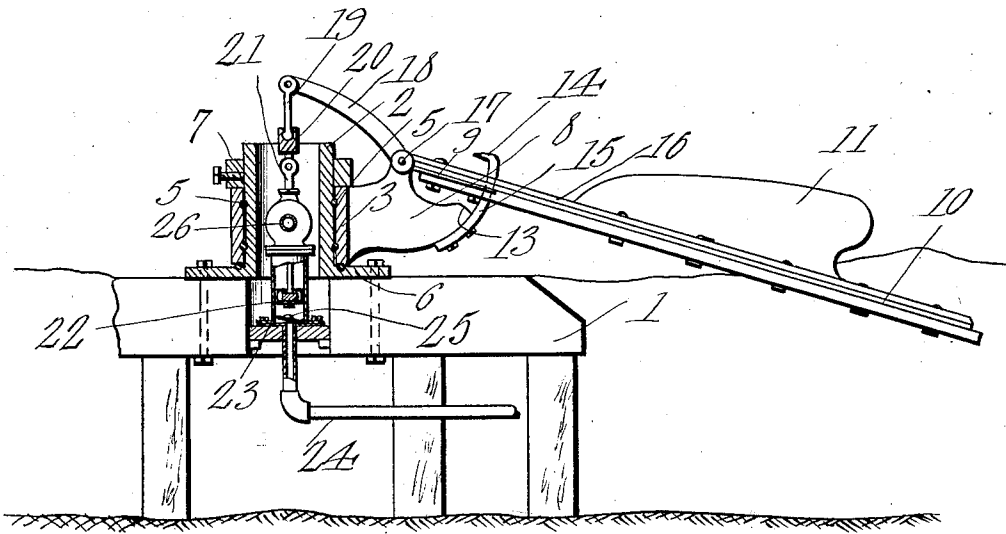


Fig. 1.

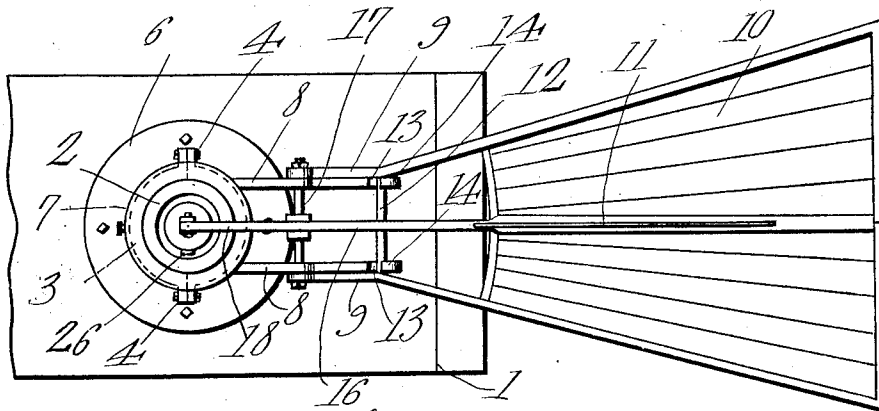


Fig. 2.

R. D. Wirt

Witnesses

J. R. Downing
L. H. Wilson

Inventor

by

C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

REUBEN D. WIRT, OF HAINES CITY, FLORIDA.

WAVE-MOTOR.

1,037,390.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, REUBEN D. WIRT, a citizen of the United States, residing at Haines City, in the county of Polk and State of Florida, have invented a new and useful Wave-Motor, of which the following is a specification.

This invention relates to wave motors, one of its objects being to provide a novel form of float adapted to be raised and lowered by wave power for the purpose of actuating a pump, combined therewith.

Another object is to provide means whereby the float is free to swing in a circle without interfering with the action of the pump and whereby the float is held in proper position relative to the wind so as thus to obtain the greatest benefit from the wave motion.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view partly in side elevation and partly in section of the complete motor. Fig. 2 is a plan view.

Referring to the figures by characters of reference 1 designates a frame of any suitable construction which may be submerged in or supported above a body of water, this frame supporting an upstanding tubular bearing member 2 having a sleeve 3 mounted for rotation thereon. As shown in Fig. 2 this sleeve may be split and provided with outstanding ears 4 bolted or otherwise secured together. Anti-friction devices 5 are interposed between the sleeve and the bearing 2 and also between the lower end of said sleeve and the base flange 6 of the bearing so as to thus permit the sleeve to rotate freely on the bearing. A retaining collar 7 is fastened to the upper portion of the bearing in any suitable manner and serves to hold the sleeve against vertical displacement.

Wings 8 extend outwardly from the sleeve 3 and are disposed in parallel planes, these

wings projecting between arms 9 located at one end of a fan-shaped float 10 formed of any suitable material and provided preferably along its longitudinal center with an upstanding fin 11. A cross rod 12 connects the arms 9 and is adapted to work between stop shoulders 13 formed by the ends of the wings 8 and stop projections 14 formed at the upper ends of arcuate arms 15 upstanding from the wings. Thus it will be seen that the float has a limited up and down swinging movement.

A central rib 16 is arranged between the arms 9 and extends under the fin 11 and constitutes a part of the float. This rib is pivotally mounted on the rod 17 which constitutes the connection between wings 8 and arms 9 and said rib merges into a pump arm 18 which overhangs the tubular bearing 2 and is pivotally engaged by the upper end of a pitman 19. As shown in the drawings this pitman is preferably formed of two sections connected together by a swivel, 20. The pitman is connected to the rod 21 of a valved piston 22, said piston being mounted to reciprocate in a pump cylinder 23 supported by the frame 1. A suction pipe 24 opens into this cylinder and is provided with a suitable check valve 25 and any suitable arrangement of outlet pipe 26 is located preferably at the upper end of the cylinder.

It is to be understood that the float 10 normally extends along an inclined plane into the body of water so as to be partly submerged, the fin 11 upstanding from the float so as to be shifted by the wind in order to bring the float into its most effective position. As the waves move under the float it will be raised and lowered and thus cause the pitman 19 to reciprocate piston 22 which will, therefore, operate to elevate water drawn through the pipe 24. Should the direction of the wind change at any time the pressure of the wind upon the fin 11 will cause the float 10 and the sleeve 3 to move around the bearing 2 until said float is brought into position with its longitudinal axis parallel with the air current.

What is claimed is:—

1. Apparatus of the class described including a float mounted to travel about a substantially vertical axis, and wind operated means for maintaining the float in a predetermined position relative to the course of the wind.

2. Apparatus of the class described including a float adapted to oscillate upwardly and downwardly and to move about a substantially vertical pivot, and means upon the float and actuated by the wind for maintaining the float in a predetermined position relative to the course of the wind.
3. Apparatus of the class described including an upstanding bearing, a normally inclined float mounted for vertical oscillation and mounted to travel in a circle about the bearing, and a fin upstanding from the float.
4. Apparatus of the class described including an upstanding bearing, a normally inclined float mounted for vertical oscillation and adapted to move in a circle about said bearing, means for limiting the vertical oscillation of the float, and a fin supported by the float and maintained thereby above the surface of the water on which the float is mounted.
5. Apparatus of the class described including an upstanding bearing, a normally inclined float mounted for vertical oscillation and adapted to travel in a circle about the bearing, a pump, and a swivel connection between the pump and the float.
6. Apparatus of the class described including an upstanding bearing, a normally inclined float mounted for vertical oscillation and adapted to travel in a circle about

the bearing, a pump, and a pitman connection between the float and pump, said connection including a swivel.

7. Apparatus of the class described including an upstanding bearing, a float mounted for vertical oscillation and adapted to travel in a circle about the bearing, and a fin upon the float.

8. Apparatus of the class described including an upstanding bearing, a float mounted for vertical oscillation and adapted to travel in a circle about the bearing, a fin upon the float and normally supported thereby above the surface of the water supporting the float, and means for limiting the vertical oscillation of the float.

9. Apparatus of the class described including an upstanding bearing, a float mounted for vertical oscillation and adapted to travel in a circle about the bearing, a fin upstanding from the float, an arm fixedly connected to the float, a pump including a piston rod, and a pitman connection between said rod and the arm, said connection including a swivel.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

REUBEN D. WIRT.

Witnesses:

SELINA WILLSON,
I. E. SIMPSON.