Dec. 26, 1922.

1,439,984.

C. S. TALBERT.

WAVE MOTOR.

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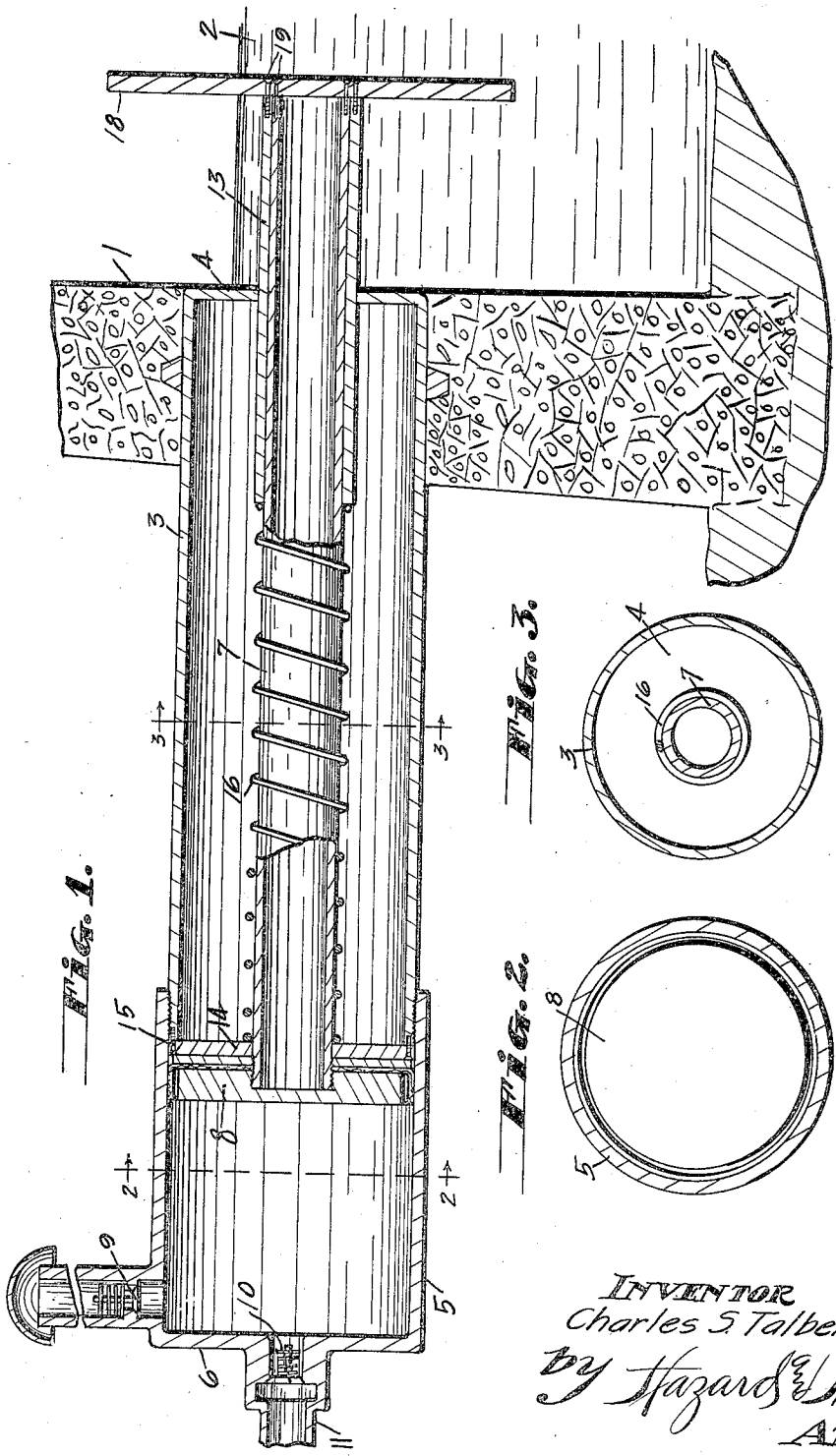


Fig. 1.

Fig. 3.

Fig. 2.

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UNITED STATES PATENT OFFICE.

CHARLES S. TALBERT, OF LONG BEACH, CALIFORNIA.

WAVE MOTOR.

Application filed January 3, 1921. Serial No. 434,705.

To all whom it may concern:

Be it known that I, CHARLES S. TALBERT, a citizen of the United States, residing at Long Beach, in the county of Los Angeles and State of California, have invented new and useful Improvements in Wave Motors, of which the following is a specification.

It is the object of this invention to provide a wave motor of extremely simplified but efficient construction and including an operating means suitably mounted and actuated by the motion of waves for directly reciprocating a piston rigid with the actuating means and moving in a cylinder for compressing air or other fluid therein.

The invention will be readily understood from the following description of the accompanying drawings, in which:

Figure 1 is a longitudinal section through a motor constructed in accordance with the invention.

Figs. 2 and 3 are transverse sections on the lines 2—2 and 3—3 of Fig. 1.

In the form of the invention illustrated in Figs. 1 to 3, I have shown the wave motor mounted in a wall 1, which is preferably a sea wall having waves of the ocean represented at 2 impinging against said wall. It will be obvious however, that the upright 1 need not be a stationary sea wall, but might be readily formed upon a suitable float or the like.

A cylinder 3 is mounted transversely of upright 1, so as to project rearwardly from the same, and at its front end is preferably closed by an end plate 4 in alinement with the surface of upright 1, which is adjacent the water. The rear end of cylinder 3 is threaded to receive a compression chamber 5 projecting longitudinally beyond the cylinder and having the end plate 6.

A piston rod 7 reciprocates within cylinder 3, and at its rear end a piston 8 is connected to the same for reciprocating within chamber 5. An inwardly opening check valve 9 is provided in chamber 5 for admitting air, and an outwardly opening check valve 10 is provided in end wall 6, so as to permit the passage of air compressed in chamber 5 by piston 8 from said chamber to a suitable conduit 11 extending beyond check valve 10, and adapted to carry the compressed air to any suitable point of utilization.

The front end of piston rod 7 projects through an opening in end plate 4, and a sleeve 13 is preferably received upon this end of the piston rod. The opposite end of the piston rod is slidably received through a plate 14 extending across the rear end of cylinder 3, and suitably secured thereto as by screws 15. A coil spring 16 is received upon piston rod 7 with one end thereof abutting against plate 14, and its opposite end abutting against the end of sleeve 13.

A transverse plate 18 is mounted upon the outer end of piston rod 7 as by the screw connection 19, and the outer end of sleeve 13 is similarly connected to plate 18. The plate 18 is adapted to be impinged by the waves, and is of suitable size and shape, so that sufficient pressure will be transmitted through the plate to the piston rod for actuating piston 8 within air chamber 5, so as to compress air and discharge the same through conduit 11.

As the piston rod and its piston move rearwardly through the action of the waves against plate 18, the spring 16 is compressed, and as a consequence, when a wave recedes from plate 18, the parts will be returned to their original position by the action of the spring.

Various changes may be made without departing from the spirit of the invention as claimed.

What is claimed is:

1. A wave motor comprising a support, a cylinder secured on the support, an extension sustained on one end of the cylinder and of a diameter exceeding that of the cylinder to provide a shoulder at the junction of the tube, a plate secured to one end of the cylinder a piston working within said extension, valves for admitting air to the extension when the piston is moved in one direction and for exhausting air therefrom when the piston is moved in the other direction, a rod extending through the plate and connected to the piston and extending exteriorly of said cylinder, a sleeve secured to the rod, an abutment plate secured to the rod and sleeve and arranged exteriorly of the cylinder, and a spring surrounding the rod and interposed between the plate and said sleeve for normally projecting the sleeve and rod from the cylinder.

2. A wave motor comprising a cylinder. a support therefor, a cylindrical extension at one end of the cylinder, a stationary plate between the extension and the cylinder, a piston working within said extension, valves

for admitting air to the extension when the piston is moved in one direction and for forcing air therefrom when the piston is moved in the other direction, a rod extending through said plate and connected to the piston and extending exteriorly of said cylinder, said rod having intermediate its ends a spring engaging stop, an abutment plate secured to the outer end of the rod, and a spring surrounding the rod and interposed between said stationary plate and said stop for normally projecting the rod from the cylinder.

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

CHARLES S. TALBERT.