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WAVE MOTOR.

APPLICATION FILED OCT. 12, 1909.

**984,131.** Patented Feb. 14, 1911.

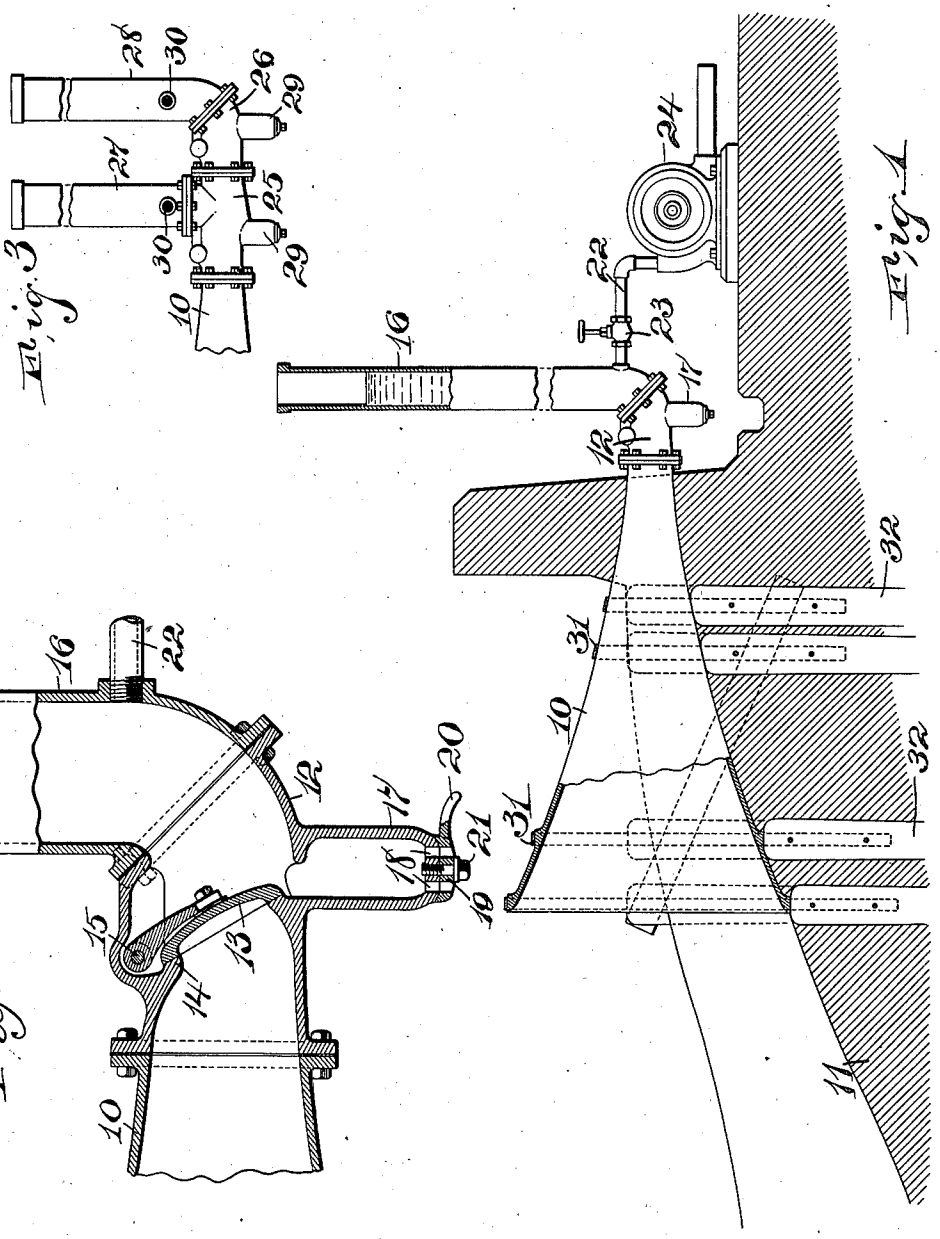


Fig. 3.

Fig. 1.

Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## WAVE-MOTOR.

984,131. Specification of Letters Patent. Patented Feb. 14, 1911.

Application filed October 12, 1909. Serial No. 522,316.

*To all whom it may concern:*

Be it known that I, WELCOME P. GAMMONS, Jr., a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Wave-Motors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to a means for receiving, storing and utilizing the power of waves, and is adapted to be placed on the beach where there is force from the surf which can be used to open a check-valve or means for retarding the return after the wave has passed through a receiving portion which is adapted to concentrate its volume and force.

The invention is further designed to provide a stand-pipe into which the water forces itself, and repeated waves are designed to raise the level of the water in the stand-pipe so that as the water from the stand-pipe is used it is replenished from the bottom by the action of the waves.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 illustrates the invention installed on a shore front. Fig. 2 is a section showing a portion of the device embracing the bottom of the stand-pipe, the check-valve or restraining means, a portion of the entrance and a drum or receptacle for removing deposits of sand or dirt. Fig. 3 is a view of a modified form.

The device comprises an entrance portion 10 which is preferably funnel-shaped or flaring so that when waves on the shore 11 are forced, by their own power or speed, into the entrance portion or funnel, the volume and power are concentrated on the valve 13 in the valve casing 12 which valve is a check-valve or restraining means preventing the return of the water, and the valve 13 is forced away from the valve seat 14 by reason of its being pivoted at 15, and the water rushes up into the stand-pipe 16. As the force of the wave is expended and diminishes, the weight of the water in the stand-pipe 16 forces the valve 13 shut and the water is locked in the stand-pipe 16. The succeeding waves repeat the performance and force the water level higher in the stand-pipe 16 up to a certain point where the weight of the water in the stand-pipe 16 counteracts the force of the waves, or it maintains the level of the water in the stand-pipe 16 if the water is being drawn on for power. Suitably arranged at the bottom of the stand-pipe 16, and preferably adjacent to the valve 13, is a drum or receptacle 17 having means for emptying or draining it from the bottom, preferably by having its bottom perforated as at 18 and having a rotatable perforated disk 19 pivoted at 21 and operated by a handle 20, and when the perforations 18 and 19 are in register, sand or similar dirt can pass out, but when the handle 20 is turned so that they are not in register, the water is confined.

Suitably connected at any point near the bottom of the stand-pipe 16 is a pipe 22 with a valve 23 to regulate the passage of water through it, which pipe 22 is used to convey the water to any suitable motor 24, the illustration showing an ordinary type of turbine or rotary motor. If desired I may use the apparatus shown in Fig. 3 where the entrance portion 10 is provided with a check-valve casing 25 containing a valve similar to the check-valve 13 in the previous description, which in turn is fastened and communicates with another valve casing 26 containing its valve, each of the valves in the casings 25 and 26 having its respective stand-pipe 27 or 28, and each of the casings being provided with a sand drum 29 and with the pipes 30 leading from the stand-pipes 27 and 28 to convey the water to a suitable motor.

The device is easily installed and is cheap, and on account of its simplicity its successful operation is assured. The exact location of the parts as herein set forth is not essential, and changes in disposition or proportion of the different elements might easily be made without departing from the invention. The opening on the large end of the entrance portion or funnel 10 is large enough, usually, to embrace the difference between high and low tide so that the device is operative all the time. The entrance portion is preferably fastened in

place by bands or loops 31 which can be fastened to suitable piling 32, although any usual form of fastening can be employed.

Having thus described my invention, what I claim is:—

1. An apparatus for storing water for power purposes comprising a flaring entrance portion, a stand-pipe on the end of the entrance portion, and an automatic valve at the juncture of the entrance portion of the stand-pipe, the valve being adapted to permit water to enter the stand-pipe from the entrance portion and to prevent the passage of water from the stand-pipe to the entrance portion, and a pipe secured at the bottom of the stand-pipe to convey water therefrom.

2. An apparatus for storing water for power purposes comprising a flaring entrance portion, a stand-pipe on the end of the entrance portion, and an automatic valve at the juncture of the entrance portion of the stand-pipe, the valve being adapted to permit water to enter the stand-pipe from the entrance portion and to prevent the passage of water from the stand-pipe to the entrance portion, a pipe secured at the bottom of the stand-pipe to convey water therefrom, a drum at the bottom of the stand-pipe to permit the depositing of sand therein, and means for draining the drum.

In testimony, that I claim the foregoing, I have hereunto set my hand this 11th day of October 1909.

WELCOME P. GAMMONS, JR.

Witnesses:
WM. H. CAMFIELD,
E. A. PELL.