

L. L. READ & M. O. DOWELL.
WAVE MOTOR.

APPLICATION FILED OCT. 3, 1911.

1,035,049.

Patented Aug. 6, 1912.

2 SHEETS SHEET 1.

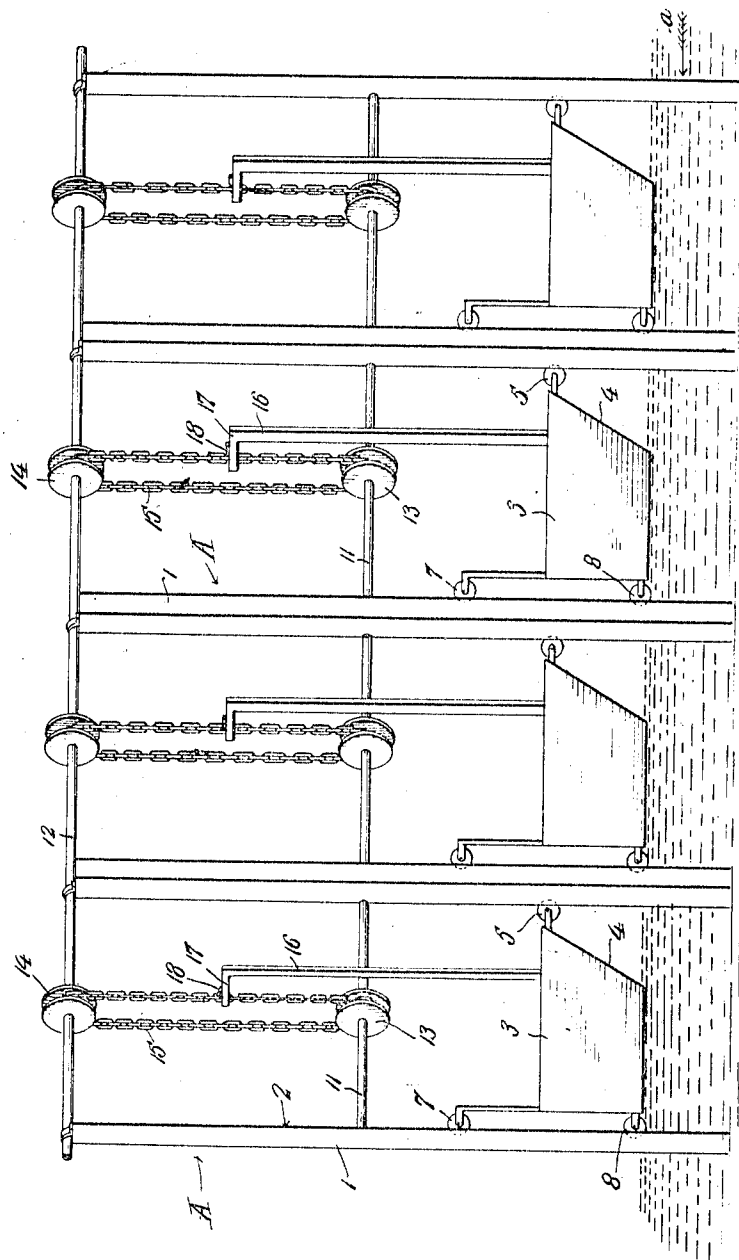


Fig. 1.

Witnesses
J. H. Crawford

James F. Koenig

Inventors
Lewis L. Read,
Manley O. Dowell,

By Victor J. Evans

Attorney

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2 SHEETS-SHEET 2.

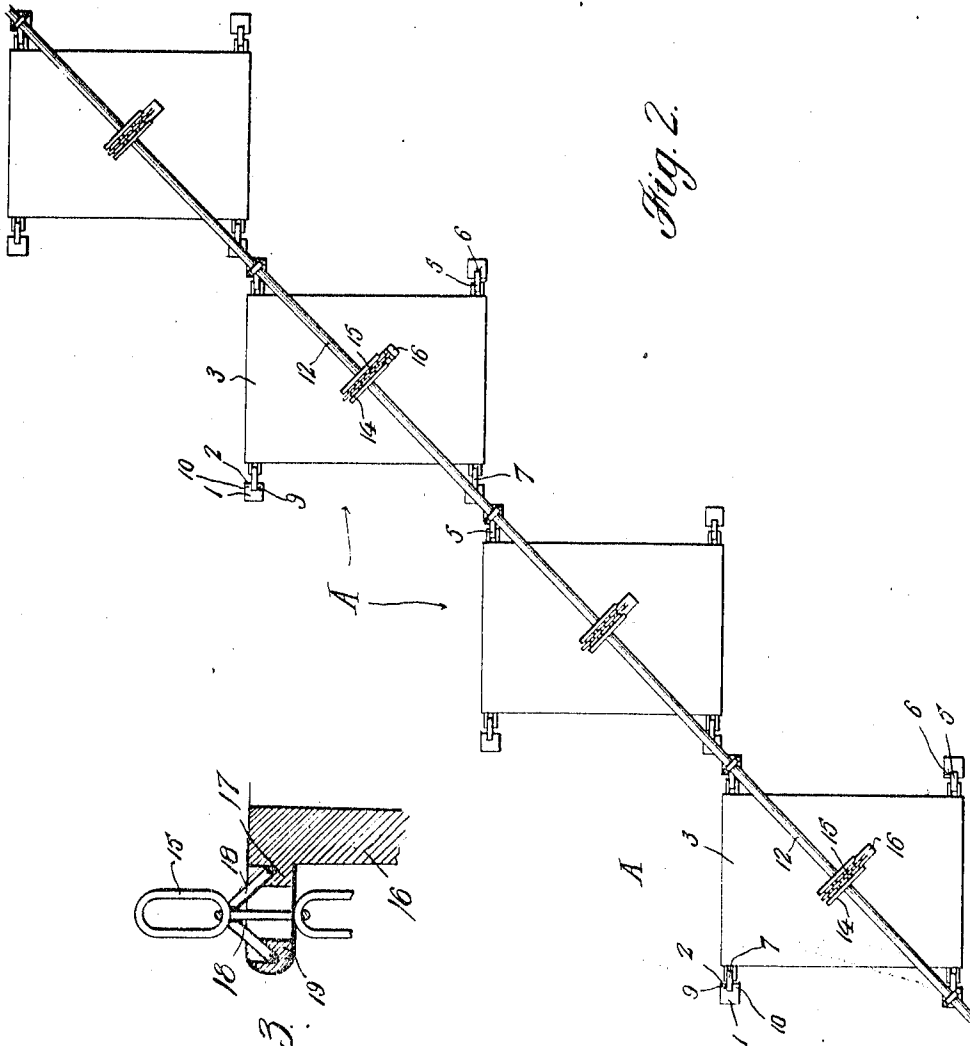


Fig. 2.

Fig. 3.

Witnesses

J. H. Crawford.
James Foster

Inventor
Louis L. Read,
Manley O. Dowell,

By *Victor J. Evans*
Attorney

UNITED STATES PATENT OFFICE.

LEWIS L. READ AND MANLEY ORVIL DOWELL, OF SAN DIEGO, CALIFORNIA.

WAVE-MOTOR.

1,035,049.

Specification of Letters Patent.

Patented Aug. 6, 1912.

Application filed October 3, 1911. Serial No. 652,550.

To all whom it may concern:

Be it known that we, LEWIS L. READ and MANLEY O. DOWELL, citizens of the United States, residing at San Diego, in the county of San Diego and State of California, have invented new and useful Improvements in Wave-Motors, of which the following is a specification.

This invention relates to wave motors, and has for an object to provide a motor which will include a float to be actuated by the rise and fall of the water and operatively connected with a driven shaft to which continuous rotary movements will be imparted and from which the power of the wave can be utilized for driving dynamos or suitable machinery.

In the drawings, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a side view of the motor. Fig. 2 is a top plan view of the motor. Fig. 3 is a detail sectional view of the actuating means.

The water motor comprises a battery of suitable supporting frames A which will each include such members as the piles which are shown at 1 in the drawings, four of such piles being preferably used, and as illustrated, each is provided with a vertical inner guide surface 2. The intervening space which is defined by the spaced piles has arranged therein for vertical movement the wave-actuated float 3. This float is provided with a downwardly inclined effective contacting surface 4 against which the incoming wave which is moving in the direction of the arrow *a* is adapted to contact to facilitate the raising of the float as will be understood. At one side, the float is provided at its upper end with a series of guide rollers 5 which are movable in the vertical guide channels 6 on the inner surfaces 2 of the piles 1. At the opposite side, the float is provided with the superimposed guide rollers 7 and 8. These rollers are substantially identical with the rollers 5 and are adapted for vertical movement in the channels 9 on the piles. The channels 6 and 9 respectively, are of U form in horizontal section so that each provides spaced guide and guard flanges 10 to prevent displacement of the guide roller and to insure an accurate guiding of the same.

An idle shaft 11 is journaled in each frame, the same being disposed beneath the

driven shaft 12 which extends across all of the frames at the upper ends thereof. A gear wheel or pulley 13 is mounted operatively on the shaft 11 of each frame A and is disposed beneath a gear wheel or pulley 14 on the driven shaft 12. The gear wheels 13 and 14 are connected with each other by a driving chain 15, one being provided for each frame A. The actuating means for the shaft 12 comprises a standard 16 which extends upwardly from the float 3. This standard, at its upper end, is formed with an offset portion 17 which is provided with a centrally arranged elongated opening 19 adapted to receive the driving chain 15. Arranged at the opposite sides of the opening 19 and pivoted in the offset portion 17 are relatively movable clutch members 18 which are adapted to grip the driving chain 15 at predetermined points so that rotary motion will be imparted thereto and to the shaft 12 on rise of the float, it being understood that the clutch members 18 release the driving chain on fall of the float.

As stated, it is our particular object to provide means whereby continuous rotary motion is supplied to a driving shaft. In view thereof, the frames A are disposed substantially in step-like manner in the moving body of water so that on the approach of a wave all of the floats hereinbefore described will be singly operated.

From the construction described it will be seen that an efficient water motor is herein constructed, the provision of which being such that the power from the waves can be applied to the driven shaft 12 of the motor, whereby the power can be taken from the shaft and applied to such apparatus as dynamos, machinery, pumps or the like.

We claim:—

1. A water motor comprising a frame, a driven shaft extending across the upper end of the said frame, an idle shaft supported by the frame and disposed below the said driven shaft, pulleys mounted on each of the said shafts, a driving chain connecting the said pulleys, and an actuating means comprising a float supported by the said frame and adapted for vertical movement, and a vertically disposed actuating element mounted on said float and operatively connected with said chain, substantially as and for the purpose described.

2. A water motor comprising a frame, a float supported thereby for vertical move-

ment, a driven shaft extending across the upper end of the said frame, an idle shaft supported by the frame disposed below the said driven shaft, pulleys mounted on each
5 of the said shafts, a driving chain connecting the said pulleys, and a vertically disposed actuating element mounted on the said float and having its upper end provided with relatively movable gripping
10 members adapted to grip the said chain to

impart the desired rotary motion to the said driven shaft on rise of the said float.

In testimony whereof we affixed our signatures in presence of two witnesses.

LEWIS L. READ.

MANLEY ORVIL DOWELL.

Witnesses:

FRANK C. RODKEY,

M. H. BELL.