

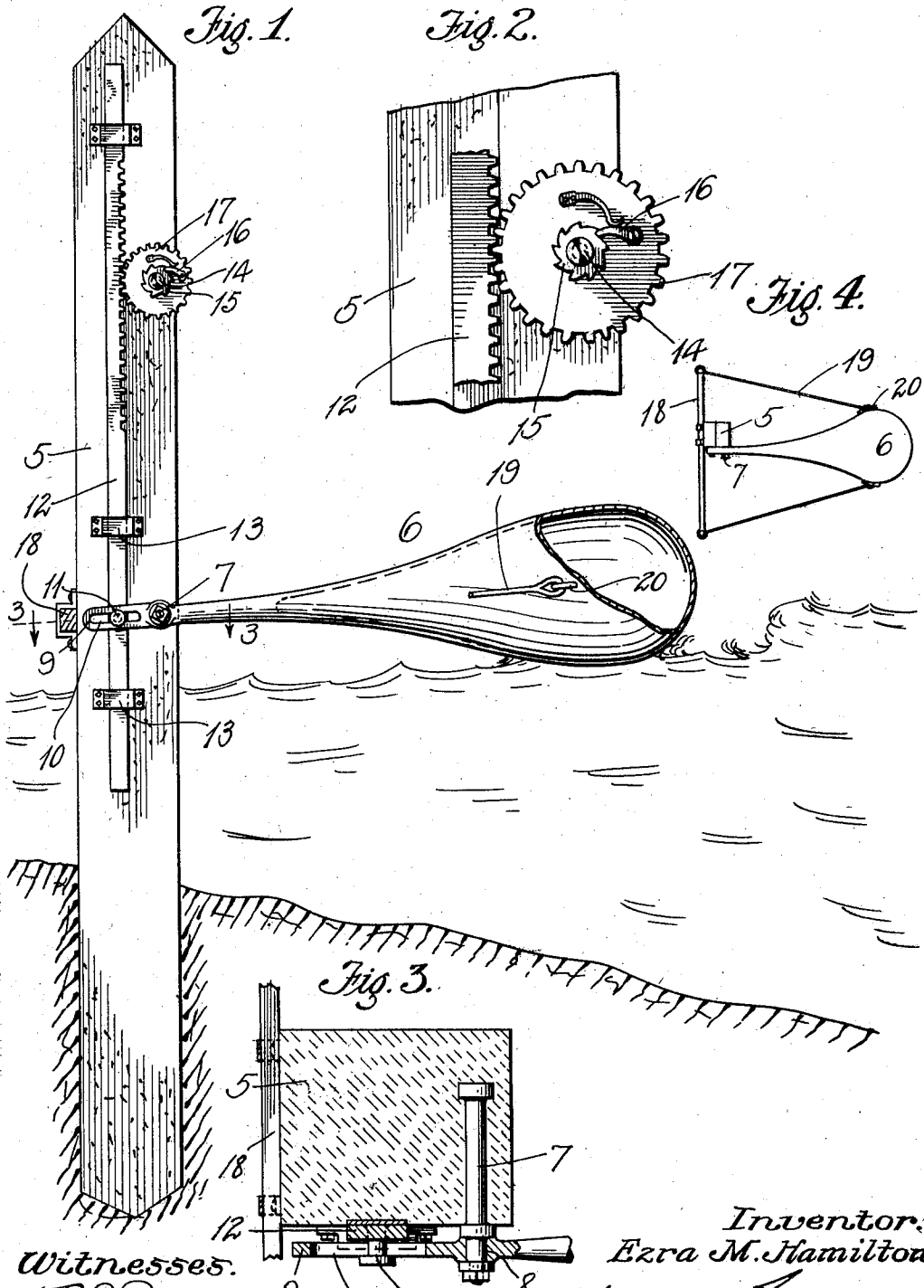
E. M. HAMILTON.

WAVE MOTOR.

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1,025,395.

Patented May 7, 1912.



Witnesses.

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UNITED STATES PATENT OFFICE.

EZRA M. HAMILTON, OF WILLOW SPRINGS, CALIFORNIA.

WAVE-MOTOR.

1,025,395.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EZRA M. HAMILTON, a citizen of the United States, residing at Willow Springs, in the county of Kern and State of California, have invented new and useful Improvements in Wave-Motors, of which the following is a specification.

This invention relates to improvements in wave motors and it is an object of the invention to provide a simple and convenient mechanism which can be erected in such relation to the sea that the waves thereof will operate a buoyant member thereby communicating work to any given or desired mechanism.

It is an object of the invention to provide a wave motor in which a wave operated member may be permitted to rest upon the water, a portion thereof extending to a support and arranged to have movement with relation thereto for performing work.

It is also an object of the invention to provide a wave motor comprising a post or standard which may be set in the sea, and a pivoted member secured to said standard and adapted to rest at its free end upon the waves whereby it will be caused to rise and fall and communicate movement to any desired mechanism.

In the accompanying drawing forming a part of this specification, Figure 1 is a side elevation of the improved wave motor showing the same mounted in the sea, a portion of the buoyant member being broken away and shown in section. Fig. 2 is a detail view in elevation upon an enlarged scale of the gearing employed for receiving and communicating movement from the buoyant member of the wave motor. Fig. 3 is a horizontal sectional view upon an enlarged scale taken through a motor device upon the line 3—3 of Fig. 1. Fig. 4 is a diagrammatic view showing the wave motor as provided with bracing means for preventing the lateral swinging of the buoyant member thereof.

The details and features of the invention will now be more particularly described, reference being had to the said drawing in which 5 indicates a post or standard which is preferably made of substantial proportions and adapted to be set into the bottom of the ocean so as to project a suitable distance above the surface thereof. Pivoted to said post a short distance above the surface

of the water is a buoyant member 6, the said buoyant member having a pivotal bearing upon a pivot pin or shaft 7 secured in said post 5 and projecting beyond one of its faces. The inner end of the buoyant member is formed with a bearing 8 adapted to engage said pin 7 and has a slotted portion 9 projecting beyond said pin, the slot 10 in said slotted portion being adapted to movably engage a stud 11 which projects from a reciprocating rack bar 12. The rack bar 12 has a sliding movement with respect to the post 5, guided in its movement thereon by brackets 13. The said buoyant member is gradually enlarged toward its outer end which is made hollow as clearly shown in Fig. 1 and is filled with air so that it is lighter than the water and will rest buoyantly thereon. The movement of the waves will thus raise and depress the enlarged hollow end of the said member 6 and communicate a reciprocating movement to the rack bar 12. The tooth portion of the said bar 12 is usually arranged to engage a gear 17, the said gear 17 being usually carried by a shaft 14 which is journaled in the post 5. A ratchet 15 radially secured or keyed to said shaft is adapted to receive movement from the gear 17 through the agency of a spring pressed pawl 16, which is mounted upon the said gear 17. By this means the reciprocation of the rack 12 through the movement of the buoyant member 6 upon the water, will impart a rotary movement to the shaft 14 in one direction. The movement imparted to the shaft 14 may be used for performing any desired work by connecting the said shaft with any mechanism not shown.

Since the outer free end of the buoyant member 6 will be subjected to the uncertain movement of the waves it is preferable to brace the same against lateral swing and strain. For this purpose a cross bar or beam 18 is fastened to the post 5 usually upon the rear edge thereof and at a point opposite the pivot pin 7 as clearly illustrated in Fig. 1. The outer ends of the said bar 18 are connected by means of guy ropes or cables 19 with the enlarged end of the buoyant member. The said guy ropes or cables 19 are usually secured by eyes 20, formed upon the opposite sides of the buoyant member 6. The guy ropes or cables are thus adapted to prevent any lateral swing-

ing of the buoyant member without interfering with its rise and fall upon the waves of the ocean.

What I claim is:—

- 5 1. A wave motor comprising a single support, a buoyant member movably mounted thereon and having a wave engaging portion adapted to be moved by the waves and a mechanism on said support for receiving
10 and transmitting motion from said buoyant member.
2. A wave motor comprising a single post, a buoyant member pivoted at one end to said post, its other end resting upon the
15 water so as to be raised and lowered by the movement of the waves, a reciprocating rack also mounted on said post, mechanism on said post for transmitting motion received from said rack, the structure being
20 such that the said post with its mechanism may be set up anywhere in the water for operation.
3. A wave motor comprising a post adapted to be set up in the sea, a wave engaging
25 member having a pivotal engagement with said post at one end, and having its other end made hollow to buoyantly engage the waves whereby it will be raised and lowered, mechanism mounted on the post for
30 receiving movement from the said buoyant

member and guy ropes extending from said buoyant member to said post for bracing said buoyant member.

4. A wave motor comprising a fixed support adapted to be set up in the ocean, a
35 pivotally mounted buoyant member having an enlarged hollow end free to rest upon the waves of the ocean, and having its other end provided with an elongated slot, brackets also secured to said support, a rack bar
40 also mounted upon said support and guided by said brackets, a stud projecting from said rack bar, said stud engaging said slot and said buoyant member, and gearing also
45 rotatably mounted on said fixed support and adapted to be operated by the reciprocation of said rack bar.

5. A wave motor comprising a post, a buoyant member pivoted at one end to said post, its other end being adapted to rest
50 upon the water, and bracing means extending from the said buoyant member to a fixed support.

In witness that I claim the foregoing I have hereunto subscribed my name this 21st
day of September, 1911.

EZRA M. HAMILTON.

Witnesses:

H. E. COLEMAN,
FRED M. HAMILTON.

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