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CURRENT MOTOR.
APPLICATION FILED OCT. 18, 1917.

1,292,389. Patented Jan. 21, 1919.

Fig. 1.

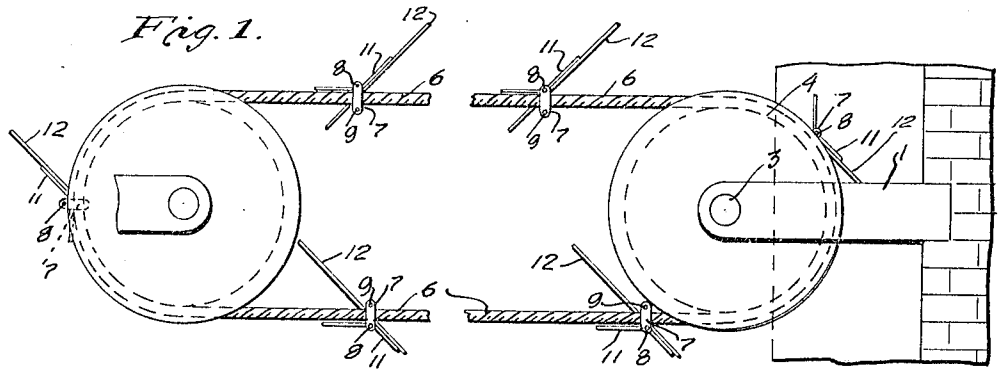


Fig. 2.

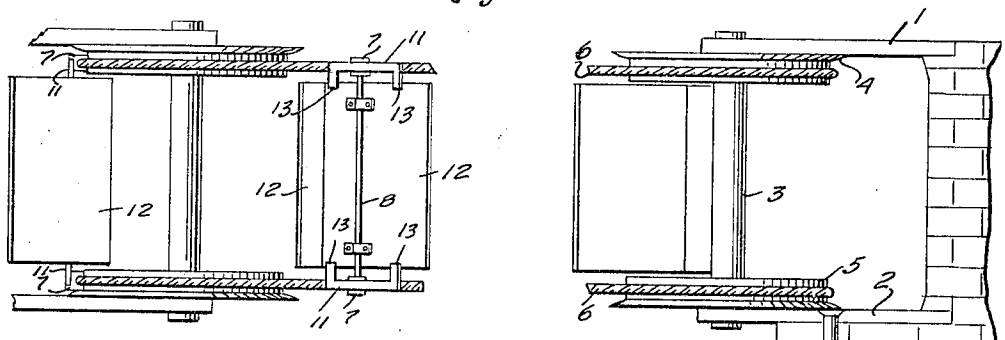


Fig. 5.

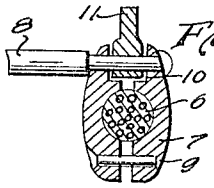


Fig. 3.

Fig. 4.

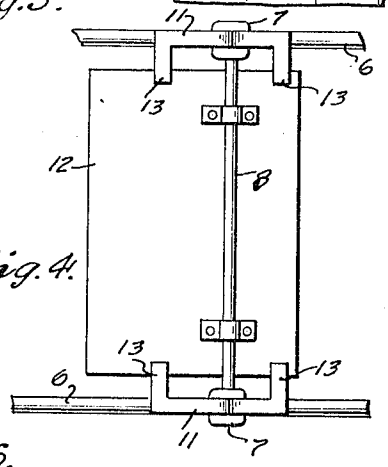


Fig. 6.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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CURRENT-MOTOR.

1,292,389. Specification of Letters Patent. Patented Jan. 21, 1919.

Applicaton filed October 18, 1917. Serial No. 197,281.

To all whom it may concern:

Be it known that I, WILLIAM H. COOK, a citizen of the United States, residing at Paterson, in the county of Benton, State of Washington, have invented certain new and useful Improvements in Current-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.

This invention relates to current motors.

The object of the invention is to provide a current motor which is capable of use either in fluid currents or in air currents.

It is furthermore the object of the invention to provide a current motor which will operate with reversed currents that is, a motor which will operate both with the flow and the ebb of the tide, or in both directions of movement of the waves.

Likewise, it is an object of the invention to provide a current motor in which the current power is derived by the movement of the supporting elements transversely to the direction of movement of the currents.

With the above objects in view, and such others relating to the details of construction, as may hereinafter appear, my invention will now be fully set forth and described, reference being had to the accompanying drawings.

In the drawings:—

Figure 1 is a plan view,

Fig. 2 is a side elevation,

Fig. 3 is an enlarged detail elevation of one of the propeller elements,

Fig. 4 is a plan view thereof,

Fig. 5 is a sectional view showing a clamp element, and

Fig. 6 is a diagrammatic view of a further possible arrangement of the apparatus.

Referring more particularly to the drawings, 1 and 2 represent supports which, in upper and lower arms carry the vertical shafts 3. Each of the shafts 3 carries an upper pulley 4 and a lower pulley 5, and around the pulleys 4 and 5 operate the cables or other flexible members 6. Arranged upon the cables 6 in vertical alinement are the pairs of clamps 7, which provide bearings for the vertical shafts or rods 8. The clamps 7 consist of pairs of opposing clamp members which surround the cables 6 and are connected upon the inner sides by means of bolts 9 and upon the outer sides by shoulder portions of the shafts 8. Furthermore the clamp members are provided upon their outer ends with the recesses 10 which stand in opposing relation so that a bearing is formed therebetween and upon the shafts 8 are the angular rocking stop devices 11.

Between the cables 6 there are mounted upon the shafts 8 the blades or vanes 12, which are mounted upon the shaft 8 on vertical lines which pass through the vanes approximately at two-thirds of the distance from one vertical edge of the vane to the other. The stop devices 11 are formed of angularly directed arms which lie in substantially the same horizontal plane as the adjacent cable, and terminate at their extremities in the right angularly directed fingers 13 which project across the horizontal edges of the vanes 12.

The arms of the rock devices 11 are of different lengths, to accord with the different widths of the portions of the vanes 12 which lie upon the opposite sides of the rods 8, and thereby provide stops against the swinging action of the vanes in one direction or the other.

As best seen in the plan view, the blades or vanes 12 are capable of assuming two operative positions for a one direction current. That is, where the blades 12 are mounted upon cables having two parallel runs, the blades or vanes stand so that the impingement of the water against the wider section of the blade will drive the cables in one direction with a power which is additive to a second power factor which is derived from the impingement of the water against the blades upon the second run of the cables after they have been swung by the current into positions where the major portions of the blades lie upon the opposite sides of the cables from that which they occupied when traveling with the first run. Thus, the cables are divided into two runs which travel in opposite directions, and the blades upon the first run are swung by the current so that the major portions of the blades lie inside of the run, and the current impinging thereagainst tends to continually drive the run. After passing around the pulleys at one end, the vanes are swung by the current so that the major portions of the blades lie outside of the second run, so that, in terms of the direction of the current, the blades

or vanes of both runs lie down-stream, and the impingement of the current against the second run of blades drives the cables in the opposite direction of the first run, thereby generating a power which is additive to the power already generated by the action of the current upon the blades of the first run.

It will be apparent from the foregoing that full or partial advantage may be taken of the latent power in a current, by the extent of the runs of the cables, and the number of propelling blades or vanes which they carry. Furthermore, the apparatus can be adapted for utilizing the power in reversing currents, as those occurring in tidewater streams and also ocean waves.

In cases where a stream is broken up into eddy currents, advantage of these may also be taken by an irregular arrangement of pulleys which will carry the cables across the main currents and the eddy currents until the various sources from which power can be derived have been traversed by the continuous lines of cables. Then, the power from all of the currents can be accumulated and distributed from a common driving source.

It will be apparent, therefore, from the foregoing description that I have devised a very practical and simple current motor whose fundamental principles adapt it for the accumulation of power from wind currents as well as water currents, and that by a proper arrangement of the parts, an accumulated power can be derived from a number of lesser power sources, all of which operate upon a common power translating apparatus.

What I claim as my invention is:—

A current motor, comprising in combination, a plurality of supporting pulleys, endless cables carried by the pulleys and broken up thereby into a plurality of runs, propeller blades carried by the cables in pivotal relation, said blades being divided into major sections and minor sections lying upon opposite sides of the axes thereof, swinging stop devices carried by the cables to position the blades into position for the impingement of a current against the major portions and having stop lugs which permit the reversal of the major portions of the blades to opposite sides of the cable runs and for runs progressing in opposite directions.

In testimony whereof, I affix my signature in the presence of two witnesses.

WILLIAM H. COOK.

Witnesses:
ELIAS C. COOK,
S. C. ALEXANDER.

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