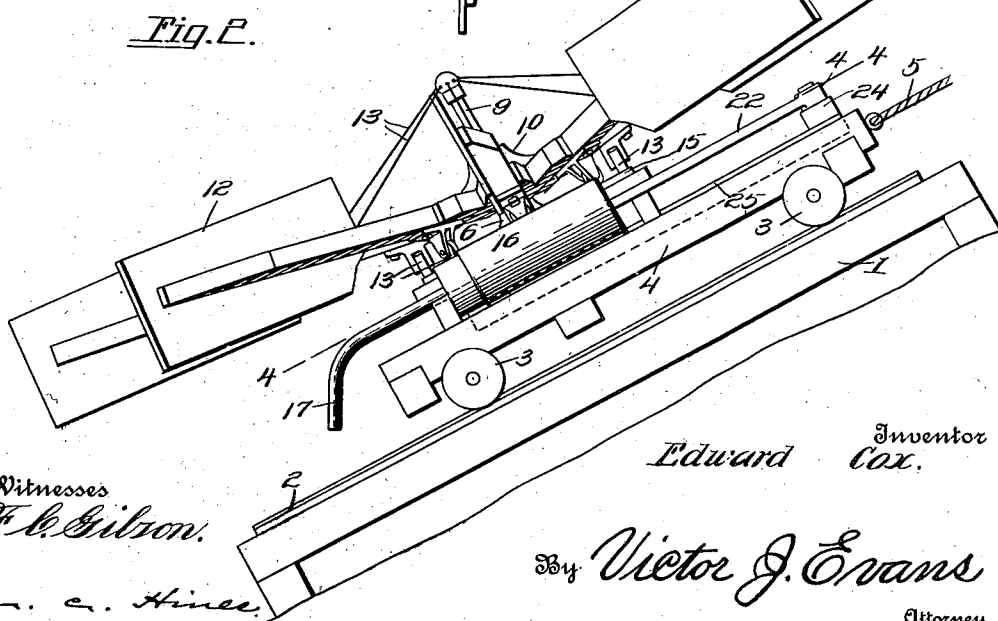
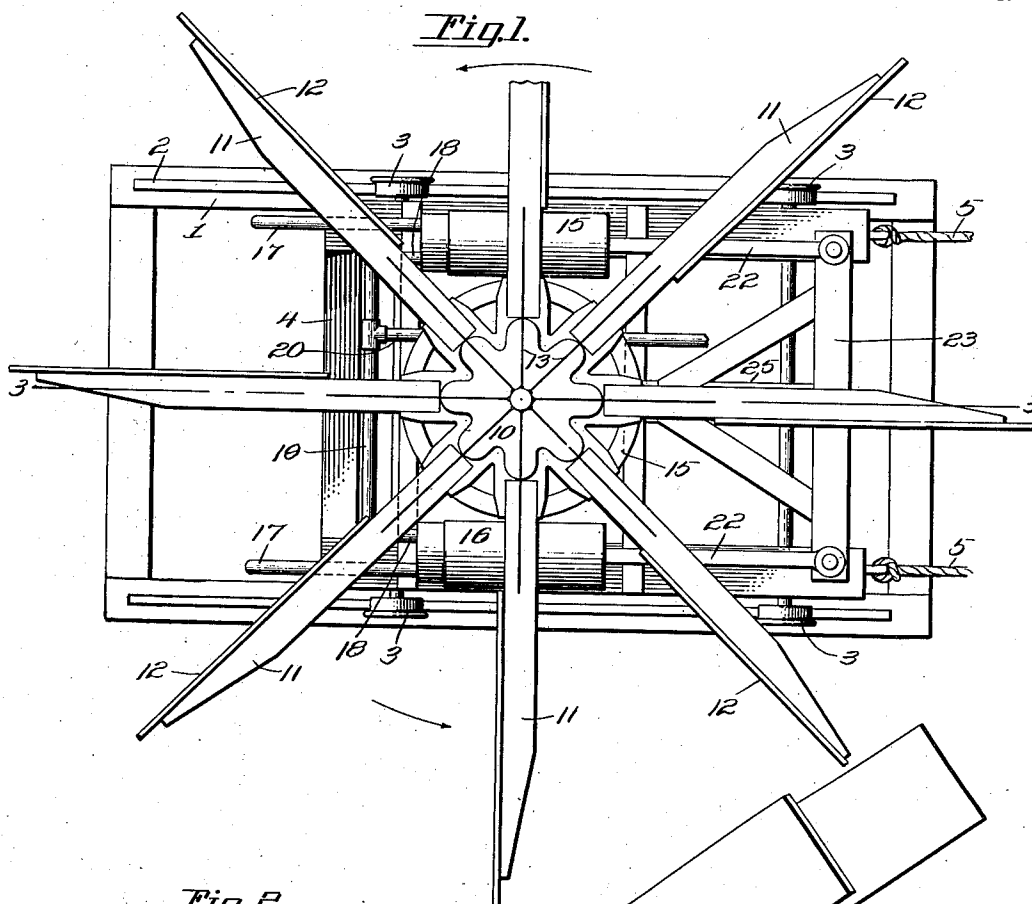


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E. COX.
CURRENT MOTOR.
APPLICATION FILED JAN. 7, 1911.

Patented May 28, 1912.
2 SHEETS-SHEET 1.



Witnesses
F. L. Gibson.

C. C. Hines.

Edward Cox. Inventor

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Attorney

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Fig. 3.

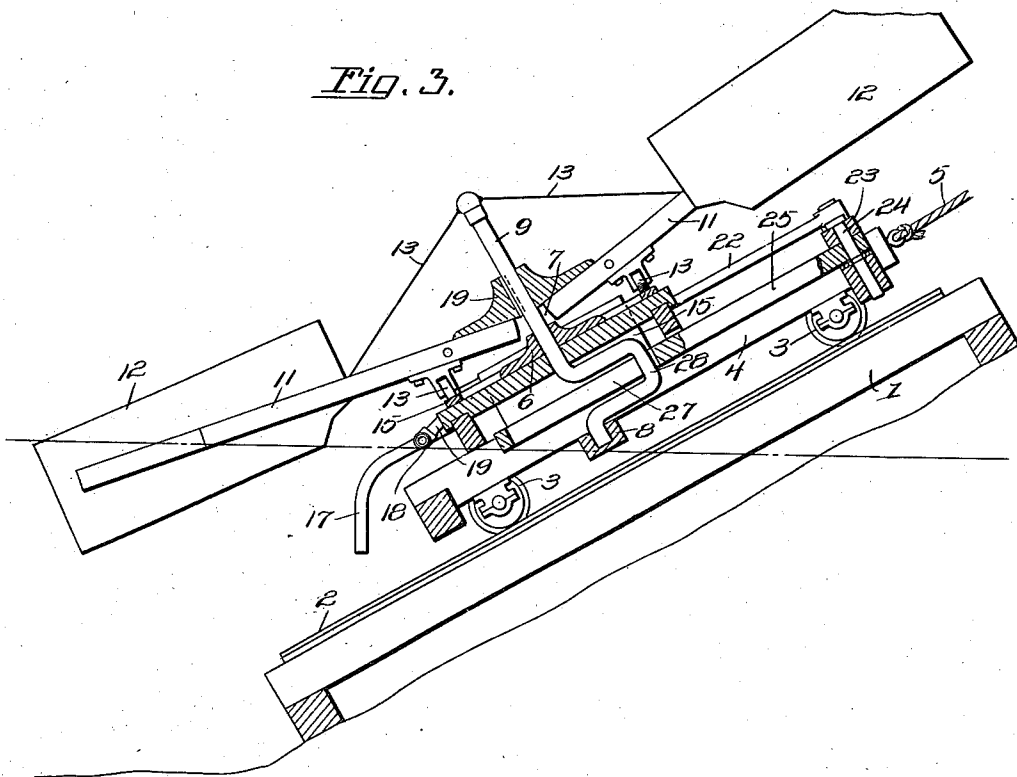
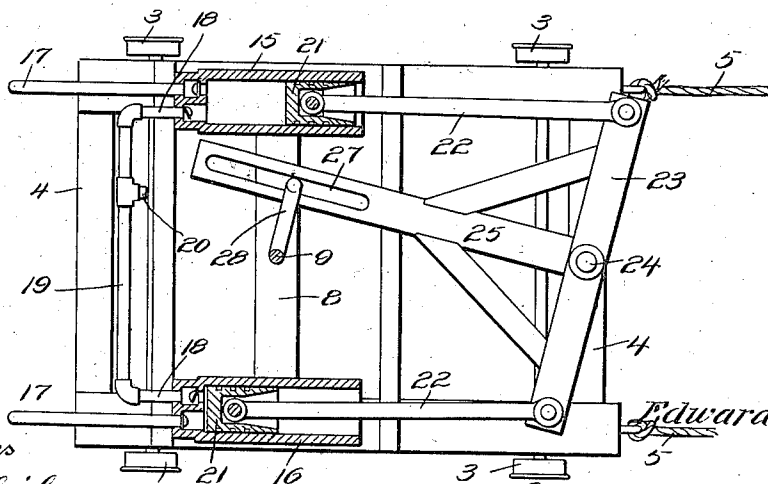


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD COX, OF OROVILLE, WASHINGTON.

CURRENT-MOTOR.

1,027,993.

Specification of Letters Patent.

Patented May 28, 1912.

Application filed January 7, 1911. Serial No. 601,304.

To all whom it may concern:

Be it known that I, EDWARD COX, a native-born citizen of the United States, residing at Oroville, in the county of Okanogan and State of Washington, have invented new and useful Improvements in Current-Motors, of which the following is a specification.

This invention relates to current motors for operating pumps or other machinery, the primary object of the invention being to provide a simple and efficient type of rotary motor which may be mounted upon an inclined bank or other sloping support so that a certain proportion of the paddles will be submerged for the action of the current thereon, while the remainder of the paddles will stand out of the water and move without resistance to the rotation of the motor, said motor being adjustable to vary the working path of the paddles, according to the level of the water.

A further object of the invention is to provide a motor of this character for operating a novel construction of pumping mechanism, whereby a large volume of water may be pumped with considerable delivery force within a minimum amount of time.

The invention consists of the features of construction, combination and arrangement of devices, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a top plan view of a current motor and pump embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section on the line 3—3 of Fig. 1. Fig. 4 is a sectional plan view on the line 4—4 of Fig. 1.

Referring to the drawings, 1 designates a stationary sloping support mounted upon the inclined bank of a stream and provided with track rails 2 for the wheels 3 of a movable carrier frame or truck 4 to run upon, a greater or less portion of said support being submerged in the water of the stream. The truck is movable upon the inclined way formed by the support toward and from the water and is adapted to be moored and firmly held in adjusted position by anchoring lines 5, which may be fastened to stakes or other anchoring members embedded in the ground in proper proximity to the bank of the stream.

The truck 4 carries a pedestal 6 provided with a bearing 7, and below said pedestal

carries a bearing 8, in which bearings is journaled a shaft 9, to which is keyed, at a suitable point above the bearing 7, the hub 10 of a rotary motor wheel, comprising said hub and an annular series of radial arms 11 fixed at their inner ends to the hub and carrying at their outer ends vertically disposed paddles or blades 12, which may be of any suitable form and construction. The wheel rotates in the direction of the arrow shown in Fig. 1 by the action of the current upon the blades 12, two or more of which are submerged at a time for the transmission of power to the wheel. The arms 11 are stayed and reinforced from the upper projecting end of the shaft by suitable braces 13 and are supported from the pedestal 6 by wheels or rollers 14 arranged to travel upon an annular track 15 secured to the pedestal.

In disposing the motor for operation, the truck is moved up or down on the track rails 2 to dispose the wheel in position for the submergence of the blades in the water to a proper working depth, whereby the wheel may be adjusted on its inclined way to arrange the blades for action according to the level of the water. It will thus be seen that through the inclined arrangement of the wheel a certain number or proportion of the blades will be submerged at a time for working action, while the remainder of the blades will be entirely out of the water and moving through the air, thus obviating the necessity of feathering the non-working blades to decrease their resistance, while at the same time enabling the blades to be submerged in operation to any degree desired.

In connection with the motor, I provide an improved pumping apparatus comprising cylinders 15 and 16 arranged longitudinally at opposite sides of the truck, said cylinders being provided at their lower ends with suction pipes 17 and discharge pipes 18, the suction pipes being arranged to draw water from the stream and the discharge pipes being connected by a branch pipe 19 with a delivery pipe 20 leading in practice to any suitable point where the water is to be stored or used. The pistons 21 of the respective cylinders are connected by links 22 with the opposite ends of a cross bar or head 23 pivoted for lateral oscillating movement at 24 upon the upper end of the truck. Connected with the bar 23 at a point in line with its fulcrum and extending downwardly therefrom is an arm 25.

which extends beneath the pedestal 6 and is provided with a longitudinal slot 27 in which operates a crank 28 on the shaft 9, whereby in the rotation of the wheel the
5 bar 25 will be oscillated to impart corresponding motion to the bar 23.

From this construction it will be apparent that in one-half revolution of the crank the bar 23 will be moved in one direction to operate one of the pistons on its suction stroke and the other piston on its discharge stroke, while in the other half revolution of the crank the pistons will be respectively operated in the reverse directions. A continuous pumping action will thus be set up to
10 supply a large quantity of water under a comparatively high pressure within a minimum period of time.

Having thus described my invention, I
20 claim:—

A current motor comprising a sloping support, truck rails on said support, a carriage provided with wheels to travel on said track rails, means for raising and lowering the
25 carriage, pump cylinders arranged longitudinally at opposite sides of the carriage

adjacent the lower end thereof and provided at their lower ends with suction and discharge pipes, a delivery pipe connected with said discharge pipes, a transversely arranged oscillating bar at the upper end of the carriage, links connecting the ends of said bar with the pump pistons, a slotted actuating bar connected with said oscillating bar, an annular track upon the carriage, 30 a vertical shaft journaled on the carriage concentric with the track and extending above and below the same and provided at its lower end with a crank operating in the slot of the actuating bar, an inclined wheel 40 mounted on the upper end of said shaft and provided with wheels or rollers to run upon said annular track, and an annular series of fixed blades supported by the wheel and inclined to the plane of travel thereof. 45

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

EDWARD COX.

Witnesses:

SEWARD W. BRACKETT,
EDWARD SHERLING.