(No Model.) 2 Sheets—Sheet 1.

A. LUCIER.

MOTOR.

No. 362,024. Patented Apr. 26, 1887.

Fig. 1.

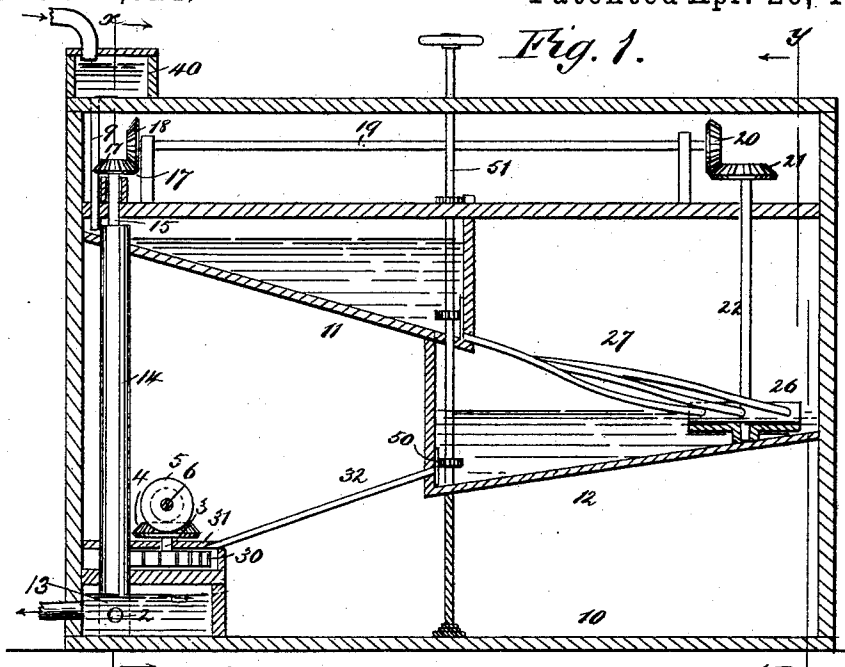


Fig. 2

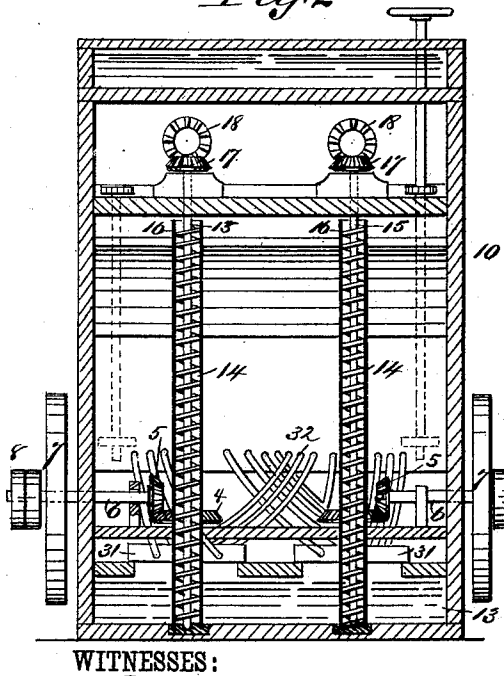
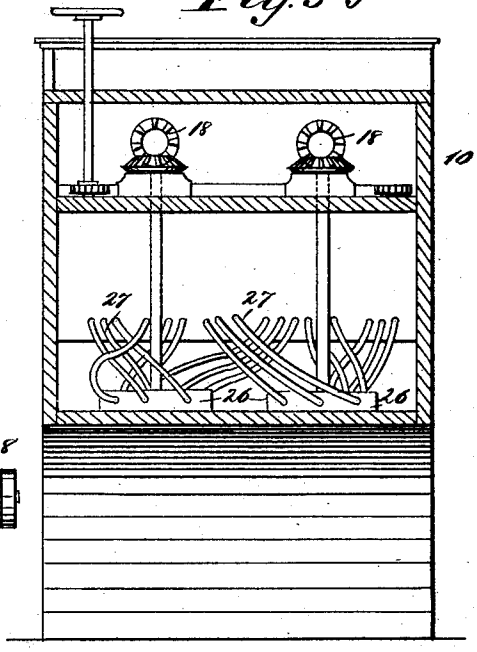


Fig. 3



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4

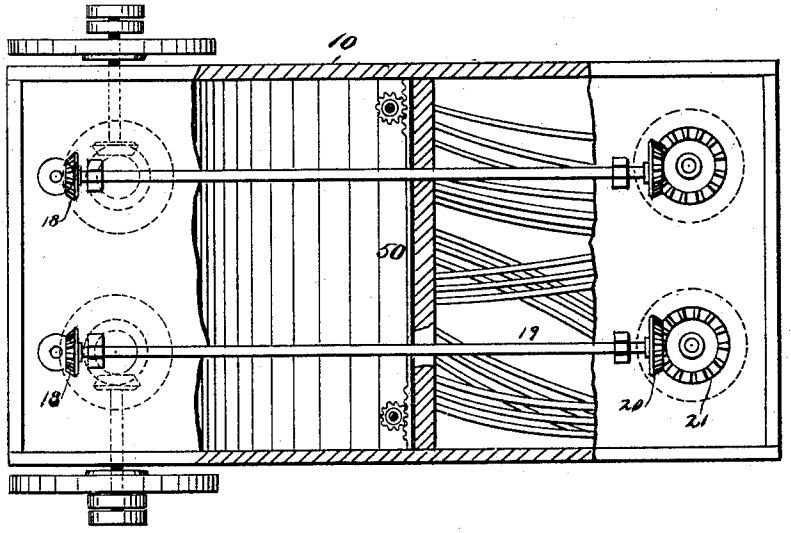
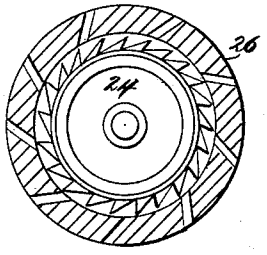


Fig. 5



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UNITED STATES PATENT OFFICE.

ANTOINE LUCIER, OF WINNIPEG, MANITOBA, CANADA.

MOTOR.

SPECIFICATION forming part of Letters Patent No. 362,024, dated April 26, 1887.

Application filed June 29, 1886. Serial No. 206,650. (No model.)

To all whom it may concern:

Be it known that I, ANTOINE LUCIER, of Winnipeg, in the Province of Ontario and Dominion of Canada, have invented a new and Improved Motor, of which the following is a full, clear, and exact description.

My invention relates to the construction of a water-motor power; and it consists of an arrangement whereby a portion of the water is used over and over, with some additions from time to time, the parts being so arranged that the power produced may be utilized in the running of most any form of machinery, whether such machinery is stationary or movable.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of my improved water-motor. Fig. 2 is cross-sectional elevation taken on line *x x* of Fig. 1. Fig. 3 is a cross-sectional elevation taken on line *y y* of Fig. 1. Fig. 4 is a plan view, certain portions of the apparatus being broken away to disclose the interior construction; and Fig. 5 is a detail view illustrating the construction of the water-wheels and their gates, the water-wheels being shown in section.

In constructing such a motor as the one illustrated in the drawings above referred to, I provide a main inclosing case or cabinet, 10, within which I arrange an upper tank, 11, provided with an inclined bottom, and an oppositely-arranged tank, 12, that is also provided with an inclined bottom, the tank 12 being below the tank 11, but above a third tank, 13, as is best shown in Fig. 1, which tank 13 has an outlet for the escape of a portion of its water, the other portion being returned, as will be hereinafter more fully disclosed, by a screw and tube, to tank 11, to be reused. One or more vertical tubes, 14, are arranged to extend from the tank 13 to and above the water-level of the tank 11, said tubes being provided with induction-openings 2 at their lower ends, as best shown in Fig. 1. Within the tubes 14 there are arranged shafts 15, which carry spirally-arranged flanges 16, so that in reality the shafts and their flanges become Archimedean screws.

At the top of each of the shafts 15 there is arranged a bevel-gear, 17, that is engaged by a similar bevel-gear, 18, carried by a horizontal shaft, 19, upon the opposite end of which shaft there is a second bevel-gear, 20, engaged by a bevel-gear, 21, carried by a vertical shaft, 22, the shaft 22 being driven by a water-wheel, as 24, (see Fig. 5,) contained within a case, 26, said case being fed by tubes 27, which lead from the lower portion of the tank 11.

Below the bottom of the tank 12, and just above the tank 13, there are arranged other water-wheels, 30, contained within the cases 31, said wheels being actuated by streams of water flowing from the tank 12 through tubes 32. In connection with each of the wheels 30 there are arranged short vertical shafts 3, carrying gears 4, which engage with other bevel-gears, 5, carried by the horizontal shafts 6, upon which there are arranged balance-wheels 7 and power-transmitting pulleys 8.

A supply-tank, 40, is arranged above the case 10 and fed in any suitable manner—as, for instance, by a pipe leading from a head or source of water—and from this tank 40 there is a tube or pipe, 9, leading into the tank 11.

In operation, water flowing from the tank 11 (which is fed from tank 40) through the tubes 27 acts to rotate the wheels contained within the casing 26, and this movement of the wheels, through the gearing described, imparts a rotary motion to the shafts 15, which in revolving raise a portion of the water from the tank 13 to the tank 11. The water flowing out from the case 26 into the tank 12 passes into the tubes 32 to the wheels 30, the overflow of water falling into the tank 13, where a portion of the same is discharged; but as the wheels 30 revolve the shaft 6 will also revolve, and if belts be applied to the pulleys 8 the power may be applied as desired.

In order that the supply of water passing from the tank 11 to the tank 12, or from the tank 12 to the tank 13, may be regulated, I provide gates 50, that are engaged by toothed wheels carried by vertical shafts 51, the gates being provided with apertures, which may be thrown into perfect register with the apertures feeding the tubes 27 and 32, or may be par-

tially or entirely out of register with such apertures.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a water-motor, the combination, with the feed-tank and a series of supplementary tanks, of water-wheels arranged within the two lowermost tanks, pipes connecting said series of tanks, inclosed spirally-bladed shafts connecting the lowermost and uppermost supplementary tanks, gearing connecting the bladed shaft with the upper water-wheel, and gearing connecting the lower water-wheel with the power-transmitting shaft, substantially as shown and described.

ANTOINE LUCIER.

Witnesses:
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