

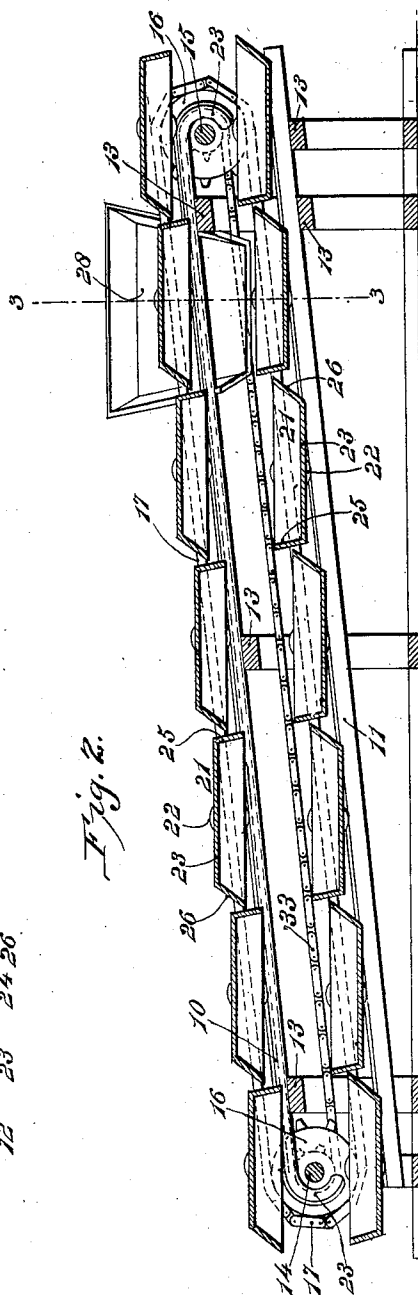
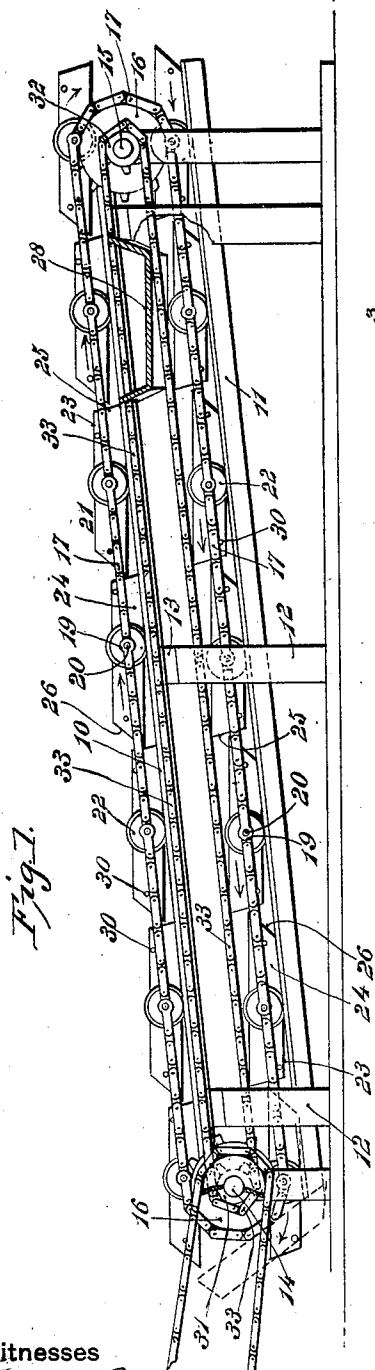
No. 827,845.

PATENTED AUG. 7, 1906.

W. G. BLOSS.  
MOTOR.

APPLICATION FILED JUNE 29, 1905.

2 SHEETS—SHEET 1.



Witnesses

*E. J. Stewart*  
*Geo. E. Carter*

*William G. Bloss*, Inventor.

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Attorneys

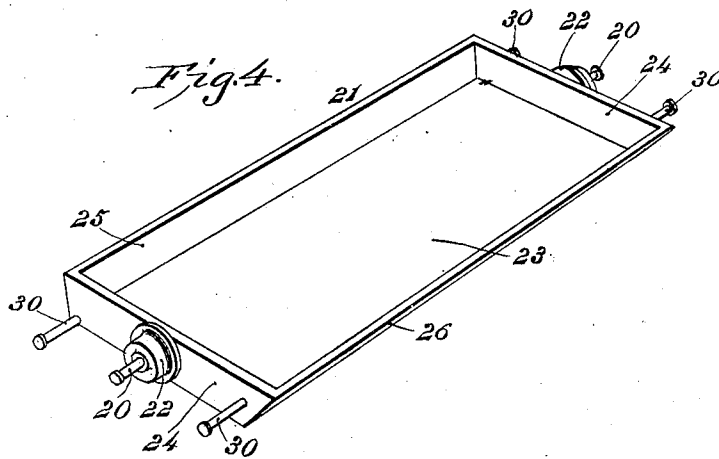
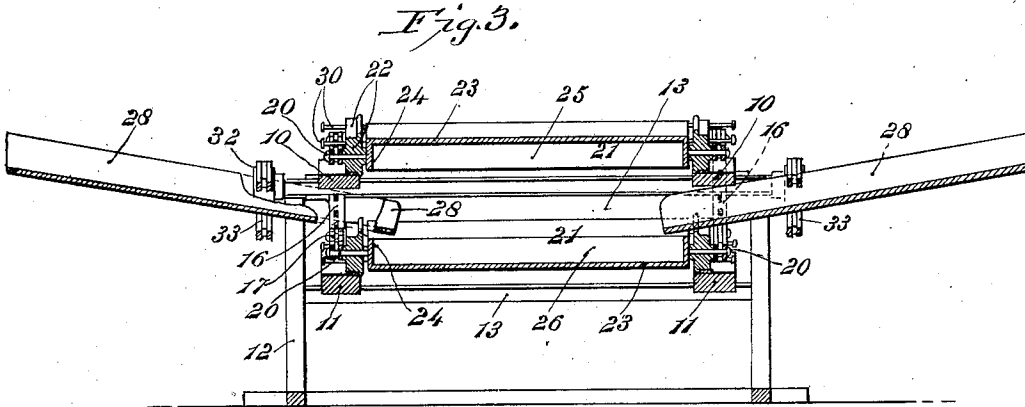
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*John E. Clark*

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Inventor.

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# UNITED STATES PATENT OFFICE.

WILLIAM G. BLOSS, OF PONTIAC, ILLINOIS.

## MOTOR.

No. 827,845.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed June 29, 1905. Serial No. 267,603.

*To all whom it may concern:*

Be it known that I, WILLIAM G. BLOSS, a citizen of the United States, residing at Pontiac, in the county of Livingston and State of Illinois, have invented a new and useful Motor, of which the following is a specification.

This invention relates to water-motors, and has for its principal object to provide a motor of simple construction which may be employed for utilizing the flow of a stream of water of a very slight head.

A further object of the invention is to provide a motor mechanism in which a series of buckets are arranged in close relation and are movable by gravity down an inclined plane, the buckets moving under the weight of the water and the energy being transmitted through suitable shafting or other connections to a pump, mill, or other mechanism to be operated.

A still further object of the invention is to provide a motor mechanism in the form of a plurality of buckets mounted in or connected to endless belts and so arranged that the buckets in the lower run receive the water and travel down an inclined plane by gravity, while the buckets of the upper run move in a plane above the filled buckets and are successively presented to the source of water-supply.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a side elevation of a water-motor constructed in accordance with the invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a transverse section of the device on the line 3-3 of Fig. 2. Fig. 4 is a detail perspective view of one of the buckets detached.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The motor forming the subject of the present invention, while designed more especially where there is a comparatively small head of

water, may be used under any head or pressure, and may be employed for power purposes generally.

The working parts are supported on a 60 main frame including upper and lower sills 10 and 11, arranged on opposite sides of the machine and constituting trackways, said sills being formed of either wood or metal and being held in proper position by vertical posts 65 12 and suitable cross-bars 13, the whole forming a rigid frame. The opposite end portions of the frame are provided with suitable bearings for the reception of transversely-disposed parallel shafts 14 and 15, 70 each of which is provided with a pair of sprocket-wheels 16, and the sprocket-wheels are connected by link belts 17. The link belts are provided at equidistant intervals with bearing-boxes 19 for the reception of 75 gudgeons or pintles 20, that project from the opposite ends of the buckets 21, these gudgeons or pintles being approximately at the center of the side portions of the buckets. The gudgeons or pintles form supports for 80 flanged wheels 22, that are arranged to travel on the trackways 10 and 11, the upper tracks being curved inward and downward, as indicated at 23, in order to insure proper movement of the wheels from one rail to the other. 85

The buckets are provided with substantially flat bottoms 23 and vertical side walls 24, while their front faces 25 and rear faces 26 are arranged on lines oblique to the bottom of the bucket, the front 25 being nearly 90 at a right angle to the bottom of the bucket, while the rear 26 is at an obtuse angle thereto, forming a convenient pouring-lip, so that the water may be readily emptied from the bucket at the proper time and without rendering it necessary to waste any considerable 95 portion of the power of the machine in lifting the water after the bucket has reached the lower end of the motor.

The construction of the buckets is such that 100 when in filling position or when filled they will present an unbroken receiving-surface—that is to say, the inclined rear edge 26 of one bucket will be arranged slightly under the inclined front face of the next succeeding 105 bucket, so that the water which is introduced in a continuous stream through sluices 28 from the opposite sides of the apparatus will not fall between the buckets, but all of it will be fed into said buckets no matter what the 110 rate of speed of the latter may be, and if there is any overflow it will pass from bucket to

bucket down the incline, and its weight will be distributed among the buckets and its gravitational force utilized in the operation.

The buckets are provided with projecting pins 30, arranged one on each side of the plane of the pintles or gudgeons 20 and adapted to engage the link belts 17 in order to hold said buckets in proper position so that there will be no danger of spilling the water until the buckets reach the dumping-point. The buckets receive the water as they travel in the lower run of the link belts, the sluices being generally arranged to feed the water from both sides, and when each bucket reaches the lower end of the frame it is tilted up in the manner shown, and the obliquely-disposed front 26 then permits the rapid and ready escape of the water, so that it will not be necessary to waste power in lifting the water after its work has been accomplished.

The two shafts 14 and 15 are provided with sprocket-wheels 31 and 32, that are connected by a suitable link belt 33, and power may be transmitted from one or from both of these shafts to any mechanism to be operated.

The construction of the apparatus is such that it may be utilized to advantage where there is a comparatively small flow of water and is of value in the operation of mills and other machinery or for power purposes generally.

The invention is also of considerable value where water is to be transferred from one point to another for irrigating purposes and the like, the motor being used as a carrier for the water and the power produced being utilized for various purposes.

Having thus described the invention, what is claimed is—

1. In a water-motor; a series of buckets arranged on endless belts disposed at a slight angle to the horizontal, the buckets being arranged in successively lower horizontal planes from the upper to the lower end of the motor

and being provided with inclined front and rear walls which overlap to permit the flow of water to the buckets of lower level without falling between said buckets.

2. In a water-motor, a pair of superposed inclined tracks, a plurality of buckets having wheels arranged to travel on said tracks, endless belts connecting said buckets in a continuous series, the buckets at the lower run of the belt being arranged at successively lower levels from the top to the bottom of the tracks, and having overlapping walls whereby the water may flow from the upper to the lower buckets in a continuous stream without falling between said buckets.

3. In a water-motor, the combination with a pair of parallel inclined tracks, of a pair of link belts, buckets having projecting end pintles connected to the belts, flanged wheels arranged on the pintles and resting on the tracks, means carried by the buckets for engaging said belts to prevent tilting of said buckets, the front and rear walls of the buckets being inclined and overlapping to permit the flow of water from the higher to the lower buckets without falling between said buckets.

4. In a water-motor, the combination with a pair of parallel inclined tracks, of a pair of link belts, sprocket-wheels for guiding said belts, shafts carrying said sprocket-wheels, buckets having inclined front and rear edges and provided with end pintles that are connected to project beyond the belts, supporting-wheels mounted on the pintles and resting on the tracks, and pins projecting from the buckets and arranged to engage said belts.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM G. BLOSS.

Witnesses:

I. W. SMITH,  
FRANK C. PALMER.