

(No Model.)

L. BENECKE.
WATER MOTOR.

No. 468,068.

Patented Feb. 2, 1892.

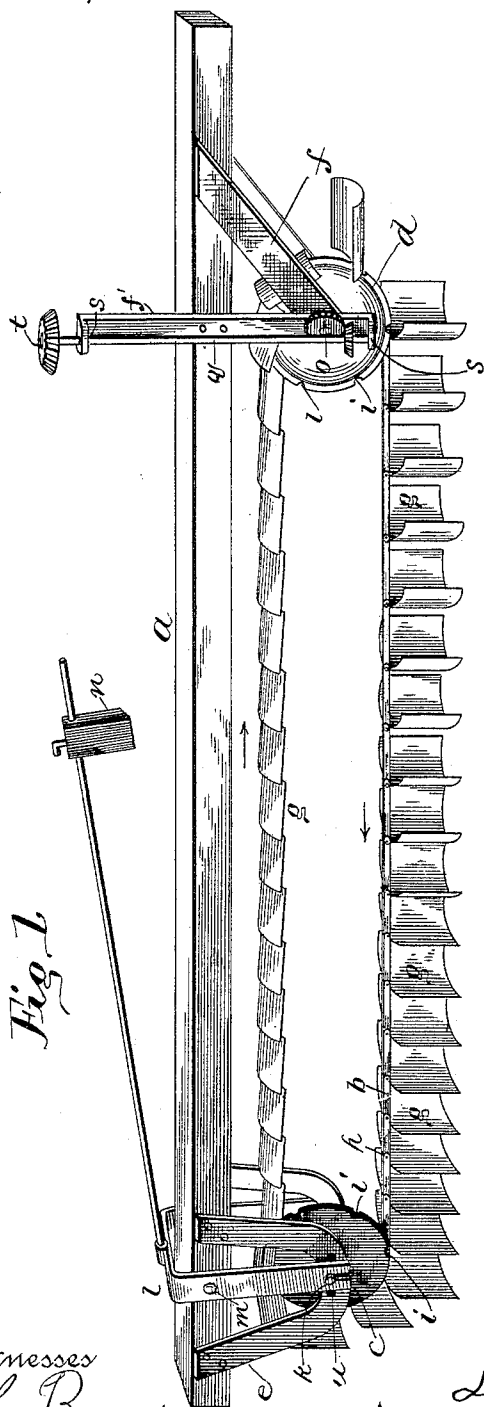


Fig 1

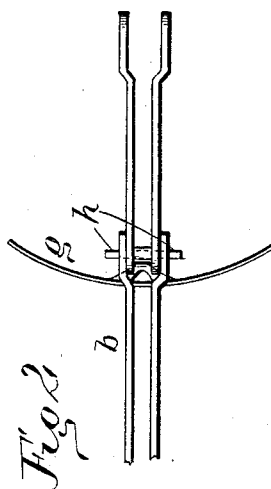


Fig 2

Witnesses
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UNITED STATES PATENT OFFICE.

LOUIS BENECKE, OF BRUNSWICK, MISSOURI.

WATER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 468,068, dated February 2, 1892.

Application filed May 11, 1891. Serial No. 392,298. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BENECKE, a citizen of the United States of America, residing at Brunswick, in the county of Chariton and State of Missouri, have invented certain new and useful Improvements in Water-Motors, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to that class of water-motors adapted to be submerged in running water, and particularly to that kind in which an endless chain is provided with pivoted blades arranged to automatically drop from the lower side of the chain to take the water and fold down upon the upper side of the chain to pass through the water with little or no resistance.

The object of my invention is to provide a more simple, cheap, and durable arrangement of parts for accomplishing this purpose, fully described hereinafter, and pointed out in the claim.

In the accompanying drawings, Figure 1 represents a perspective view of my complete invention, and Fig. 2 a detail view of a section of the chain.

The reference-letter *a* represents any suitable support from which my device is suspended. This may be a floating platform, barge, or other suitable float. A pair of grooved pulleys *c* and *d* are journaled in brackets *e* and *f*, rigidly fastened to the support *a*. The rear bracket *e* is provided with an elongated slot *u*, through which the journal of the pulley passes, for the purpose which will presently appear. An endless drive-chain *b* passes over and actuates these pulleys, and it consists of straight links joined together by the pins *h*, which project beyond the opposite sides of the links and engage the walls of notches or recesses *i* in the periphery of the pulleys, whereby the latter are always made to revolve whenever the drive-chain is actuated by the water. Concavo-convex blades *g* are pivoted to the chain at the juncture of the links and are so arranged that their upper edges lock against the bottom of the link and hold it at right angles thereto, so that the water will strike the blades in a perpendicular direction with full force. After the blades have passed over the rear pulley they will fall or fold down in a horizontal or nearly horizontal position, thereby offering little or no resistance to the water as they move forward. In or-

der to always keep the chain adjusted to the proper tightness, I provide an automatic regulator, which consists in a bell-crank lever *l*, fulcrumed at *m* to the support *a*, and the long arm of this lever is provided with an adjustable weight *n*, while the short arm engages the journal *k* of the pulley *c* and draws it backward to tighten the chain. The further the weight is placed from the fulcrum the tighter the chain will be drawn, and vice versa. The oblong slot *u* in the rear bracket *c* permits the journal of the pulley to move backward and forward therein. The journal *o* of the front pulley *d* is provided with a miter-gear, which meshes with a similar gear upon a vertical spindle *q*, and the latter is held in bearings *s*, which project from the vertical bar *f'* of the front bracket. This shaft conveys power to any suitable mechanism, such as *t*.

Among the advantages of my invention might be mentioned the fact that by having an automatic chain-tightening device a more uniform movement is effected; and, further, the lightness of the entire structure will permit it to be easily lifted out of the water when repairs become necessary; and, still further, the concave blades receive the water with greater force, and consequently increase the power of the device.

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

In a water-motor, the combination of a platform or suitable support provided with bearings below, a pair of grooved pulleys mounted in said bearings and provided with peripheral notches, an endless chain passing around the pulleys and having its links connected by laterally-projecting pins adapted to enter said notches to engage and actuate the pulleys, concavo-convex blades pivoted to stand at right angles to the chain when moving with the water and to fold down upon it when moving in the opposite direction, and a tension-regulator connected with one of the pulleys, all arranged and adapted to operate in the manner and for the purpose set forth.

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

LOUIS BENECKE.

Witnesses:

J. S. WALLACE,
F. C. SASSE.