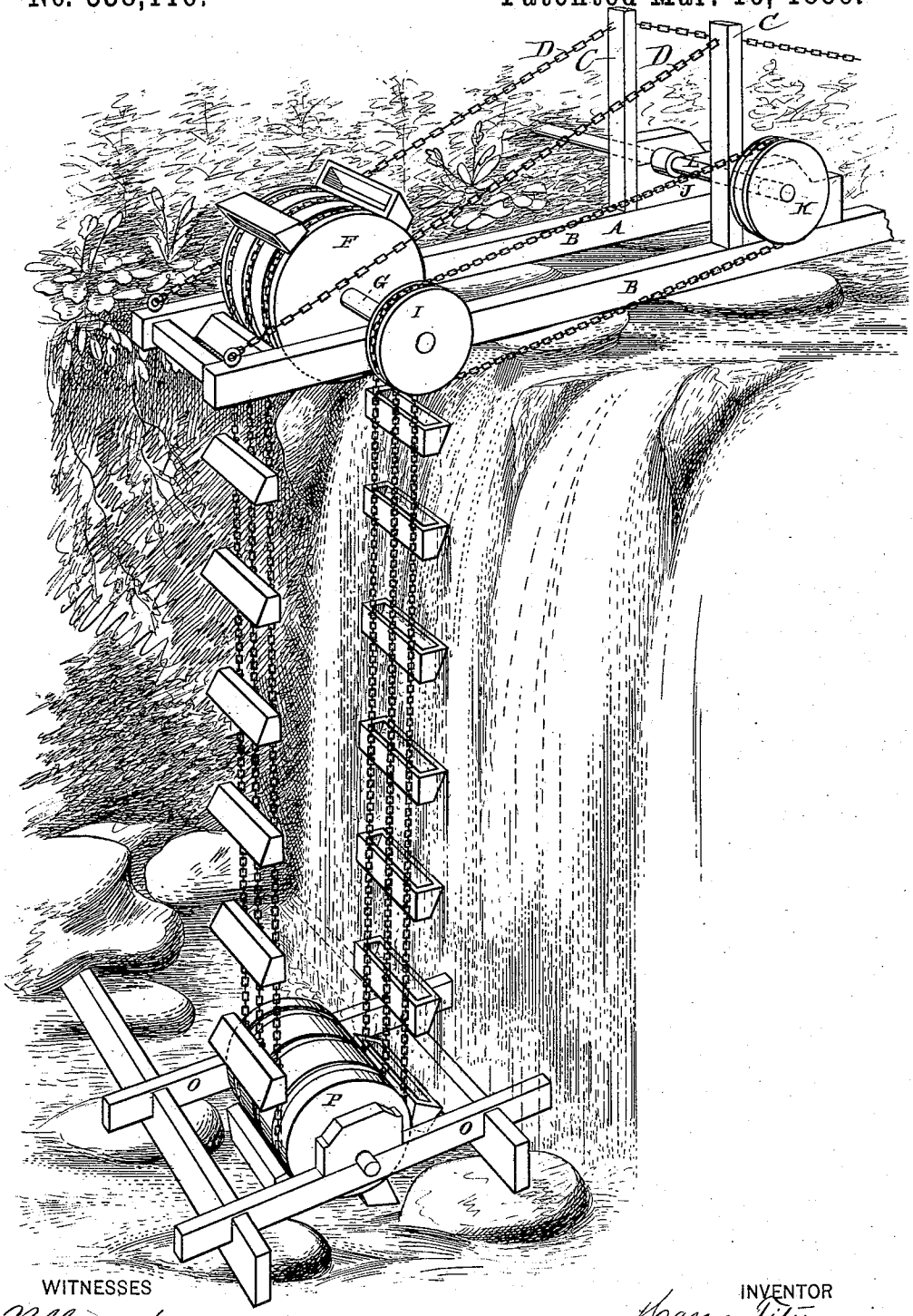
(No Model.)

# H. TITUS.

## WATER MOTOR.

No. 338,116. Patented Mar. 16, 1886.




WITNESSES

Willie Anderson.

Philip Quasi.

INVENTOR

Hazen Titus

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# UNITED STATES PATENT OFFICE.

HAZEN TITUS, OF TOLEDO, OHIO.

## WATER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 338,116, dated March 16, 1886.

Application filed December 29, 1885. Serial No. 187,039. (No model.)

*To all whom it may concern:*

Be it known that I, HAZEN TITUS, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Water-Motors; and I do 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, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

The drawing is a representation of this invention, and is a perspective view.

This invention has relation to water-motors; and it consists in the construction and novel combination of parts, as will be hereinafter described, and pointed out in the claim.

Referring by letter to the accompanying drawing, A designates the frame-work of the machine, which may be erected at any suitable place that will enable the mechanism to receive the volume of water that is designed to run the motor.

B B designate horizontal parallel bars or sills connected by cross bars or braces to give the frame-work the requisite strength. From these horizontal bars uprights C C project, and braces D D are employed to add strength to the structure. A bucket-wheel, F, is provided between the horizontal parallel arms or bars B B, and on one end of the shaft Q of this bucket-wheel F a pulley or band wheel, I, is secured. This band-wheel I is connected by a belt or band, J, with a wheel, K, on the driving-shaft L. A frame, O, is provided at the lower end of the endless bucket-elevator, and in this frame a wheel, P, is journaled, so that the endless elevator will have this wheel P for its lower bearing, and the water will be lowered and directed to any desired prepared channel.

Having thus described the construction, I will now describe its utility. It is especially adapted to water-falls which have not been heretofore utilized for the reason that the concussion caused by the fall of the water is so great that the structure designed to receive it would not be adequate to the force that would fall upon it. In working a high fall with a structure of this nature it is difficult to gear up from the bottom of the fall to the machinery, which must necessarily be located at the top of the fall. I therefore place at the top of the falls the frame, which projects out and over the precipice from the banks at the top of the support of the water-wheel.

The endless elevator is the ordinary bucket-elevator, the buckets being secured to the band or cables in any well-known manner.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

The water-motor described, consisting of the projecting frame composed of the parallel beams B B, the standards C C, and braces D D, the shaft L, journaled in the inner end of the frame having the pulley K, the shaft journaled in the outer end of the frame carrying the pulley I, having a chain-connection with the pulley K, and the bucket-wheel adapted to receive the endless chains carrying the buckets, and the similar wheel, P, journaled in the frame beneath the said wheel F, the whole arranged with relation to a water-fall, substantially as specified.

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

HAZEN TITUS.

Witnesses:
FREDERICK A. KUMLER,
OLIVER B. SNIDER.