

J. E. Le BLANC.

Water-Wheel and Pressure Regulators.

No. 150,963.

Patented May 19, 1874.

Fig. 1.

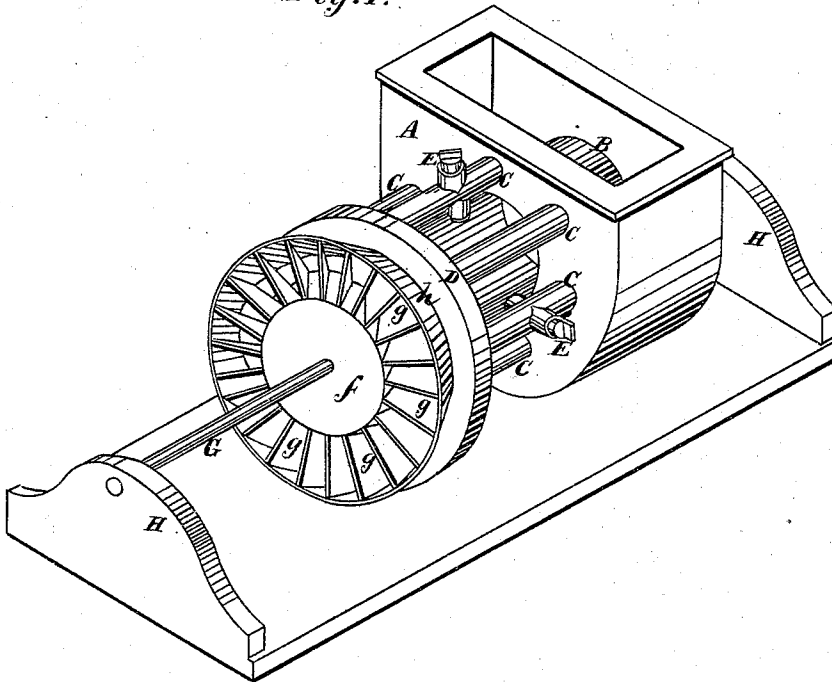
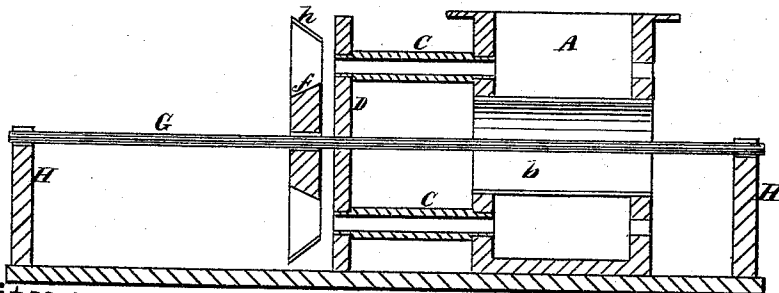


Fig. 2.



Witnesses

John L. Boone
C. M. Richardson

Inventor

Joseph E. Le Blanc
by Sewell &
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH E. LE BLANC, OF GOLD HILL, NEVADA.

IMPROVEMENT IN WATER-WHEELS AND PRESSURE-REGULATORS.

Specification forming part of Letters Patent No. **150,963**, dated May 19, 1874; application filed March 24, 1874.

To all whom it may concern:

Be it known that I, J. E. LE BLANC, of Gold Hill, Storey county, State of Nevada, have invented an Improved Water-Wheel and Pressure-Regulator; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My improvement consists in so constructing and mounting a water-wheel, and connecting it with the water-reservoir from which the water-pressure is obtained, that the same hydrostatic pressure can be maintained when the flow of water which supplies the reservoir is reduced as when it is abundant, thus obtaining a greater per cent. of power from the water than if the water-pressure were allowed to run down proportionately with the decrease of flow.

In order to explain my invention so that others will be able to understand its construction and operation, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of my invention. Fig. 2 is a sectional elevation.

Let A represent the reservoir or water-pit, in which the stream of water which furnishes the water-power is directed, in order to provide the required hydrostatic pressure. A tube or tunnel, B, is made through the lower part of this reservoir, so that the water in the reservoir will entirely surround the tube with an equal pressure at all points. Connecting with the reservoir at various points around this tube or tunnel are four or more pipes or tubes, C C, the opposite ends of which are supported by an upright plate or support, D, the tubes being arranged in a circle around the tunnel, and supported likewise in the plate D. Each alternate tube C is provided with a cock, E; or, if preferred, each tube may be provided with one, as most convenient, so that the water from all or a portion of the tubes may be cut off at will. The water-wheel is secured to a shaft, G, the shaft passing through an opening in the plate or support D, and through the

center of the tube or tunnel B, its ends bearing in the supports H H, upon each side of the reservoir A. The water-wheel will thus be secured vertically close up against the plate or support D, as shown. The wheel which I use consists of a solid central portion or hub, *f*, the outer rim of which is made conical or beveling, the largest diameter being next to the plate D. To this beveled periphery I secure a series of radiating buckets or wings, *g*, which stand obliquely in one direction to the shaft upon which the wheel is secured. The outer ends of these buckets are made beveling in an opposite direction to the bevel of the hub *f*, and an outside rim, *h*, is secured around them. The hub or central portion *f* of the wheel is just large enough to bring the ends of the tubes *c c c* directly opposite the opening on the narrow side of the buckets, so that when the reservoir is filled and the water issues through the tube C, the streams will strike the angular buckets and drive the wheel. This construction of water-wheel is very economical, as the pressure of the water is exerted with great efficiency upon the series of buckets, and at the outer rim of the wheel.

Now, as long as the quantity of water from which the power is derived is abundant, all of the cocks E may be left open, and the full force of the several streams be directed upon the wheel; but when the supply of water is reduced, so that when all the cocks are opened the reservoir will not be full, one or more of the cocks can be closed, thus shutting off a quantity from the wheel, and causing it to rise in the reservoir until the full pressure is obtained. By this means an equal hydrostatic pressure can be maintained in the reservoir, which will give a larger per cent. of power than if the level of the water were allowed to run down with a full head upon the wheel.

The wheel can be cased in, if desired.

This wheel can be operated either vertically or horizontally, as most convenient, as will be readily seen by any one conversant with water-wheels, and numerous devices can be employed for reducing the delivery of the water upon the wheel, in order to maintain the level and pressure in the reservoir.

Steam or compressed air can be employed

in the same manner, by connecting a pipe with the reservoir A, through which the steam or air is delivered upon the wheel.

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

The reservoir A, with its tunnel B, and provided with a series of pipes, C C, having cocks E, in combination with the water-wheel *f g h*,

substantially as and for the purpose above described.

In witness whereof I hereunto set my hand and seal.

JOSEPH ESDRAS LE BLANC. [L. S.]

Witnesses:

JOHN L. BOONE,

C. M. RICHARDSON.