No. 619,005. Patented Feb. 7, 1899.

J. P. WHIDDEN.

CURRENT WATER WHEEL.

(Application filed Mar. 21, 1898.)

(No Model.)

Fig. 1.

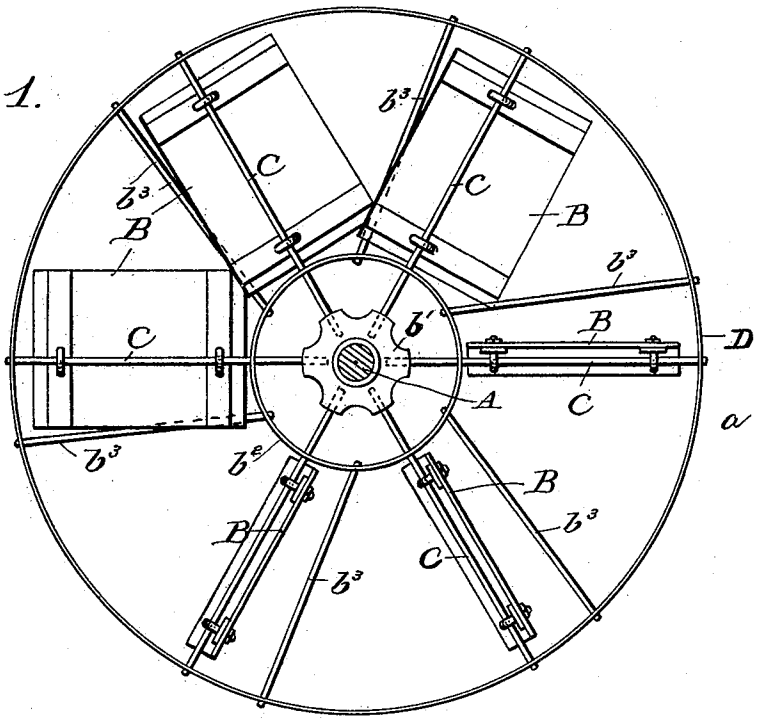


Fig. 2.

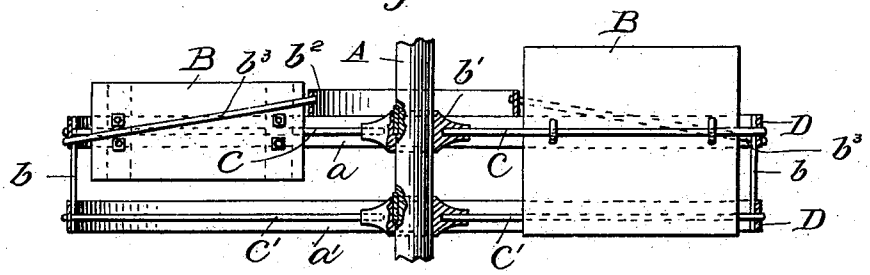
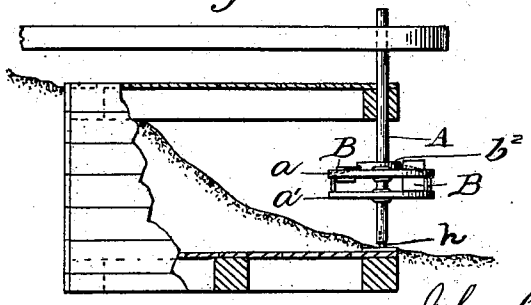


Fig. 3.



Witnesses

J. R. Paul.

Albert B. Blackwood.

Inventor,

John Philip Whidden,

By Charles W. Davis

Attorney

UNITED STATES PATENT OFFICE.

JOHN PHILIP WHIDDEN, OF LOOMIS, WASHINGTON.

CURRENT WATER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 619,005, dated February 7, 1899.

Application filed March 21, 1898. Serial No. 674,596. (No model.)

To all whom it may concern:

Be it known that I, JOHN PHILIP WHIDDEN, a citizen of the United States, residing at Loomis, in the county of Okanogan and State of Washington, have invented certain new and useful Improvements in Current Water-Wheels; 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 drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to current water-wheels; and the objects thereof are to so construct the same that it will be simple, durable, efficient, and cheaply manufactured.

With these and other objects in view my invention consists in the construction, combination, and arrangement of parts and in the various details thereof, as will be first fully pointed out in the specification and then claimed.

In the drawings forming a part of this specification, and in which like symbols of reference represent corresponding parts in the several views, Figure 1 is a plan view of my device as applied to vertical shafts. Fig. 2 is a vertical section through center of same. Fig. 3 is a view of wheel in operative position, with part of framework surrounding same partly broken away.

A represents the shaft, on which the wheel is keyed or otherwise made fast, B the paddles thereof, and b^3 restraining-rods to prevent paddles from turning completely over when on the return or inoperative position of same.

The wheel is composed of two sections $a\,a'$, which are so arranged that the spokes c in the upper wheel come directly over the spokes c' in the lower portion. This may be accomplished by simply keying the same in alinement upon the shaft, or they may be connected at their peripheries by brace-rods b, as shown.

D represents the tires or rims of the wheels, which may be either solid or in sections, in the latter case being secured by suitable bolts.

b' is the hub of wheel, and b^2 an iron ring to which restraining-rods b^3 are connected, the purpose of the same being to support said rods and hold the paddles in their proper position.

The paddles are hinged, as shown, on the upper wheel-section, the connection being above the middle of the same, so that the lower half of the paddle being heavier than the upper causes them to assume a vertical position in current and a nearly horizontal position in back current. The paddles may, if desired, be hinged so that the hinges lie at the rear instead of facing the current, as shown.

The wheel is preferably submerged and boarded in, so that the current can only strike one side of the same and forms a back current or eddy on the other side.

The form of wheel shown is intended for use in large rapid streams, so as to avoid the expense of making a ditch and building a penstock, &c., for an ordinary water-wheel and where a rapid rise in the river and drift-wood endanger a wheel placed at the surface of the water.

The wheel is placed as near the bed of the river as possible and all drift-wood passes harmlessly over it. The transmission or power wheel is preferably also placed below the water-level.

The bearing for the vertical shaft (shown in Fig. 3) consists of a pin h, secured in a beam of the main framework and a recess in the lower end of the shaft, thus preventing any dirt or other material from clogging the same.

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

In a device of the character described, a main shaft, a series of spokes supported by the same, paddles eccentrically pivoted to said spokes, a second series of spokes against which said paddles rest when in operation, rods to restrain and support said paddles when inoperative, and a ring to hold the paddles in position upon the spokes.

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

JOHN PHILIP WHIDDEN.

Witnesses:

J. F. WILLIAMS,

R. H. PARKINSON.