(No Model.)

M. I. CORTRIGHT.

WATER MOTOR.

No. 588,102. Patented Aug. 10, 1897.

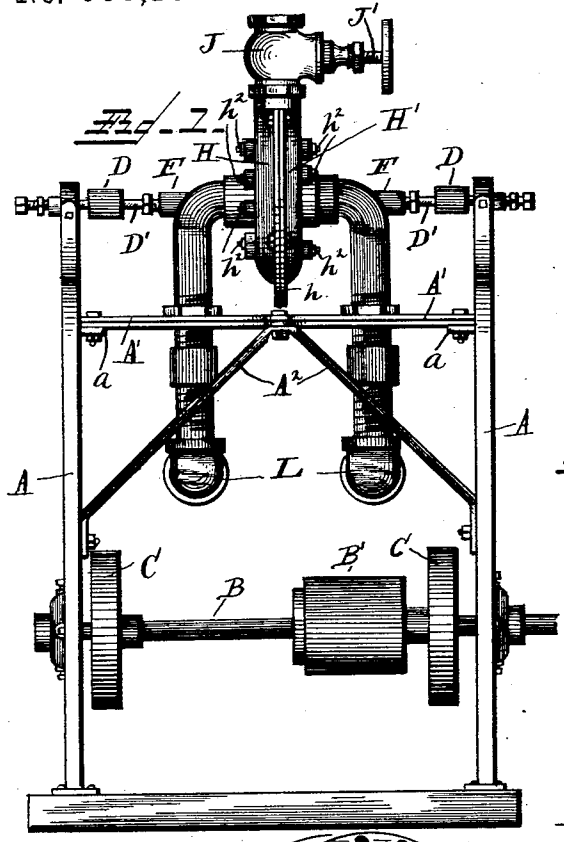


Fig. 1.

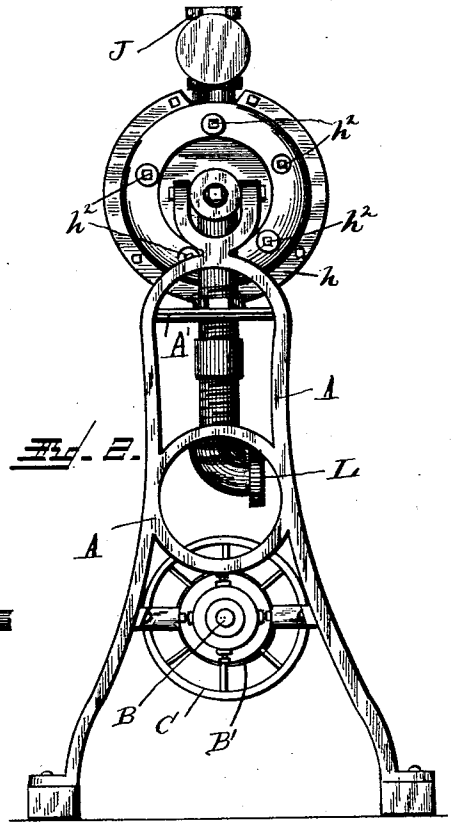


Fig. 2.

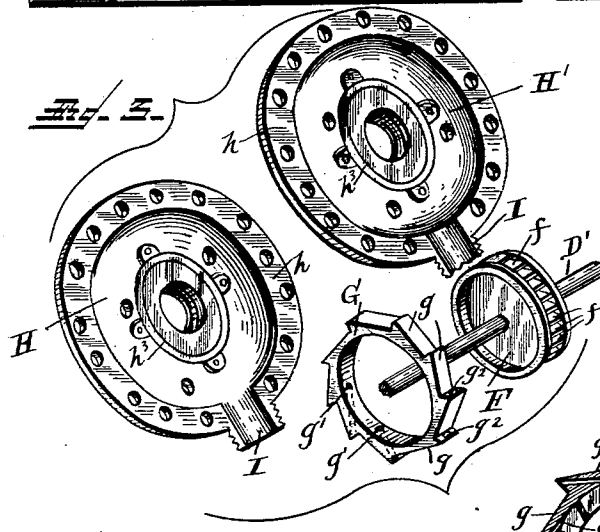


Fig. 3.

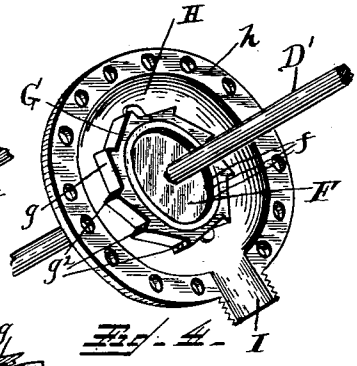


Fig. 4.

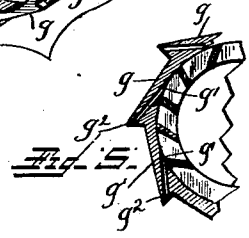


Fig. 5.

Witnesses
Jos. Gregory
K. A. Rau

Inventor.
Moses I. Cortright.
By John Wedderburn
his Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MOSES I. CORTRIGHT, OF PORT BYRON, NEW YORK, ASSIGNOR TO WELLS KING, OF SAME PLACE.

WATER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 588,102, dated August 10, 1897.

Application filed March 25, 1896. Serial No. 584,800. (No model.)

To all whom it may concern:

Be it known that I, MOSES I. CORTRIGHT, of Port Byron, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Water-Motors; and I do hereby 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.

This invention relates to certain new and useful improvements in water-motors; and it has for its object, among others, to provide a simple, cheap, and powerful, yet durable and efficient, water-motor composed of few parts and those readily set up and rendered easily separable, when desired, for repairs or otherwise.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an elevation of my improved water-motor. Fig. 2 is an end view thereof. Fig. 3 is a perspective view of the wheel and its ring and inclosing case with the parts separated. Fig. 4 is a view of the same parts with the wheel and ring in place and one-half of the inclosing case removed. Fig. 5 is a sectional detail of the ring.

Like letters of reference indicate like parts in the several views.

Referring now to the details of the drawings by letter, A designates the supporting-frame, of any suitable design, material, and height, suitably braced and having its side bars connected near its upper end by the cross-support A′, secured at its ends to the lugs *a*, extending inwardly from the inner faces of said side portions, and this cross-bar is braced by suitable braces A^2, so as to give strength and rigidity to the frame or support.

B is a counter-shaft mounted to revolve in suitable bearings in the side portions of the frame, near the lower end thereof, and on this shaft is a pulley B′, from which, by means of a suitable belt, power may be transmitted to the desired point, and this shaft may be extended at one end, as shown in Fig. 1, to receive another pulley, if desired, so that motion can be transmitted to other machinery when necessary. Near opposite ends of this shaft are secured thereto the belt-pulleys C, around which are designed to pass suitable belts, which pass between the braces A^2 and around a belt-pulley D on the shaft D′, mounted to revolve in suitable bearings at the upper ends of the side bars of the supporting-frame. This shaft D′ is the shaft of the water-wheel and extends through stuffing-boxes F, rendered adjustable in the usual manner, as shown in Fig. 1, and centrally upon this shaft is disposed the water-wheel F, (seen best in Fig. 3,) having the outlets and openings *f* about its periphery, as shown, and surrounding this wheel is the ring G, the periphery of which is provided with tangential faces *g*, the said ring being hollow and having upon its inner face the opening *g′*, into which the water passes, and from the exterior of the ring extend openings g^2. The inlet for water to the case is through the valve to the case, giving equal pressure at all points on the ring. The inlets from the case through the ring to the wheel proper begin at the shoulder on the ring, said inlets being choked or tapering from outside to inside. The discharge of water after passing the buckets of the wheel is through the draft-tube on either side of the case. The inclosing case of this wheel and ring is composed of two like parts H and H′, (seen best in Fig. 3,) each having a central opening, through which the shaft passes, and each having a flange *h*, through which screws or bolts or other securing means may be passed. The parts may be further secured by bolts h^2, passed through the body portion of the two parts of the inclosing case, as seen in Fig. 1. The central portions of the two parts of the inclosing case are concaved or dished, as shown, and provided with a flange h^3, within which the wheel is adapted to fit, and the ring is disposed outside thereof. The two halves of the case are each provided with a semicircular extension I, which, when the two parts are secured together, forms the inlet for the water.

J is the inlet, connected by suitable coupling with the upper end of the inclosing case, and J′ is a valve by which the control of the water in the case may be regulated.

The inclosing case is supported upon the yoke formed by the tubes on which the stuffing-boxes E are arranged, and these tubes are supported in the cross-support A′ of the supporting-frame and are detachably and adjustably connected with the draft-tubes L, one for each depending tube of the yoke.

By means of the above-described construction and arrangement of parts I provide a water-motor by which greater power is obtained at little expense, and the machinery may be driven, therefore, with practically no attention on the part of the engineer or attendant. The apparatus is not liable to get out of order or to be rendered inoperative, and the cost of manufacturing is such as to place it within the reach of all.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

Having thus described the invention, what is claimed as new is—

1. In a water-motor, the combination with the supporting-frame, the shaft and pulleys thereon, and the water-wheel shaft and its pulley, of the water-wheel, the inclosing case, the inlet-pipe with valve, the yoke and the draft-tubes connected therewith, and a cross-bar connecting the side bars of the frame and to which the yoke and draft-tubes are adjustably, detachably connected, substantially as described.

2. In a water-motor, the combination with the supporting-frame, the shaft and pulleys thereon, and the water-wheel shaft and its pulley, of the water-wheel, the inclosing case, the inlet-pipe with valve, the yoke and the draft-tubes connected therewith, and a cross-bar connecting the side bars of the frame and to which the yoke and draft-tubes are adjustably, detachably connected, and the inclined brace-rods connecting the side bars and cross-bar of the frame, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MOSES I. CORTRIGHT.

Witnesses:
R. K. LOCKWOOD,
L. H. KING.