

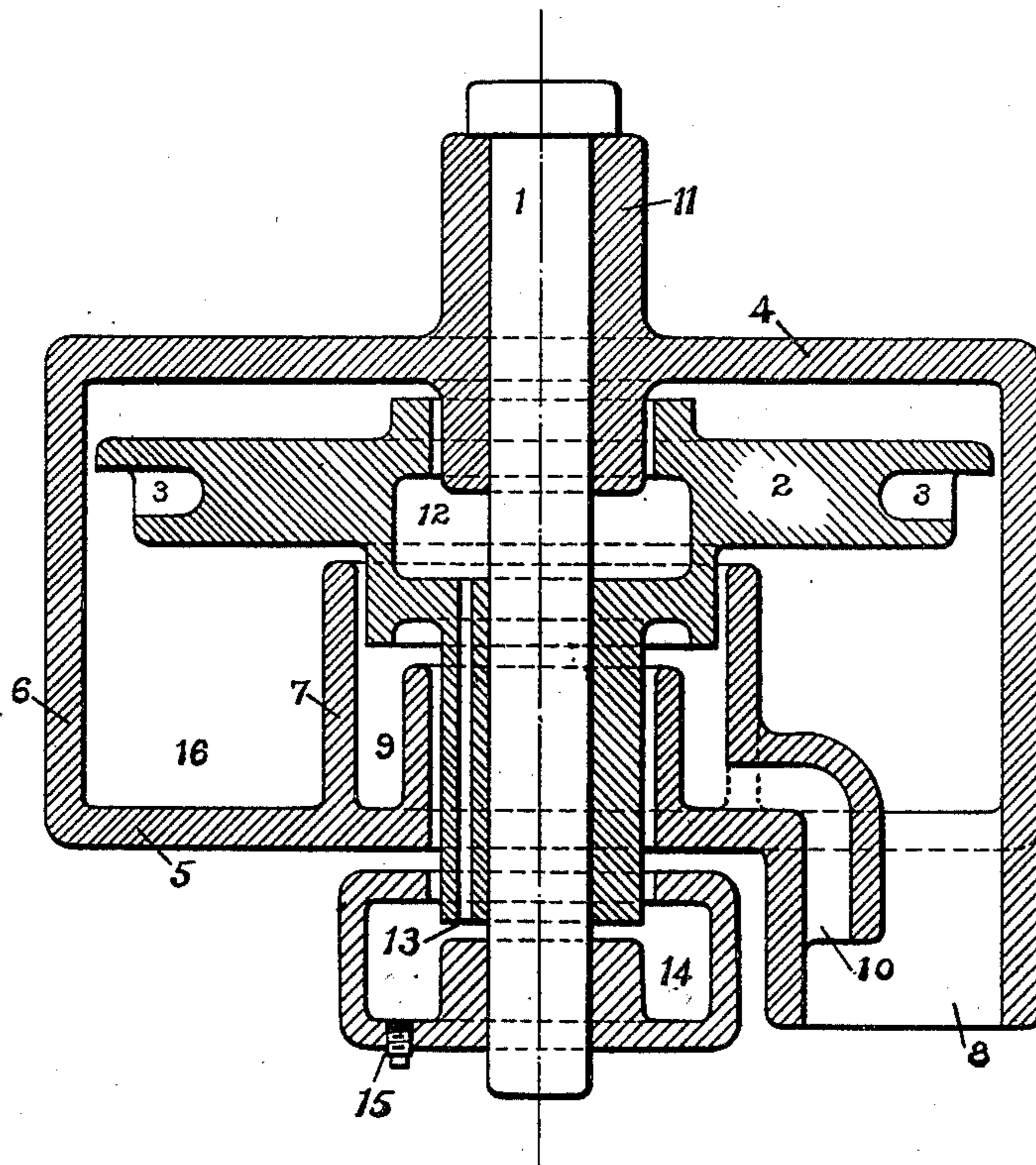
No. 681,805.

Patented Sept. 3. 1901.

**E. D. MACKINTOSH.**  
**WATER MOTOR.**

(Application filed Mar. 13, 1901.)

(No Model.)



WITNESSES:  
*Geo. B. B. B.*  
*L. S. Richardson.*

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# UNITED STATES PATENT OFFICE.

EDWARD D. MACKINTOSH, OF NEW YORK, N. Y.

## WATER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 681,805, dated September 3, 1901.

Application filed March 13, 1901. Serial No. 50,924. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD D. MACKINTOSH, of the borough of Brooklyn, in the city of New York, county of Kings, and State of New York, have invented a new and useful Water-Motor, of which the following is a specification.

My invention relates to water-motors of the class employing a wheel with a circle of buckets that receive the impulse of a jet of water thrown forcibly against them; and its object is to prevent the spent water from such a wheel used on an upright shaft from mingling with the lubricating-oil used on the motor and to deliver the spent water and the passed oil separately for further use.

Referring to the drawing forming part of this specification and showing a vertical section of my improved water-motor, 1 is the upright shaft, having fixed to it the water-wheel 2, with buckets 3, of any suitable form, around the periphery. These are rotated by water thrown forcibly against the buckets from any suitable nozzle and through any suitable opening in a casing 4, inclosing the wheel. The spent water falling from the wheel is caught in a gutter 16, formed by the bottom 5 of the casing and an upwardly-projecting outer wall 6 and inner wall 7, all surrounding the shaft. This gutter has an outlet 8, which discharges the bulk of the spent water; but a portion is liable to splash over the upwardly-projecting inner wall 7. To recover any portion so escaping, I provide a second gutter, 9, also surrounding the shaft and having an outlet 10. This second gutter, which is separated from that first described by the wall 7, surrounds an opening through which pass the shaft 1 and the hub of the wheel 2. This hub is formed to project over the inner wall of gutter 9 and to extend below the top of the wall 7, so as to insure that any water splashing over this wall will fall into the gutter 9 instead of finding a clear passage over its inner wall. The shaft rotates in a bearing 11, lower down than which is a rotating oil-chamber 12, formed in the water-wheel and provided with an outlet 13. The passed oil from the bearing falls into this chamber and passes thence when the motor is stopped, if not before, through the outlet 13 into an oil-chamber 14 below the water-

wheel. From this latter chamber it is drawn off from time to time by removing a plug from an opening 15. It will be seen that the spent water is delivered through the outlets 8 and 10 and the passed oil through the opening 15.

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

1. In a water-motor, the combination of a water-wheel on an upright shaft, a gutter provided with an outlet and contained between upwardly-projecting outer and inner walls surrounding the shaft, a second gutter provided with an outlet and separated from the first by the upwardly-projecting inner wall of the first-named gutter, and a hub projecting over the inner wall of the said second gutter and extending below the top of the wall separating the two gutters, substantially as described.

2. In a water-motor, the combination of a water-wheel on an upright shaft, an outer gutter below the water-wheel and provided with an outlet, an inner gutter provided with an outlet and surrounded by the outer gutter, and a hub projecting over the inner wall of the inner gutter and extending below the top of the inner wall of the outer gutter, substantially as described.

3. In a water-motor, the combination of a water-wheel on an upright shaft, a gutter provided with an outlet and contained between upwardly-projecting outer and inner walls surrounding the shaft, a second gutter provided with an outlet and separated from the first by the upwardly-projecting inner wall of the first-named gutter, a bearing above the water-wheel, a rotating oil-chamber lower than the bearing but higher than that portion of the wheel which is fixed to the shaft, and an outlet from the rotating oil-chamber, substantially as described.

4. In a water-motor, the combination of a water-wheel on an upright shaft, a gutter provided with an outlet and contained between upwardly-projecting outer and inner walls surrounding the shaft, a second gutter provided with an outlet and separated from the first by the upwardly-projecting inner wall of the first-named gutter, a bearing above the water-wheel, a rotating oil-chamber lower

than the bearing but higher than that portion of the water-wheel which is fixed to the shaft, an outlet from the said rotating oil-chamber, and another oil-chamber lower than the said  
5 outlet from the rotating oil-chamber, substantially as described.

5. In a water-motor, the combination of a water-wheel on an upright shaft, a gutter below the water-wheel and provided with an  
10 outlet, a second gutter provided with an outlet and surrounded by the first-named gutter, a bearing above the water-wheel, a rotating oil-chamber lower than the bearing but higher than that portion of the water-wheel which is  
15 fixed to the shaft, and an outlet from the rotating oil-chamber, substantially as described.

6. In a water-motor, the combination of a water-wheel on an upright shaft, a gutter be-

low the water-wheel and provided with an outlet, a second gutter provided with an out- 20  
let and surrounded by the first-named gutter, a bearing above the water-wheel, a rotating oil-chamber lower than the bearing but higher than that portion of the water-wheel which is fixed to the shaft, an outlet from the said 25  
rotating oil-chamber, and another oil-chamber lower than the said outlet from the rotating oil-chamber, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 30  
two subscribing witnesses.

EDWARD D. MACKINTOSH.

Witnesses:

E. S. INNET,  
GEO. M. PENNEY.