

(No Model.)

M. W. BAILY.
WATER MOTOR.

No. 547,318.

Patented Oct. 1, 1895.

Fig. 1,

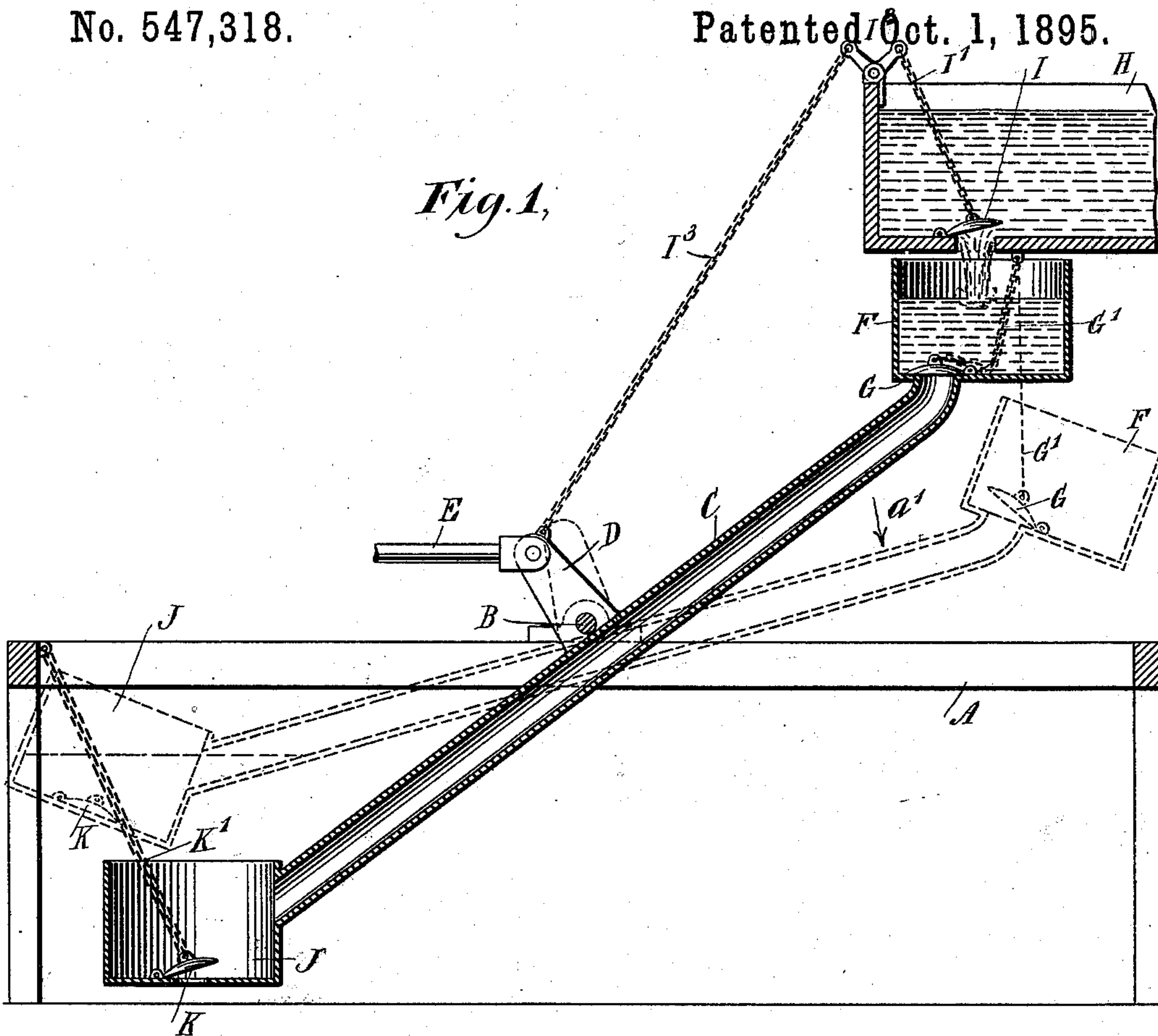
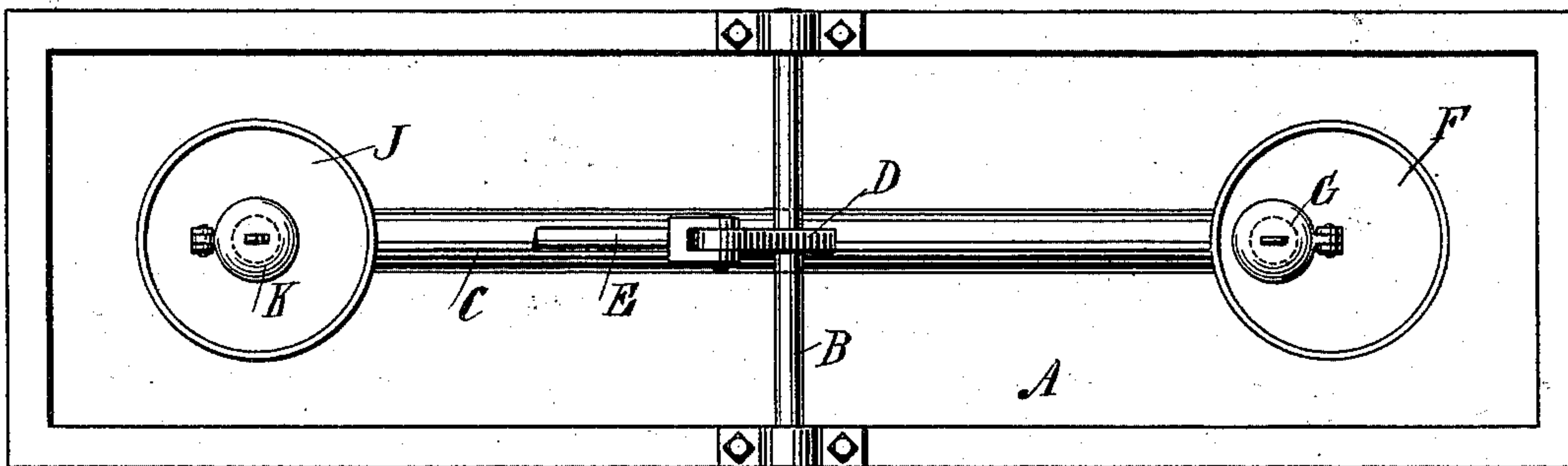


Fig. 2.



WITNESSES:

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WATER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 547,318, dated October 1, 1895.

Application filed July 2, 1895. Serial No. 554,718. (No model.)

To all whom it may concern:

Be it known that I, MIFFLIN W. BAILY, of Pottstown, in the county of Montgomery and State of Pennsylvania, have invented a new and Improved Water-Motor, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved motor which is simple and durable in construction, very effective in operation, and arranged to utilize the water to the fullest advantage and without any waste during the time the water runs through the motor.

The invention consists principally of a flume having an outlet-valve discharging the water into a vessel held on the upper end of an inclined hollow working lever forming a connection between the said upper vessel and a second vessel on the lower end of the lever, both vessels being provided with valves having connections with fixed points and adapted to open and close alternately.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional side elevation of the improvement, and Fig. 2 is a plan view of the same.

The improved motor is provided with a suitably-constructed frame A, carrying a pivot B for a hollow working lever C, arranged in an inclined position, as plainly shown in Fig. 1, the said lever being provided at its fulcrum-point with a right-angular arm D, connected by a pitman E with other machinery to be driven. On the upper end of the hollow lever C is secured a vessel F, provided with a valve G, normally closing the said vessel to the upper end of the hollow lever C. The valve G is preferably hinged and is connected with a chain G' attached to the underside of a flume H, into which passes the water for running the motor. In the bottom of the flume H is arranged a valve I, which when open permits the water in the flume to pass into the vessel F to fill the same. The valve I is hinged in

the flume H and is connected by a chain I' with a bell-crank lever I², fulcrumed on the top of the flume and connected by a chain I³ with the arm D, so that when the lever C is in the position shown in full lines in Fig. 1 the arm D, by pulling on the chain I³, holds the valve I open to permit the water to pass from the flume into the vessel F, in which the valve G is in a closed position, so that the water can accumulate in this vessel.

On the lower end of the lever C is arranged a second lower vessel J, provided in its bottom with a hinged valve K, connected by a chain K' with the frame A, the said valve K being in an open position when the valve G is in a closed position, and vice versa.

Now when the several parts are in the position illustrated in full lines in Fig. 1, and the water from the flume H passes into the vessel F and accumulates therein, the preponderance of the weight on the upper end of the lever C finally causes the latter to swing in the direction of the arrow *a'* to the position shown in dotted lines in said Fig. 1. In doing so the valve I seats itself, so as to shut off the water-supply to the vessel F, and the valve G in the said vessel F is opened by a pull exerted by the chain G' on the valve at the time the vessel F swings downward. The water in this vessel can now flow through the open valve G, down the hollow lever C into the lower vessel J upon the valve K, previously closed by the said vessel J swinging upward. As soon as the water passes into this lower vessel from the upper vessel the preponderance of weight is on the lower end of the lever, and consequently the latter swings in the inverse direction of the arrow *a'*—that is, back into the position shown in full lines in Fig. 1. In doing so the valve K is opened to permit the water in the vessel J to flow out, while at the same time the valve G seats itself and the valve I is opened by the pull of the arm D in the chain I³. The above-described operation is then repeated—that is, water again flows from the flume H into the vessel F to fill the same.

Now it will be seen that by the arrangement described an oscillating motion is given to the working lever C, so that the arm D actuates the machinery to be driven. It will fur-

ther be seen that by the arrangement described, no water is wasted in any shape or form during the time the water flows through the motor, and at the same time the weight
5 of the water is utilized to the fullest advantage for actuating the motor in an economical manner. For large motors two or more levers C and vessels F and J may be employed.

Having thus fully described my invention,
10 I claim as new and desire to secure by Letters Patent—

1. A water motor, comprising a flume having an outlet valve, a vessel into which the water is discharged from the said flume, an
15 inclined, hollow working lever connected with the machinery to be driven and supporting at its upper end the said vessel, a second vessel on the lower end of the said lever, and valves in the said vessels and having connections with fixed points, to open and close al-
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ternately upon the swinging of the said lever, substantially as shown and described.

2. A water motor, comprising a flume having an outlet valve, a vessel into which the water is discharged from the said flume, an
25 inclined, hollow working lever connected with machinery to be driven and supporting at its upper end the said vessel, a second vessel on the lower end of the said lever, valves in the said vessels and having connections with fixed
30 points, to open and close alternately upon the swinging of the said lever, and a connection between the said lever and the valve in the said flume, to open and close the said valve, substantially as shown and described.

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Witnesses:

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