

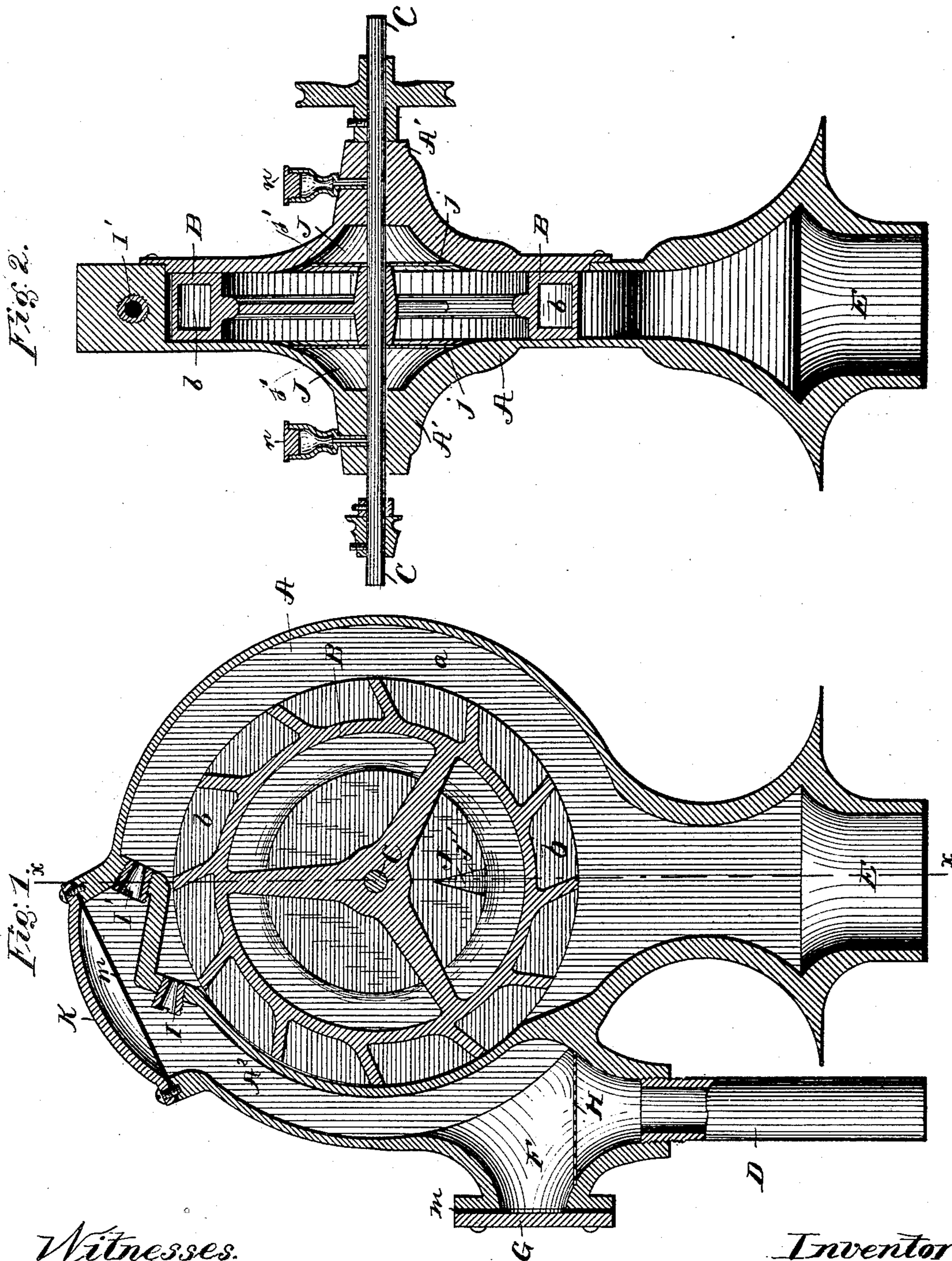
(No Model.)

D. W. WEBSTER.

LIQUID MOTOR.

No. 339,240.

Patented Apr. 6, 1886.



Witnesses.

Wm. Rheim
W. R. Haight

Inventor

Daniel Walter Webster
by Wm H Babcock.
Attorney.

UNITED STATES PATENT OFFICE.

DANIEL WALTER WEBSTER, OF CHRISTIANA, PENNSYLVANIA.

LIQUID-MOTOR.

SPECIFICATION forming part of Letters Patent No. 339,240, dated April 6, 1886.

Application filed October 20, 1885. Serial No. 180,396. (No model.)

To all whom it may concern:

Be it known that I, DANIEL WALTER WEBSTER, a citizen of the United States, residing at Christiana, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Liquid 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 water-motors and other liquid-motors which are provided with a rotary wheel or cylinder having peripheral buckets or compartments for receiving and discharging the liquid.

The said invention consists of a casing provided with partitions which have openings at their bottoms, and divide the interior of said casing into a middle compartment and two lateral drip-compartments, in combination with a wheel and inlet and outlet pipes, substantially as hereinafter set forth.

In the accompanying drawings, Figure 1 represents a vertical section from side to side of a water-motor, embodying my invention, taken on a line at right angles to the shaft. Fig. 2 represents a vertical section of said motor, taken through the shaft on the axial line thereof, as indicated by *x x*, Fig. 1.

A designates the casing of the machine; B, the wheel having peripheral buckets *b*; C, the shaft of said wheel, journaled in the sides *A'* of said casing; D, the inlet-pipe communicating with a channel, *A²*, in the side and upper part of said casing; and E, the outlet-pipe leading from the lower part of said casing.

Between the inner end of inlet-pipe D and the receiving end of channel *A²* is a chamber, F, having in its wall two apertures, one at its side, the other at its bottom, the former being covered by a removable cap, G, and the latter aperture having the inlet-pipe D screwed into its wall. Cap G allows easy access to and withdrawal of a strainer or filter, H, which is arranged within said casing, across said lower aperture, and prevents solid matter from passing along the channel *A²* with the water or other fluid which affords the motive power. The said channel is extended up along the side and to the upper part of casing A, between an outer and an inner wall thereof, and

discharges forward and downward into the buckets *b*, causing the wheel B to rotate, the water passing out from said buckets into the lower part of the casing A, whence it escapes through outlet-pipe E. The discharge of the water upon the wheel is regulated in force and volume by removable nozzles *I I'*, of varying capacity, which are screwed into the inner wall of passage *A²* at or near its delivery end. Through these the water is delivered in jets. They vary in capacity, and one or more than one may be used, as desired. The size of the jet or of each jet may be varied by substituting a larger nozzle for a smaller one, or vice versa. The wheel fits closely on its sides to the inside of the casing, both wheel and casing being ground for that purpose; consequently, packing is not needed.

On each side of the main chamber of the casing in which the wheel turns is a supplemental chamber, J, for receiving any water which may follow the shaft C through. Each of these supplemental drip-chambers is separated from the main or central chamber by a thin plate or wall, *j'*, having an opening, *j*, at its bottom which allows the water dripping from said shaft to pass through to the outlet E.

To allow the easy removal and substitution of the nozzles *I I'*, an opening is formed in the exterior wall of the casing, just over them. This is covered by a detachable cap, K. This is of similar construction to cap G, before mentioned, and each of these caps is provided with packing *m*. The inlet and outlet pipes are attached to the case A in any convenient manner, and oil-cups *n* are employed for lubricating the shaft C.

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

The casing A, provided with partitions *j'*, which have openings at their bottoms and divide the interior of said casing into a middle compartment and two lateral drip-compartments, in combination with the wheel B and the inlet and outlet pipes, substantially as set forth.

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

DANIEL WALTER WEBSTER.

Witnesses:

WM. WHITNEY,
ALLAN A. HERR.