

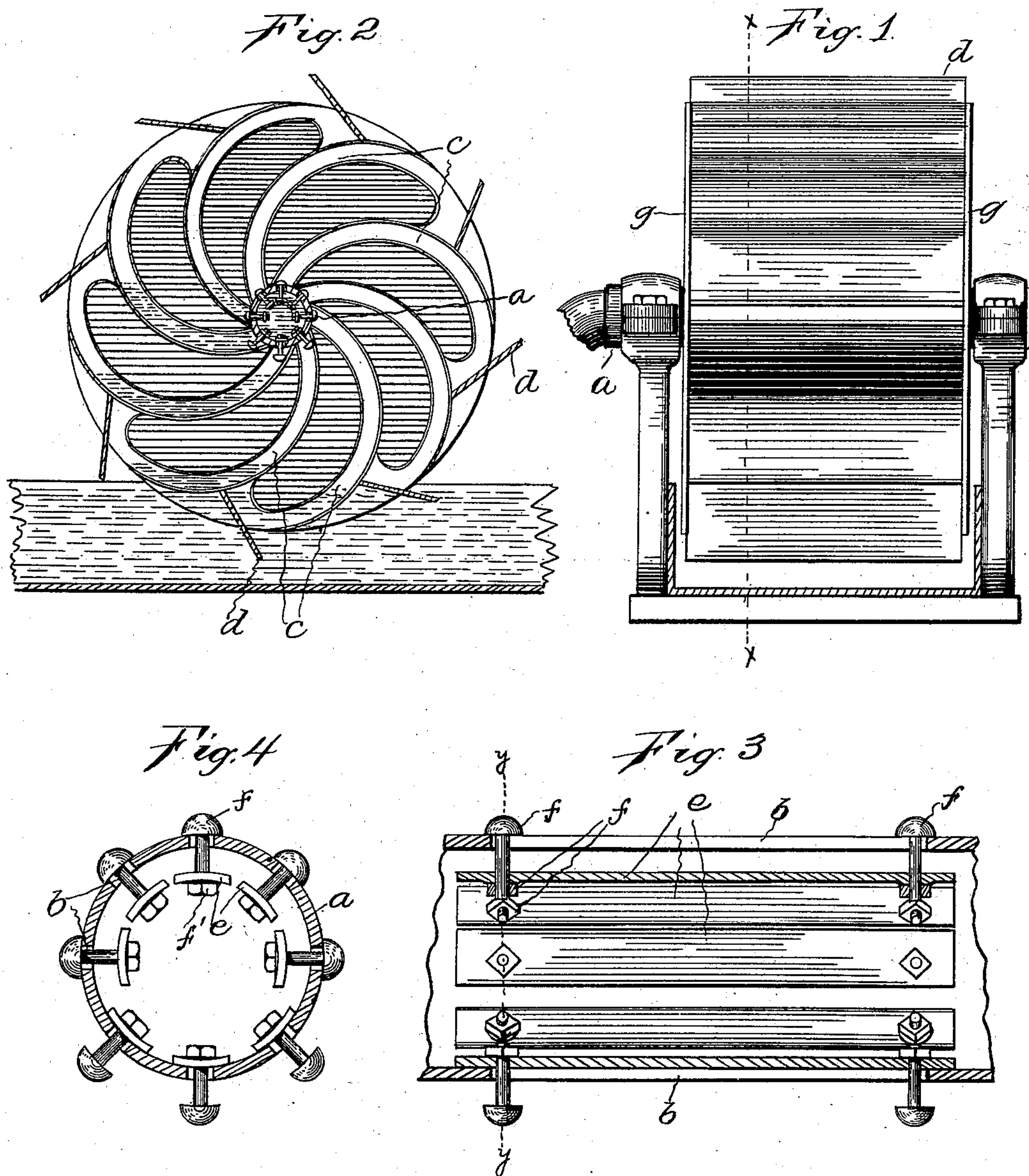
No. 670,621.

Patented Mar. 26, 1901.

H. H. McADAMS.
WATER ELEVATING WHEEL.

(Application filed Aug. 16, 1900.)

(No Model.)



Witnesses
W. H. Barker.
Luitgard Morba.

Inventor
Henry H. McAdams.
By: W. E. Sumner
Attorney

UNITED STATES PATENT OFFICE.

HENRY H. McADAMS, OF BOISE, IDAHO, ASSIGNOR OF ONE-HALF TO
WILLARD WHITE, OF SAME PLACE.

WATER-ELEVATING WHEEL.

SPECIFICATION forming part of Letters Patent No. 670,621, dated March 26, 1901.

Application filed August 16, 1900. Serial No. 27,070. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. McADAMS, a citizen of the United States of America, residing and having post-office address at Boise, in the county of Ada and State of Idaho, have invented a certain new and useful Improvement in Water-Elevating Wheels, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a front or face elevation view of a wheel embodying said improvement. Fig. 2 is a view of a portion of the same wheel in central vertical section on the plane denoted by the dotted line *xx*, Fig. 1. Fig. 3 is a detail view, on an enlarged scale, in longitudinal section, of a portion of the tubular axle of the wheel. Fig. 4 is a detail view on a scale similar to that of Fig. 3—a cross-section of the tubular axle of the wheel on the plane denoted by the dotted line *yy*, Fig. 3.

The object of the improvement is the production of a wheel for elevating water.

In the accompanying drawings the letter *a* denotes the tubular axle of the wheel, supported in suitable bearings, which may well be roller-bearings. It is pierced or mortised at intervals by valve-openings *b*.

The letter *c* denotes hollow arms open at their outer ends and each communicating at its inner end with one of the valve-openings *b*.

The letter *d* denotes what may be called "current-paddles." The wheel is adapted to dip into and be rotated by a flowing current of water. These paddles are adapted and intended to be struck and moved by such a flowing current. They also serve to make the water of the flowing stream back up into the open end of the hollow wheel-arms.

The letter *e* denotes valves appurtenant to the valve-openings *b*. The headed bolts *f*, with their nuts *f'*, connect the valves *e* to the

tubular axle *a*. When one of these valves is at the uppermost point of its rotative path, then by gravity it falls away from the tubular axle and leaves the valve open until it is pretty well down on its rotative path, when by gravity it falls against the tubular axle and closes the valve. As the wheel revolves the hollow arms successively take up a portion of water from the stream and as the rotation continues they deliver that portion of water into the tubular axle. As will be readily understood, the valves open and close through gravity in a manner to facilitate the action just described and the water which is delivered into the tubular axle flows out at an open end thereof.

The letter *g* denotes plates forming the sides of the wheel. The hollow wheel-arms are by preference formed of castings or the like, which extend from one of these plates to the other.

I claim as my improvement—

In combination, the wheel comprising side plates, a series of current-paddles held between the outer edges of these plates, and a series of hollow arms leading inward from points respectively adjacent said paddles; the tubular axle pierced by valve-openings with which the inner ends of said arms respectively communicate, and a valve for each opening comprising a bolt whose shank passes loosely through it, whose head is exterior to the axle, and whose nut stands within the axle and holds the valve in place, the distance between the head and valve and the size of the shank being such as to permit the valve to open and close by gravity, as and for the purpose set forth.

HENRY H. McADAMS.

Witnesses:

ERNEST E. BRISCOE,
JOHN N. FUSS.