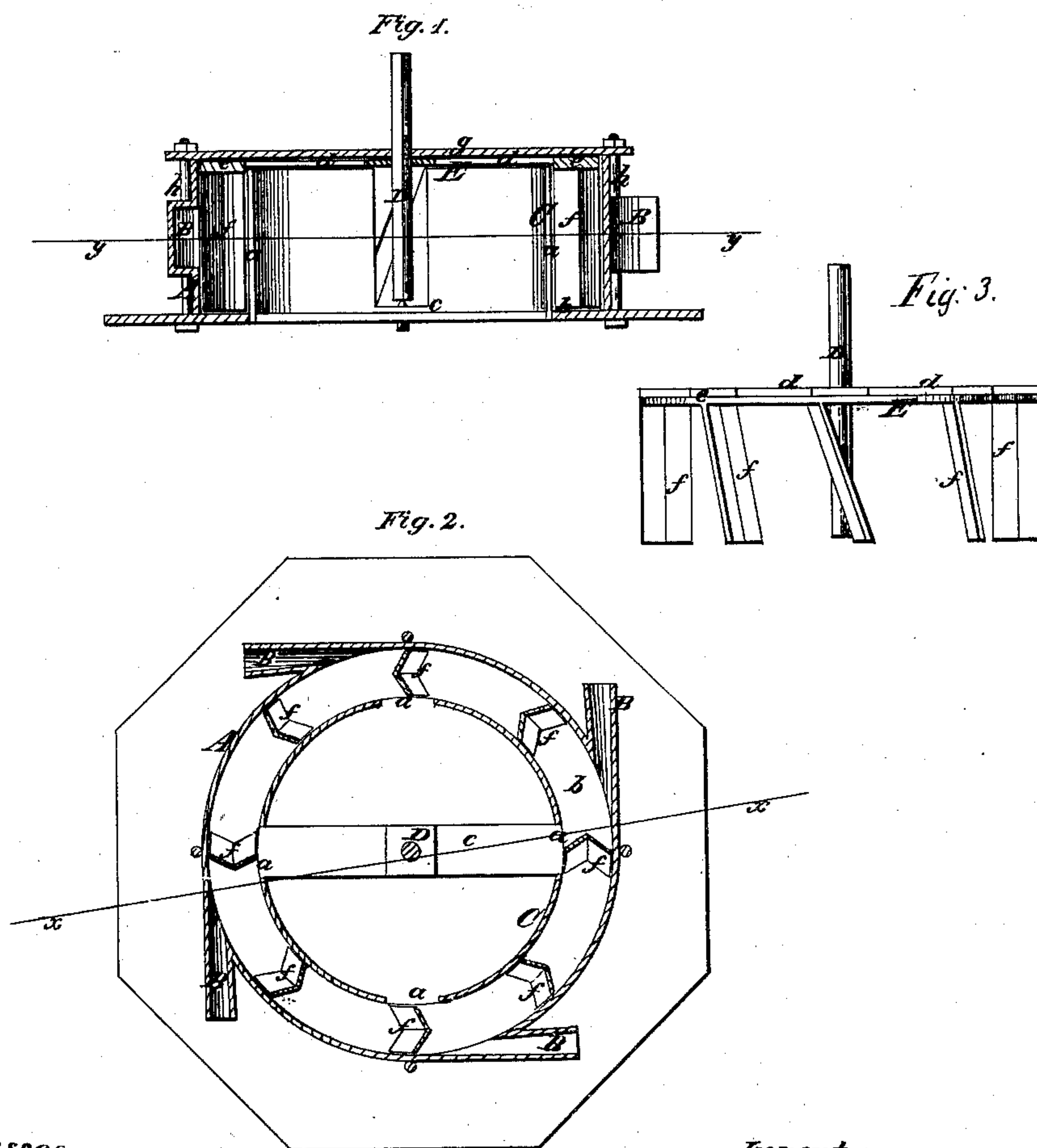


No. 28,073.

PATENTED MAY 1, 1860.

L. GIBSON.
WATER WHEEL.



Witnesses.
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LYMAN GIBSON, OF ELMIRA, NEW YORK.

WATER-WHEEL.

Specification of Letters Patent No. 28,073, dated May 1, 1860.

To all whom it may concern:

Be it known that I, LYMAN GIBSON, of Elmira, in the county of Chemung and State of New York, have invented a new and Improved Center-Vent Water-Wheel; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical section of a water wheel constructed according to my invention and fitted within its case *a*, *a*, figure 2 indicating the plane of section. Fig. 2, is a horizontal section of ditto, taken in the line *y*, *y*, Fig. 1. Fig. 3, is a detached side view of the wheel.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a center-vent water wheel, that will run without being retarded by dead water as hitherto, and also one that will be simple in construction and acted upon both by the direct and reactive force of the water.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a cylindrical case which has two or more spouts B, communicating with it, four spouts are shown in Fig. 2. Within the case A, a concentric cylinder C, is placed. This cylinder is open at its lower end, and it has vertical openings *a*, made in it at equal distances apart. The space *b*, between the two cylinders A, B, is closed at its bottom and the spouts B, communicate with said space, as shown clearly in Fig. 2. Across the bottom of the inner cylinder C, there is a bar *c*, at the center of which a vertical shaft D, is stepped. To this shaft D, the wheel E, is attached. The wheel E, is formed of radial arms *d*, the ends of which are attached to a rim *e*. The arms and rim are constructed of bars considerably wider than they are thick. The rim *e*, is directly over the space *b*, and between the upper parts of the two cylinders as shown in Fig. 1.

To the under side of the rim *e*, the buckets *f*, are attached. These buckets have an inclined position as shown clearly in Fig. 3, and the buckets may be transversely of V form, as shown clearly in Fig. 2. The lower ends of the buckets *f*, just clear the bottom of the space *b*.

The cylinders A, C, are covered by a deck *g*, which is firmly secured in proper position by bolts *h*. The shaft D, of course extends up through the deck *g*.

The buckets *f*, are nearly equal in width to the space *b*, they are made to run as closely as possible within said space without producing unnecessary friction.

The operation is as follows:—The water passes through the spouts B, into the space *b*, acts upon the buckets *f*, and passes out through the openings *a*. In consequence of having the buckets inclined the water acts upon them with a direct and reactive force. By the employment or use of the inner concentric cylinder C, the dead water is not allowed to retard the wheel as the cylinder forms what may be termed a partition between the wheel and the dead water. This is an important feature of the invention for there is a considerable loss of power attending the displacement of the dead water by the wheel.

The spouts B, are provided with suitable gates arranged in any proper way. The wheel may be wholly of metal and the buckets *f*, may be bolted to the rim *e*.

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

The arrangement and combination of the case A having scrolls B wheel D E having radial arms *d*, cylinder C, having openings *a*, and the angular inclined buckets *f*, attached at rim *e*, the whole being constructed and arranged for joint operation in the manner and for the purpose described.

LYMAN GIBSON.

Witnesses:

M. M. CONVERSE,
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