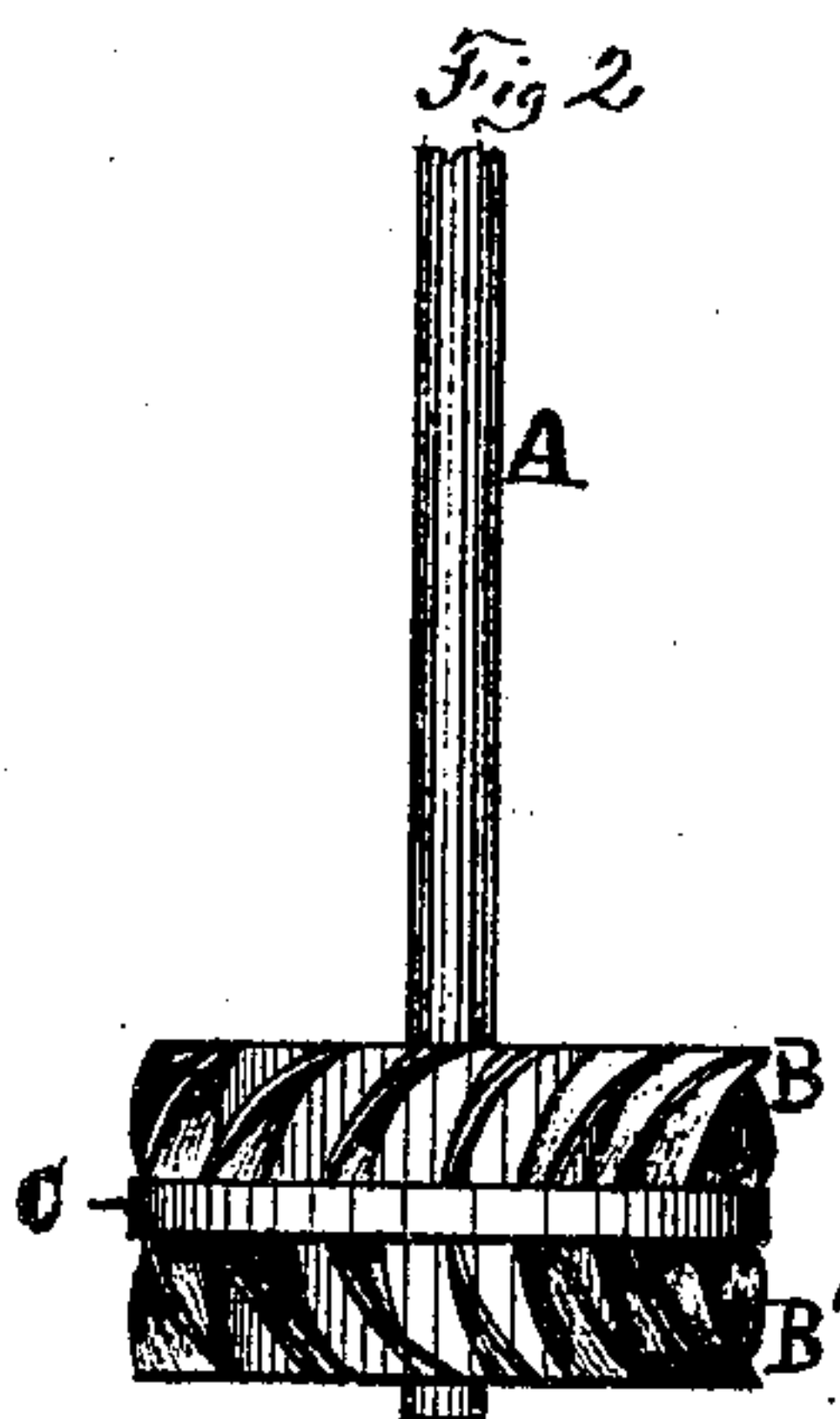
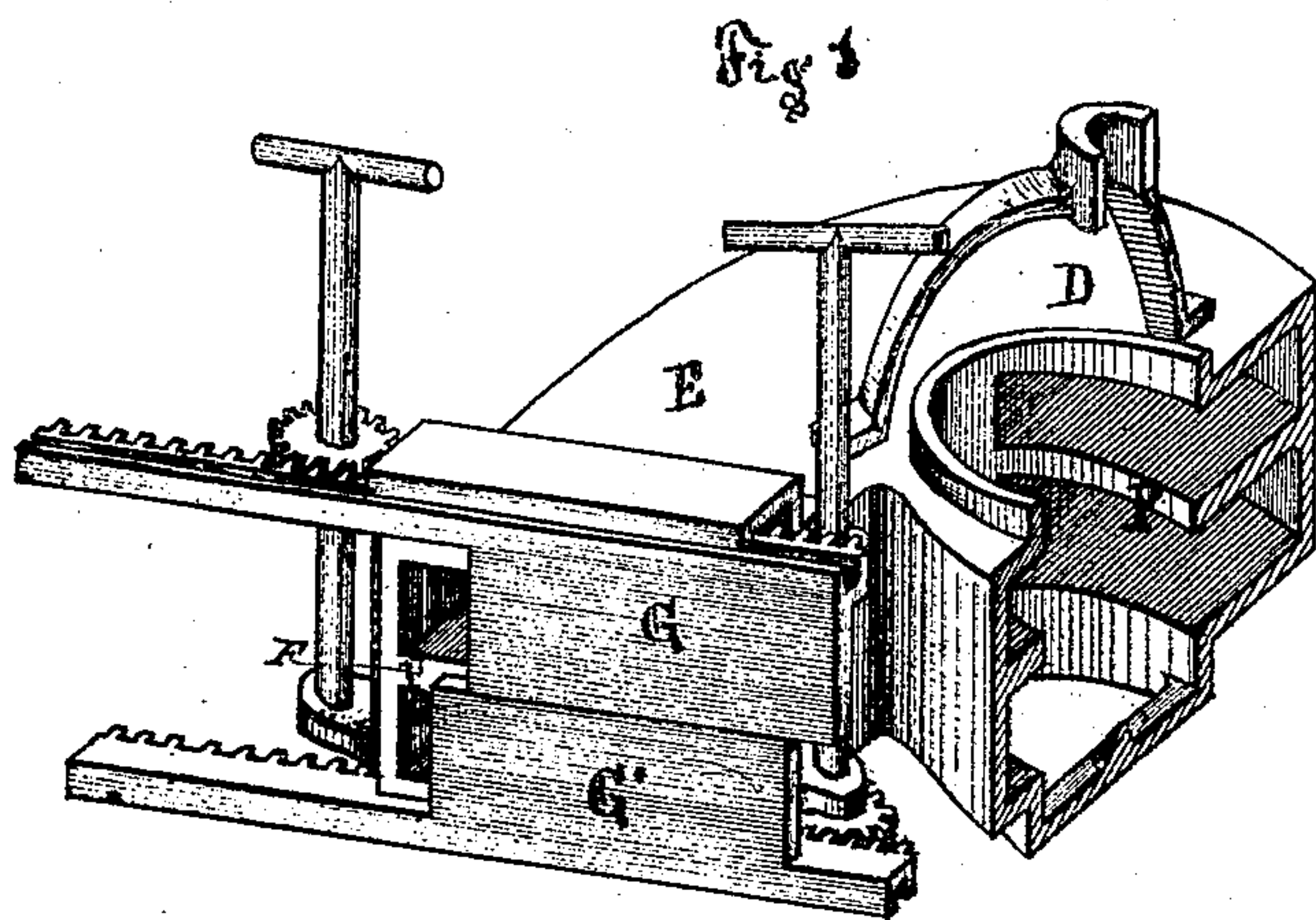


McK. A. Brooks,

Water Wheel.

No. 98,223.

Patented Dec. 28. 1869.



Witnesses:
M. S. Sprague
H. P. Holden

Inventor:
McKendall A. Brooks
per Att.
Thos. S. Sprague

United States Patent Office.

McKENDREE A. BROOKS, OF LA PORTE, INDIANA.

Letters Patent No. 98,223, dated December 28, 1869.

IMPROVEMENT IN WATER-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, McKENDREE A. BROOKS, of La Porte, in the county of La Porte, and State of Indiana, have invented a new and useful Improvement in Turbine Water-Wheels; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification.

Figure 1 is a perspective of the scroll and gate, showing the case in section, with the wheel removed.

Figure 2 is an elevation of the wheel.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improved construction of turbine water-wheels, and consists in the peculiar construction of a double case and scroll, provided with independent gates, so arranged that water may be delivered to either the upper or lower buckets of a double turbine wheel, or to both, as may be desired. The purpose I have in this form of construction is, that with a diminished amount of labor to perform, a less amount of water may be fed to the wheel, and, filling the issues of one of its sets of buckets, will compel the wheel to revolve with undiminished speed.

In the drawings—

A represents my wheel-spindle, stepped in the usual manner, and carrying a wheel having an upward-discharging set of buckets, B, and a downward-discharging series of buckets, B'.

The base of each series of buckets is secured to a central disk, C, encircling the hub of the wheel.

The disk C serves as a diaphragm, to separate the upper from the lower series of buckets.

The wheel rotates within the case D, the water being delivered to it through the scroll E.

The scroll and case are divided into an upper and lower chamber, by a horizontal diaphragm, F, in the case, and surrounds the disk of the wheel, forming a

joint tight enough to preclude the passage of water from one chamber to the other.

The mouth of the upper chamber of the scroll is provided with a gate, G, operated by a rack and pinion, or other suitable means for regulating the admission of water to that chamber and the upper series of buckets in the wheel, while the lower chamber is provided with a similar gate, G', operated in like manner, for the same purpose, with reference to the lower series of buckets.

It will be noticed that the gates are operated independently of each other, so that water may be admitted to act upon either series of buckets, or both, as circumstances may require.

When the full power of the wheel is required, both gates are opened. When less power is required, one of the gates is closed, and water admitted to only one series of the buckets, whose issues, being filled with the discharging water, will compel the wheel to rotate with an undiminished speed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A water-wheel having a series of upward-discharging buckets, B, and a series of downward-discharging buckets, B', separated by a disk, C, rotating within a case, D, and so arranged that the water may act upon either or both series of buckets, substantially as and for the purpose set forth.

2. In combination with a water-wheel, constructed as herein described, the case D and scroll E, divided into separate chambers by the diaphragm F, and provided with independent gates, G G', the whole arranged and operating in the manner and for the purpose specified.

McKENDREE A. BROOKS.

Witnesses:

H. S. SPRAGUE,
GEO. D. MANCHESTER.