

J. ABELL & A. D. COLE.
Water-Wheels.

No. 138,979.

Patented May 20, 1873.

FIG. 1.

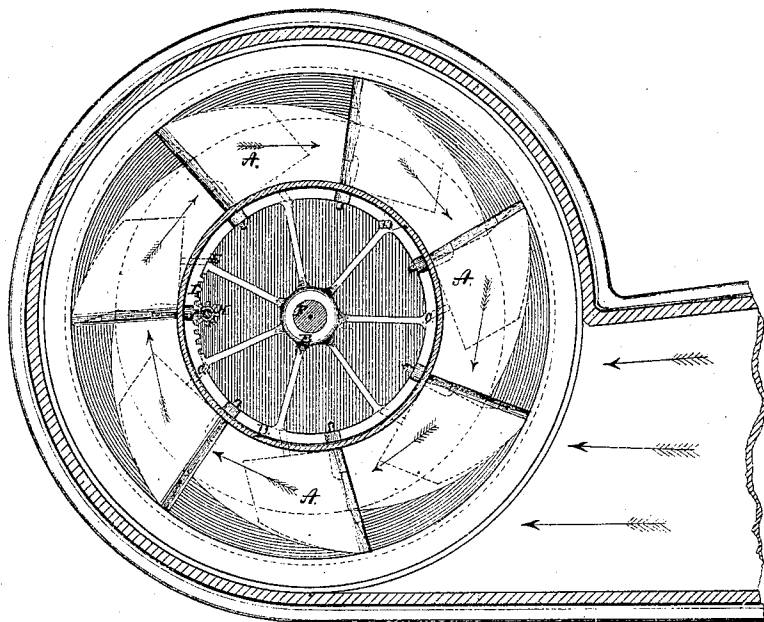
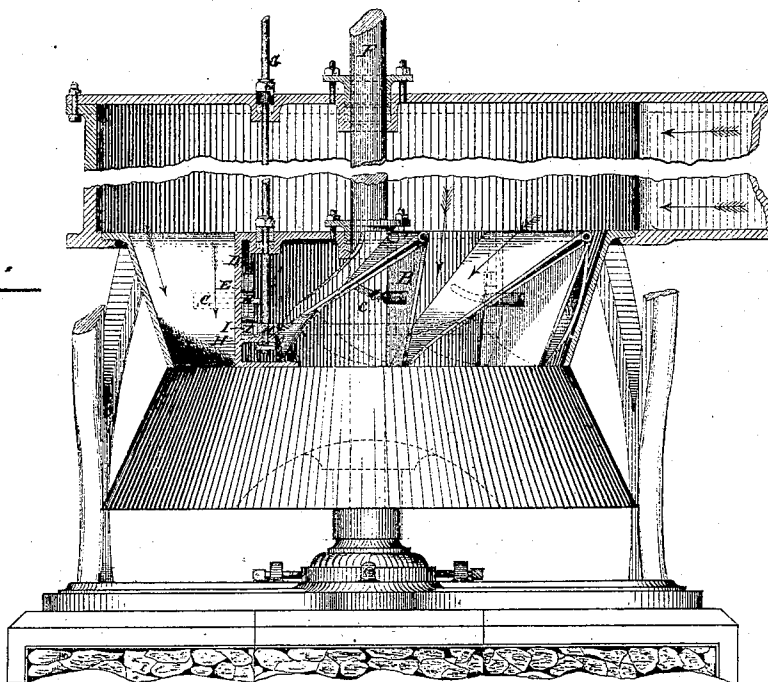


FIG. 2.



J. Herbert Bartlett.
Wm. Sheppard.

WITNESSES

INVENTOR

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UNITED STATES PATENT OFFICE.

JOHN ABELL, OF WOODBRIDGE, AND ASHLEY D. COLE, OF TORONTO,
CANADA.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **138,979**, dated May 20, 1873; application filed
November 7, 1872.

To all whom it may concern:

Be it known that we, JOHN ABELL, of Woodbridge, county of York, in the Province of Ontario, Canada, and ASHLEY DODGE COLE, of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a new and useful Improvement on Water-Wheels, of which the following is a specification:

Our invention relates to an improvement in the chutes of a turbine wheel invented some years ago by A. D. Cole, one of the herein-named applicants, who also obtained a patent, 115,578, from the United States, June 6, 1871, for certain other improvements on his original invention.

The improvement we now wish to patent jointly consists of a cheap and simple contrivance by which the supply of water to the wheel can be regulated without approaching the wheel, chutes being so arranged that they can be opened and closed at will.

Description of Drawing.

Figure 1, plan showing arrangement of chutes; Fig. 2, sectional elevation.

General Description.

A is the stationary part of the chute, and is cast with the inner and outer shell, as shown. The plate B is the movable portion of same, and is hinged to the top of A. C are studs which are fastened to the plates B, pass

through a horizontal slot in the inner shell D, and through a hole in the annular casting E, which is turned and fitted within the inner shell D, and works on the center shaft F.

The plate B through the stud C being thus connected to the annular casting E, it follows that it is simply necessary to turn the said casting on its pivot (the shaft F) in order to move the plates B, and as these plates are hinged to the top of the stationary plate A and form one side of the chutes, by moving them in this manner the lower mouth of each chute is closed or opened as required, and our object attained.

We do not claim any particular device for moving the casting E, as it may be done either by a vertical shaft, G, pinion A, and rack I, as illustrated, or by means of a lever, which latter device is particularly applicable to small wheels, and as its application is simple any mechanic could apply it without further description.

What we claim as our invention is—

The combination of the hinged plate B, stud C, and movable annular casting E, substantially as and for the purpose specified.

Toronto, 25th of October, 1872.

JOHN ABELL.
ASHLEY DODGE COLE.

Witnesses:

J. HERBERT BARTLETT,
WM. SHEPPARD.