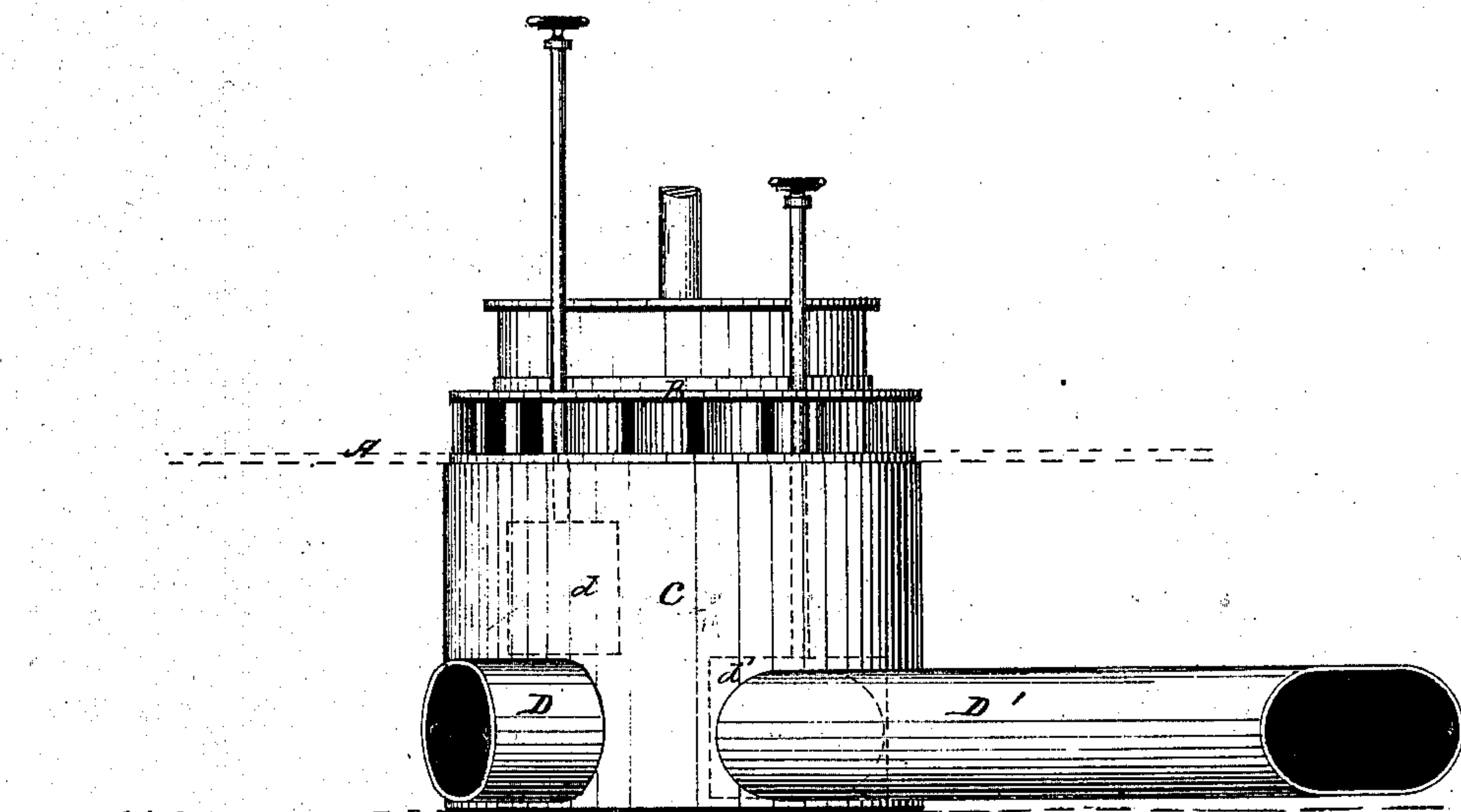


W. A. Cobb,

Water Wheel.

No. 104,427.

Patented June 21, 1870.



Witnesses:

Victor Hagmann
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Inventor:

W. A. Cobb
per Messrs H & C
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United States Patent Office.

WILLIAM A. COBB, OF ORANGE, MASSACHUSETTS.

Letters Patent No. 104,427, dated June 21, 1870.

IMPROVEMENT IN INCLOSED TAIL-RACES OF WATER-WHEELS.

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

To all whom it may concern:

Be it known that I, WILLIAM A. COBB, of Orange, in the county of Franklin and State of Massachusetts, have invented a new and improved Water-wheel Attachment; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing making a part of this specification, in which the figure is a side elevation.

It is well known that many hundred thousand dollars are lost almost every year, in New England alone, which have been invested by companies or corporations, for manufacturing purposes, in the erection or management of mills whose motive-power is derived from water-wheels, in consequence of the stoppage of the mills by floods arising from the melting of snow, heavy rains, &c.

This financial loss affects not merely the managing capitalists, but much more the operatives, who must be deprived of labor, and, hence, of wages, for days, and sometimes even for weeks at a time, in a single season.

This local stagnation of labor and business further produces wide-spread disaster to and beyond that vast army of individuals who are wholly or partly dependent upon the trade in the products of such mills, to the wholesale and commission merchants, "middlemen," exporters, retail dealers, &c.

In many cases steam-engines are provided to supply the motive-power during the duration of floods. This entails great expense, and the engine and its appurtenances occupy much valuable space, and require constant care throughout the time of disuse as well as use.

My invention has for its object to obviate the difficulty above referred to, and thereby prevent the consequent financial loss and disaster, and this is accomplished by means which entail (in any one case) but a tithe of the expense attending the stoppage of a large mill for a single day.

In carrying out my invention I inclose a water-wheel (of any suitable construction) in a case, so that all the water acting on said wheel may pass in at the top.

A conductor or pipe is connected with the case below the wheel, the office of which is to convey the discharge-water to a point sufficiently remote from the wheel to escape the influence of back-water, floods, &c.

Another, but shorter, pipe is also provided, in case there be one or more mills on the stream between that in which the wheel is located and the point where the water operating the same is discharged.

In the drawing—

A is a flume.

B, a wheel resting on the flume-floor.

C, a casing extending from the floor to the bed of the river, and rendering the wheel inaccessible to outside water when closed.

Two pipes, D D', lying on the bed of the stream, open out of the casing C, the latter being provided with gates *d d'*, for closing or opening the same.

In ordinary seasons the water from the wheel is delivered to the stream through the short pipe D, and flows on to the next mill below.

When "back-water" takes place, owing to floods, the pipe D is closed by lowering the gate *d*; otherwise the water would enter the casing and stop the wheel.

On closing the gate *d*, the gate *d'* is opened, and the wheel-water finds its way through the pipe D', which may be several miles long, if necessary, and, at any rate, must discharge at some point not subject to the influence of the high water of the stream whence it comes.

In this way the wheel may be run through the highest and most protracted floods, as well as during low water.

Having thus described my invention,

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

1. The method of preventing the retarding influence of "back" or high water upon water-wheels, substantially as herein described.

2. A casing for water-wheel, provided with one pipe for the deliverance of the water that drives the wheel back into the stream whence it comes, and another pipe for the deliverance of such water either into or away from such stream at a point where floods have no effect, and furnished with gates, to open or close the pipes as may be required to enable the wheel-water to flow out or prevent the stream-water from flowing in.

WILLIAM A. COBB.

Witnesses:

CHARLIE A. BISHOP,
LESLIE MILLER.