

Water Gate,

Patented Mar 21, 1865.



Inventor:

Martin Colton

By E B Forbush Atty

UNITED STATES PATENT OFFICE.

MARTIN COLTON, OF SARDINIA, NEW YORK.

IMPROVEMENT IN FLOOD-GATES FOR MILL-DAMS.

Specification forming part of Letters Patent No. **46,883**, dated March 21, 1865.

To all whom it may concern:

Be it known that I, MARTIN COLTON, of Sardinia, in the county of Erie and State of New York, have invented a new and Improved Flood-Gate for Mill-Dams; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure I is a vertical section of my improved flood-gate, located centrally in a mill-dam. Fig. II is a plan view of the same.

The nature of this invention consists in placing and using centrally in a mill-dam a flume or frame-work, in which is arranged a hinged waste-gate, connected with a weighted lever or working-beam in such manner that the working-beam will exactly balance the gate and hold it shut at an angle of about forty-five degrees when the water in the dam is at a proper or safe height, and which will yield and allow the gate to open and discharge the water when the water rises above the point indicated as the point of safety, and when the water recedes and falls below the point of safety then the working-beam will overcome the pressure of the water upon the gate and close the gate, thus making a self-acting safety flood-gate, which will insure the dam against damage by the sudden rise of water.

My improvement may be used in a mill-dam constructed in a common manner of earth, wood, or mason-work, such dam being represented in the drawings at A.

The flume or frame-work, which contains my improvement, is represented at B. This flume is permanently placed centrally in the dam, forming a part thereof, and is sufficiently capacious to allow all the surplus water to escape, so that it cannot accumulate in the dam to endanger it. The gate is represented at C and is hinged to the flume-frame, as shown at *c'*, and shuts against heavy cleats or casings on the side of the flume, as shown at D, and when closed stands at an angle of about forty-five degrees.

Posts E rise vertically from the flume for the support of the working-beams F. These beams are supported on the posts E by means of a shaft, G, which has journal-bearings in the posts, as shown at *e'*. These beams have a cross-tie, as shown at H, being made wide, so that balancing-weights may be attached to it, if necessary.

The gate is connected to the upper ends of the working-beams by means of two hinged connecting-rods, as shown at I, so that the working-beams will balance the gate and hold it shut at the proper height of water, as shown in Fig. I.

Operation: The flume containing this improvement is permanently placed in the mill-dam or canal or other place where a flood-gate is needed. (The principle of this improvement is applicable anywhere a flood-gate can be used.) The working-beams are balanced on the journal-shaft G so that they will hold the gate closed when the water in the dam is as high as it is safe to allow it to rise, and when the water rises above that certain height the water-pressure upon the gate will be sufficient to overcome the weight of the working-beams, and the gate will open as shown by the red dotted lines in Fig. I, and the water will then pass freely through the flume without endangering the safety of the dam.

When the water falls to its proper height in the dam, the working-beams will overcome the water-pressure upon the gate and the gate will thereby be closed, thus making a self-acting safety flood-gate, which fully answers the purpose and object for which it is intended.

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

A self-acting safety flood-gate, composed of the gate C, working-beams F, and connecting-rods I, placed and used in a flume, B, for the purposes and substantially as herein described.

MARTIN COLTON.

Witnesses:

SARDIS HOBART,
J. W. WEATHERLOW.