

(No Model.)

E. E. SMITH.

WATER GATE.

No. 377,089.

Patented Jan. 31, 1888.

Fig. 1.

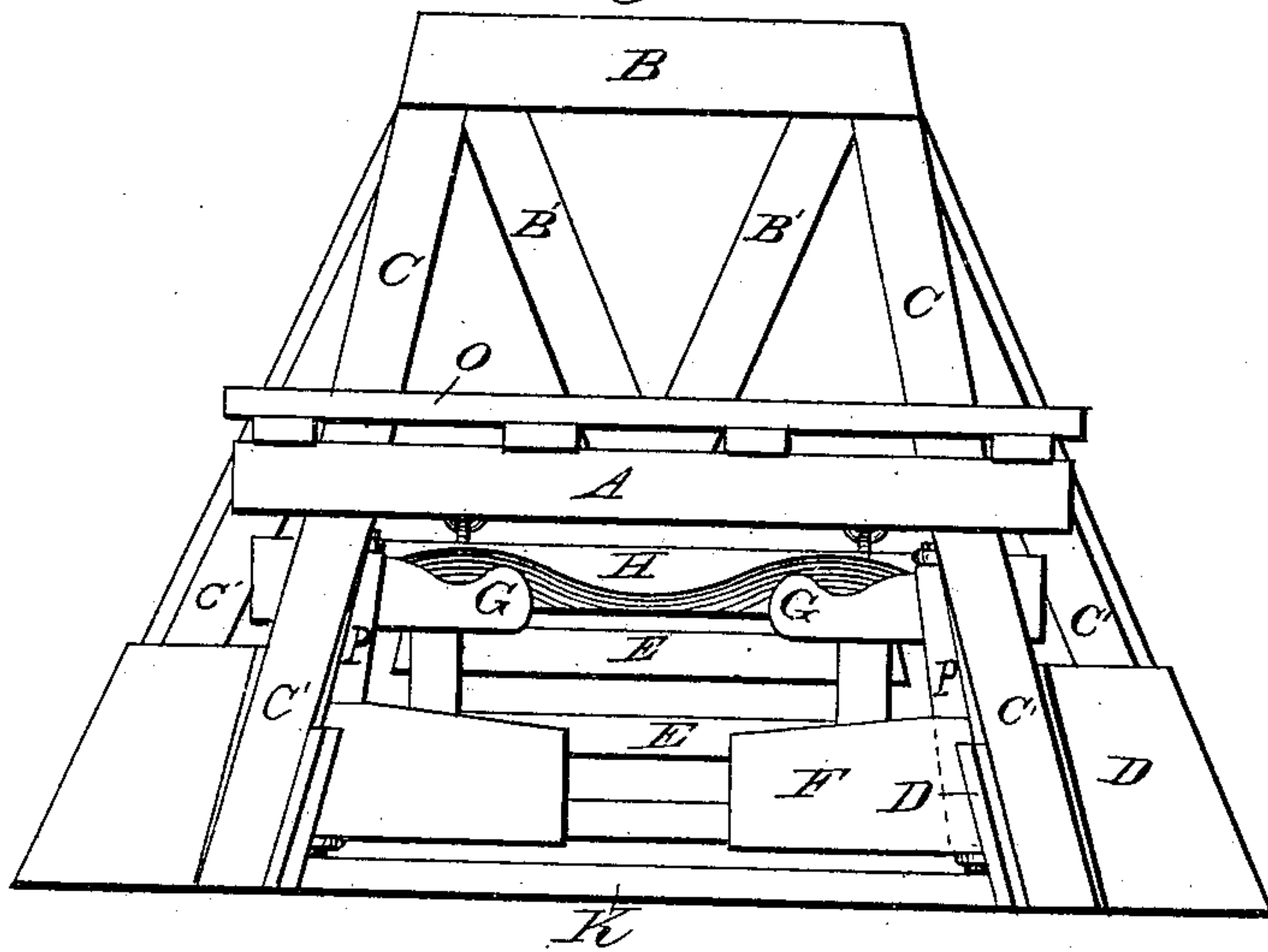


Fig. 2.

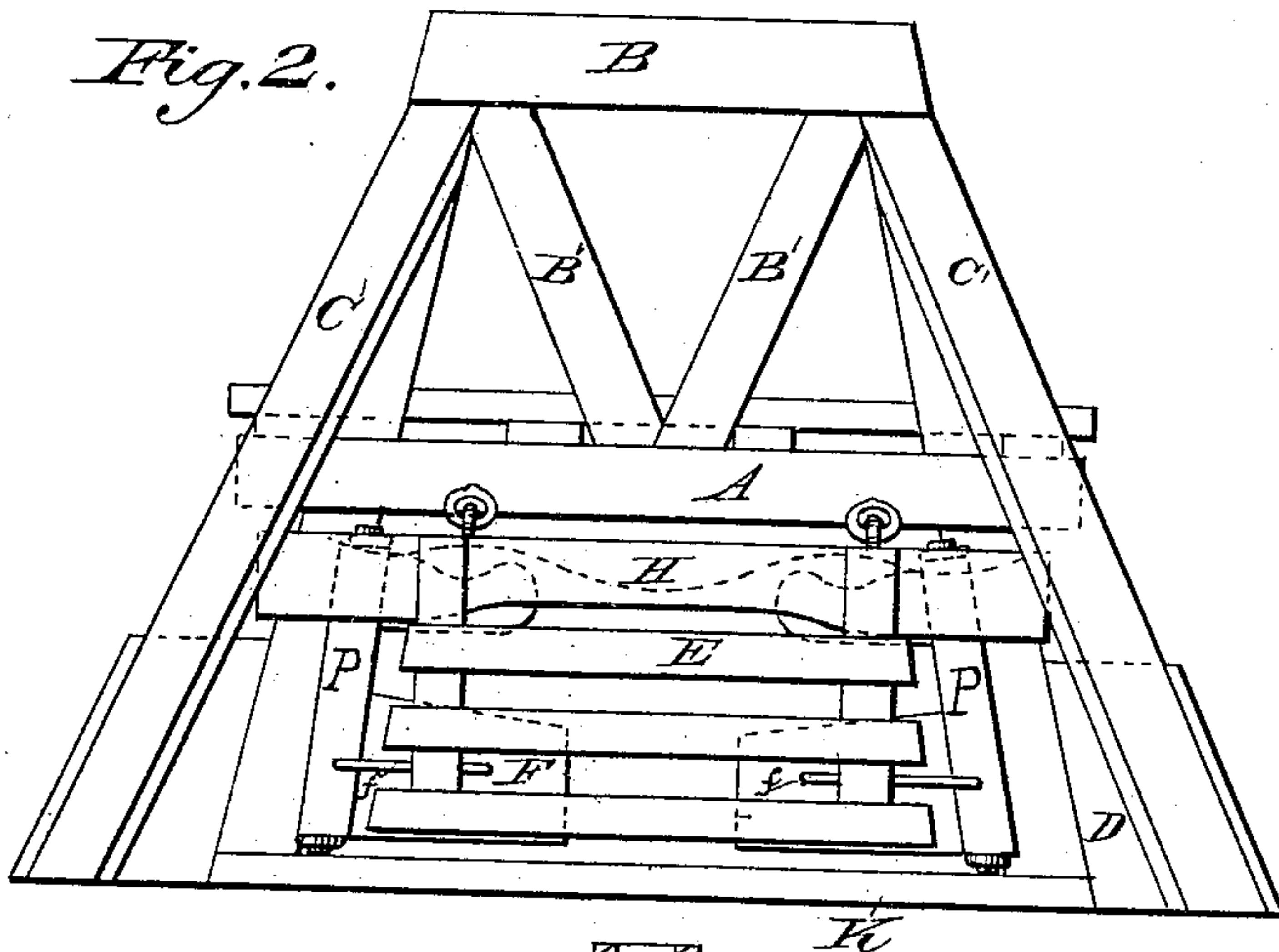
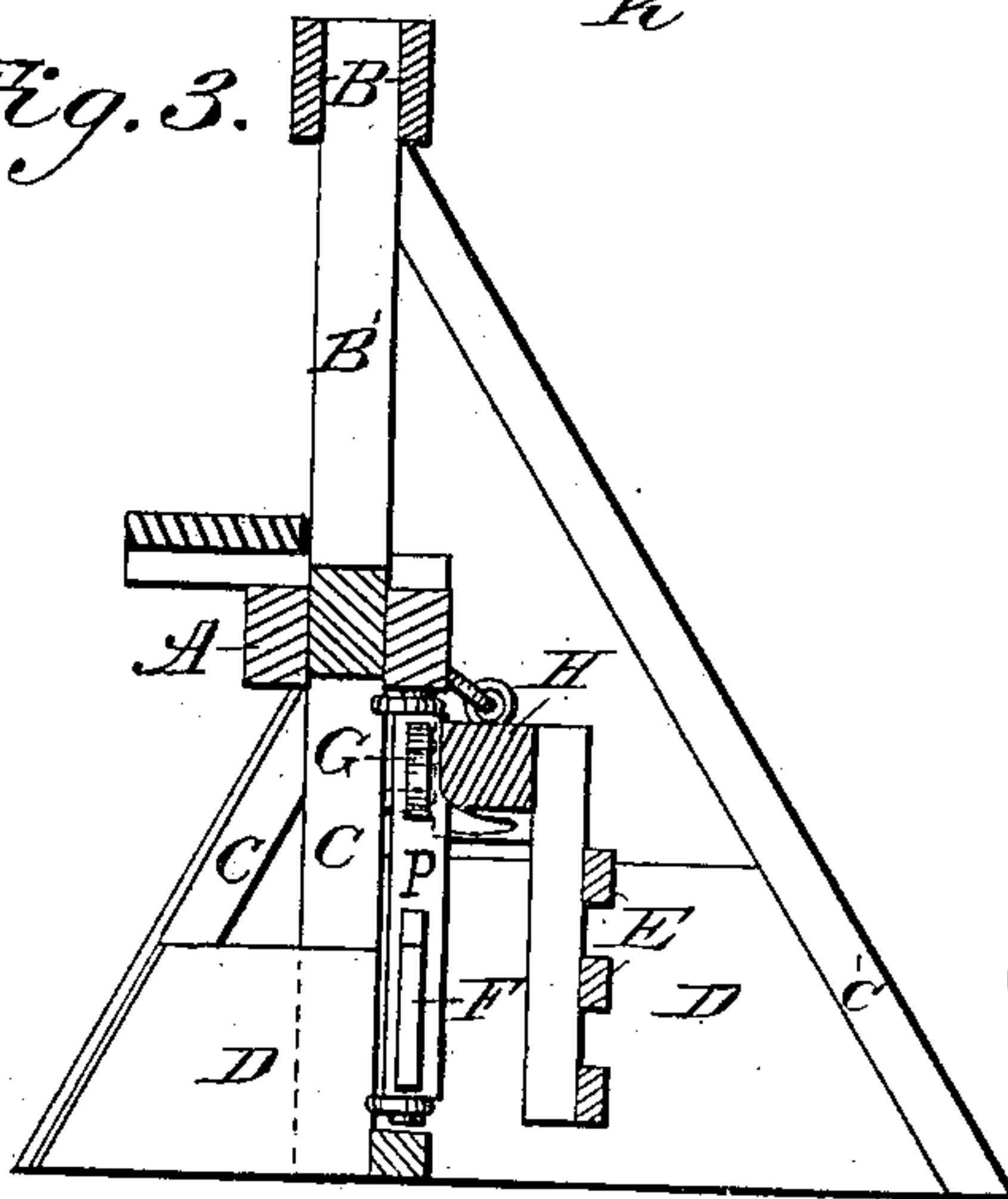


Fig. 3.



Witnesses:

Am. Barclay
Wm. D. Miller

Inventor:

Eli E. Smith

UNITED STATES PATENT OFFICE.

ELI E. SMITH, OF STEUBENVILLE, OHIO.

WATER-GATE.

SPECIFICATION forming part of Letters Patent No. 377,089, dated January 31, 1888.

Application filed July-25, 1887. Serial No. 245,279. (No model.)

To all whom it may concern:

Be it known that I, ELI E. SMITH, of Steubenville, county of Jefferson, State of Ohio, have invented certain new and useful Improvements in Flood-Gates, of which the following is such a full, clear, and exact description as will enable others skilled in the art to make and use the same.

This invention relates to an improvement in water-gates in which a gate is so hung across a stream as to be easily opened by the stream when it becomes flooded, allowing all débris to pass under, and to close readily when the flood subsides. I attain this object by mechanism shown in the accompanying drawings, of which—

Figure 1 is a side elevation looking from the upstream side. Fig. 2 is a similar view looking from the downstream side. Fig. 3 is a vertical section through the middle of the same.

Similar letters refer to similar parts throughout the different views.

This gate consists of a strong well-braced frame placed across a stream and provided with the heavy cross-piece A, to which the movable portion of the gate is hinged. This cross-piece supports a foot-plank, O, and is in turn supported by the frame-work, consisting of the top cross-piece, B, the supports C C, and the braces B' B' and C' C', the supports C C being firmly fastened at the bottom by the cross-piece K. The gate E is hinged to this cross-piece A by the ordinary staple and hook. The top piece, H, of the gate is quite large and heavy as compared with the rest of the gate, and is cut away on the upstream side to allow the cam or lever G to work easily upon it. To each of the supports C is hinged a rudder-shaped device consisting of the rudder-post P and the rudder or blade F, said blade being provided with the brace f. The rudder-post is hinged at its ends to the support C by staples, and has attached to its upper end the cam or lever G, which engages with the top piece,

H, of the gate. The spaces between the supports and the sides of the bank are closed by the planks D, thus preventing the passage of the water beyond the ends of the gate-frame.

When the stream rises, a pressure is exerted upon the rudder-blades F, which turns them. As these open, the levers or cams G engage with the inclined surface of the top piece, H, of the gate and open it, allowing a free passage for all débris. The gate is held in this position until the flood subsides, when the weight of the gate exerts its force upon the lever G and swings the so-called rudders into their normal position across the stream, allowing the gate to close at the same time.

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

1. In a water-gate, the combination of the vertically-swinging gate E, with the rudders F and cam-levers G, adapted to swing horizontally and raise the gate when acted upon by the water, as set forth.

2. In a water-gate, the combination of the gate E, the top piece provided with an inclined surface, the lever or cam G, working on said incline, the post P, and the blade F, provided with the brace f.

3. In a water-gate, the frame consisting of the cross-piece A, provided with the foot-board O, the supports C C, secured at their bottoms by the cross-piece K, the braces B' B', and the top cross-piece, in combination with the gate E, having a cross-piece, H, with an inclined surface to receive the cam or lever G, and the opening device consisting of the lever or cam G, working on the inclined surface of cross-piece H, the post P, and the blade F, provided with the brace f.

Witness my hand this April 19, 1887.

ELI E. SMITH.

Witnesses:

H. McD. MILLER,
J. M. BARCLAY.