

No. 682,532.

Patented Sept. 10, 1901.

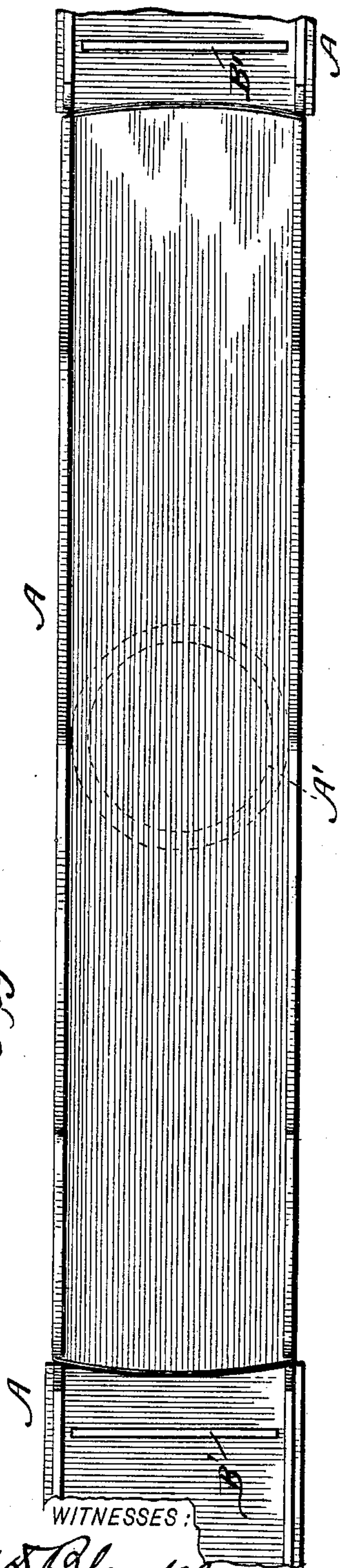
J. CUMMINGS.  
BRIDGE GATE.

(Application filed Dec. 11, 1900.)

(No Model.)

2 Sheets—Sheet 1.

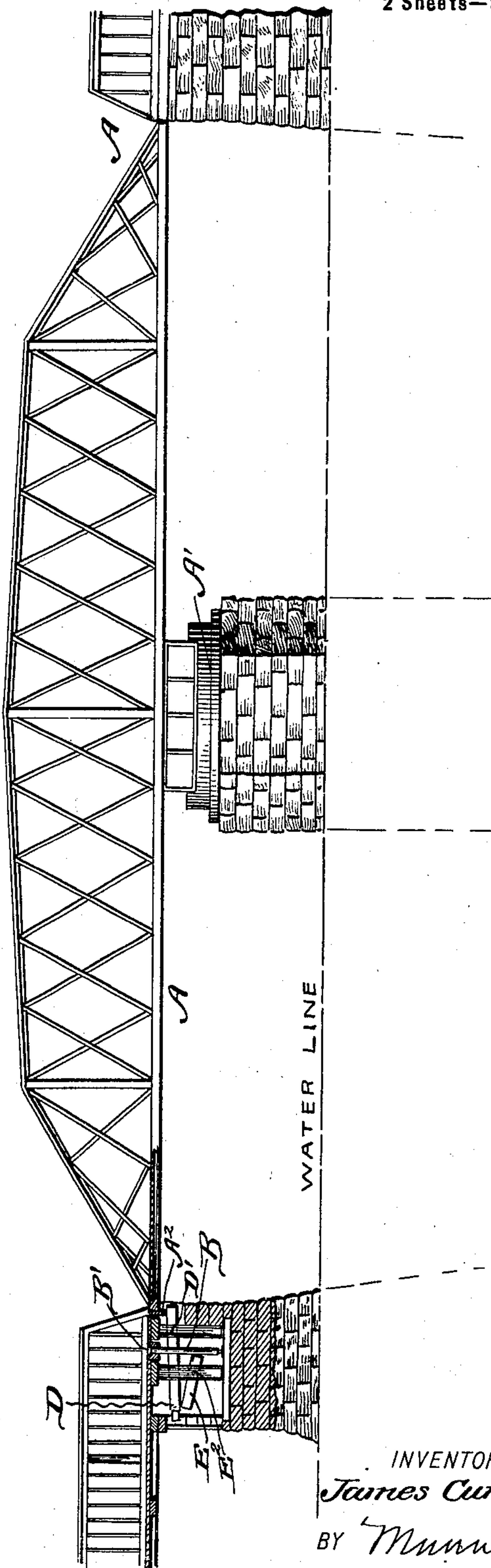
Fig. 1.



WITNESSES:

*M. S. Cloude*  
*Jos. A. Ryan*

Fig. 2.



INVENTOR  
*James Cummings*  
BY *Munn & Co.*

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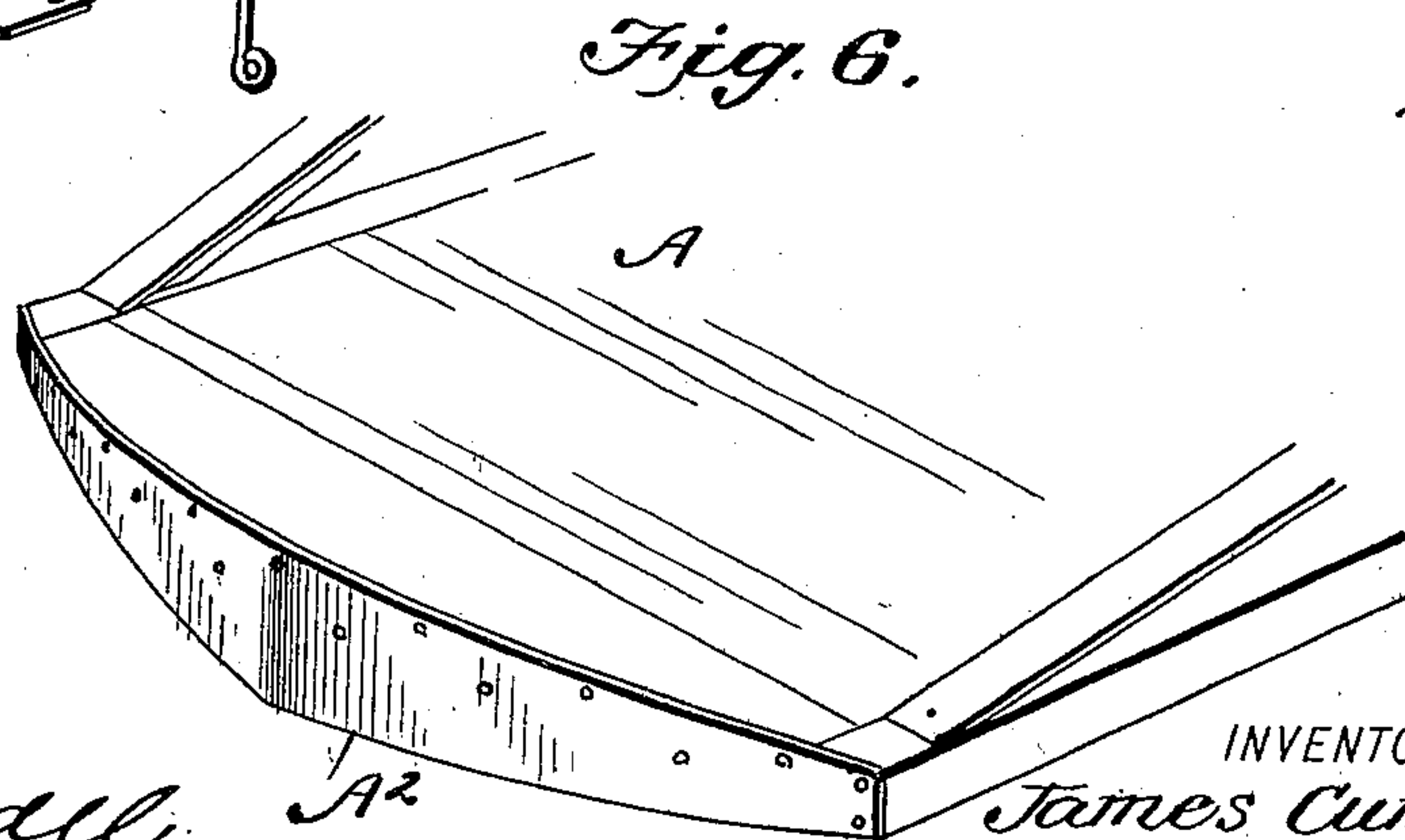
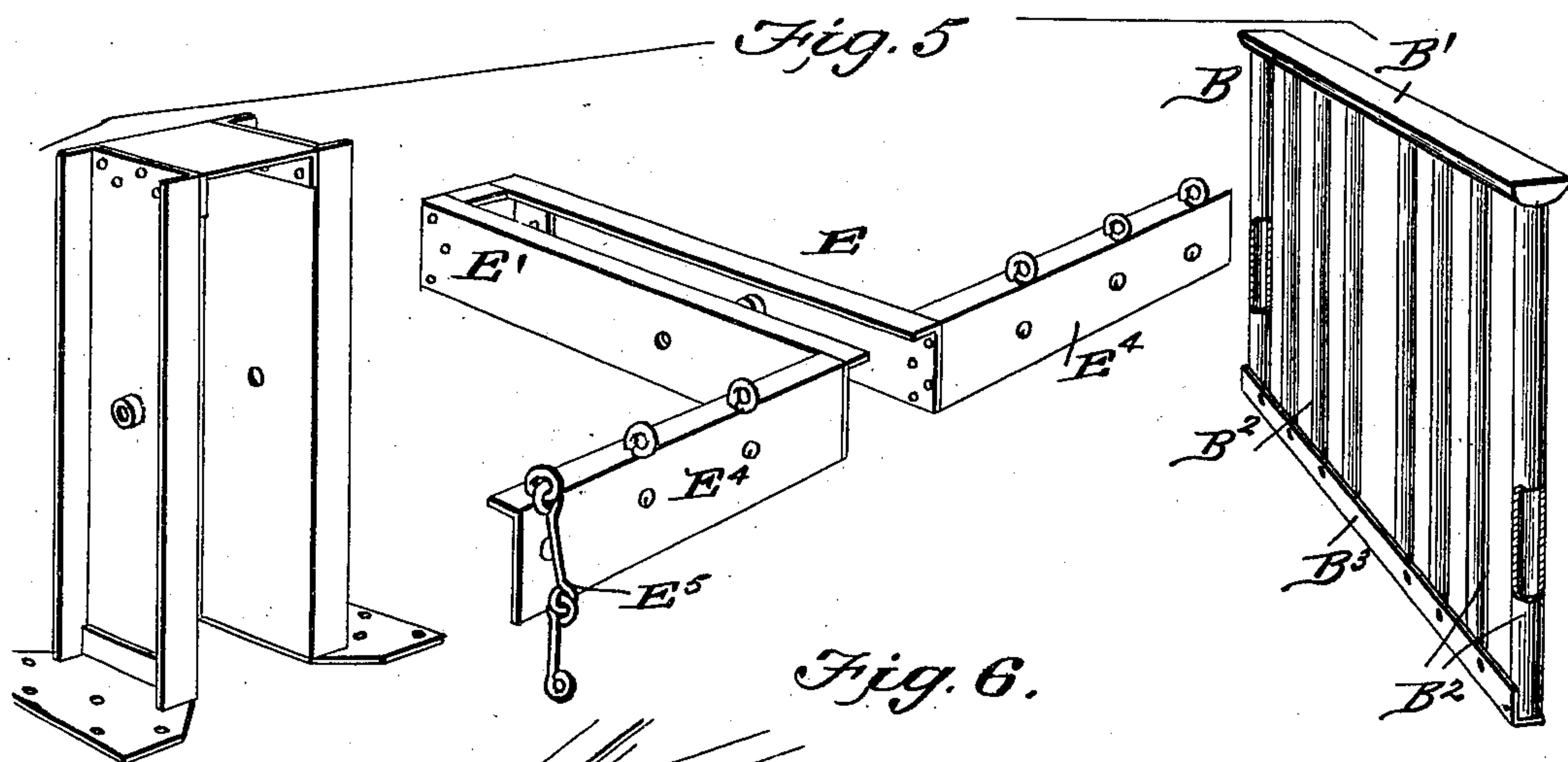
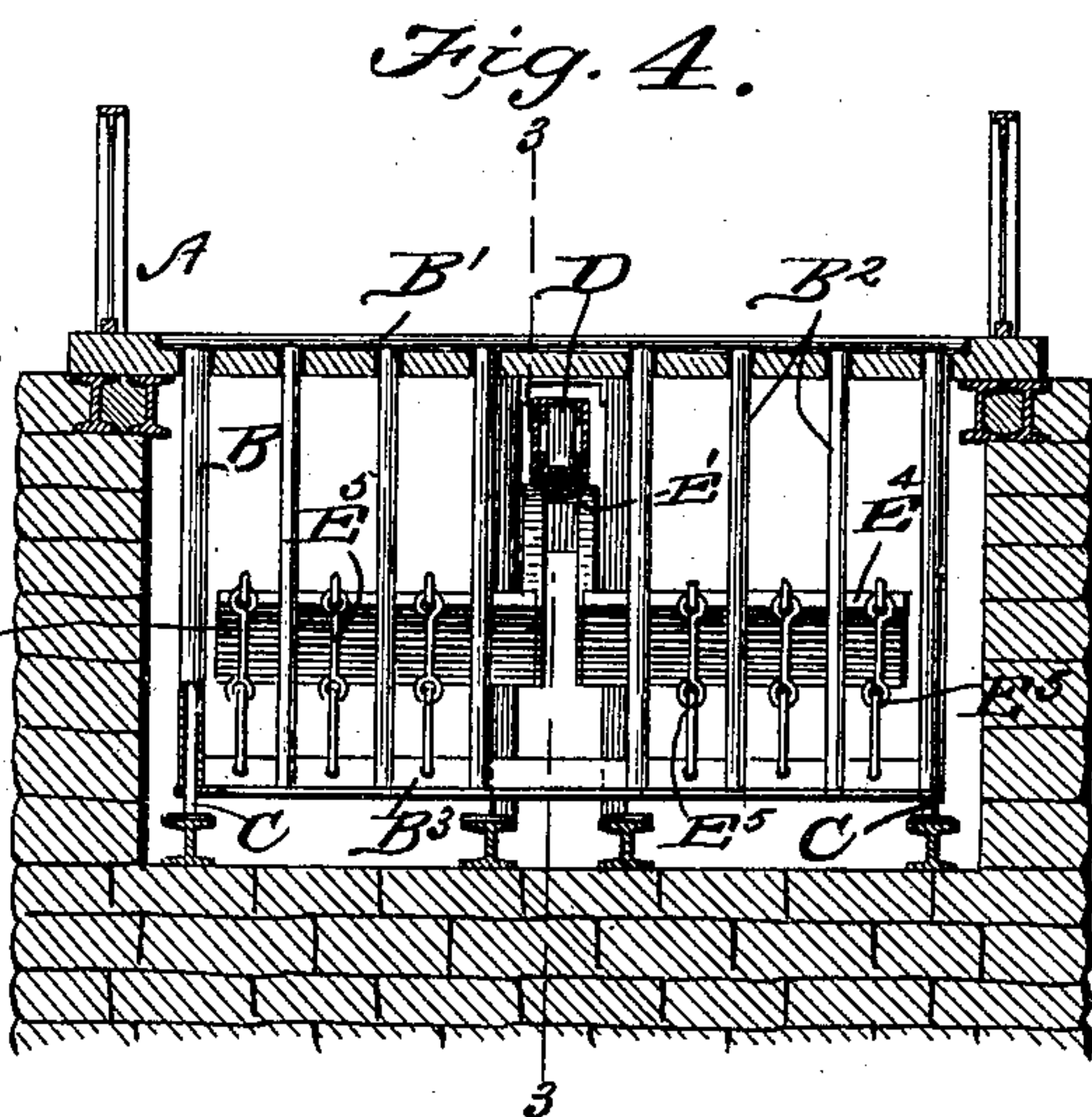
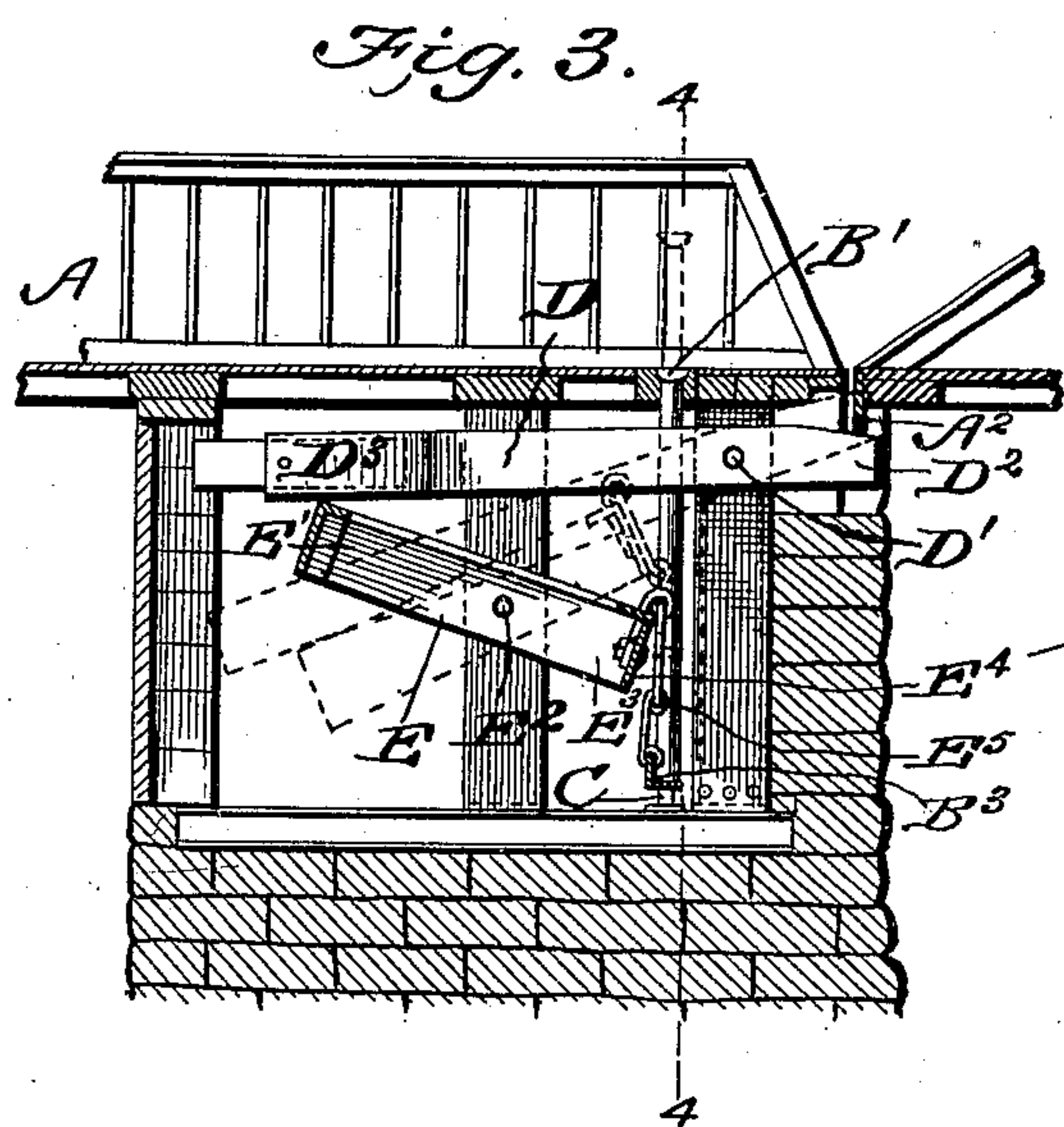
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2 Sheets—Sheet 2.



WITNESSES:

*M. A. Cloudell.*  
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# UNITED STATES PATENT OFFICE.

JAMES CUMMINGS, OF VICTOR, COLORADO, ASSIGNOR OF ONE-HALF TO  
JAMES M. HALLY, OF SAME PLACE.

## BRIDGE-GATE.

SPECIFICATION forming part of Letters Patent No. 682,532, dated September 10, 1901.

Application filed December 11, 1900. Serial No. 39,539. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES CUMMINGS, a citizen of the United States, residing at Victor, in the county of Teller and State of Colorado, have made certain new and useful Improvements in Bridge-Gates, of which the following is a specification.

My invention is an improved automatically-operating bridge-gate arranged to be projected across the roadway when the bridge is opened and to be readjusted clear of the roadway when the bridge is closed; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a top plan view of the invention as in use. Fig. 2 is a side view of the same, partly in section. Fig. 3 is a vertical longitudinal section on about line 3 3 of Fig. 4. Fig. 4 is a vertical cross-section on about line 4 4, Fig. 3, drawn alongside of the gate. Fig. 5 is a detail perspective view of the operating parts, and Fig. 6 is a detail perspective view of the inclined cam on the swinging end of the bridge.

The bridge A may be of the ordinary swinging type, pivoted at A', and may be constructed in general respects in the ordinary manner. I only show one end of the bridge; but it will be understood that its opposite end and the gate operating in connection therewith may be similar in construction to the gate illustrated and which I will now describe in detail.

The gate B is movable vertically across the roadway and may be depressed to the level of the roadway when the bridge is closed and will rise automatically to form a barrier across the roadway when the bridge is open to permit the passage of vessels. When a railroad-track is provided on the roadway, its rails may be cut to receive the gate and the latter may be provided, when desired, with short rails-sections to fit in the notches of the rails and form continuations of the rails when the gate is lowered. I provide a weight for elevating the gate and arrange the bridge to lower the gate against the action of the weight when the bridge is closed. The gate B includes a top cross-bar B' and uprights B<sup>2</sup>, preferably in the form of tubes,

the outer ones sliding on the guide-rods C, which are suitably held in place and are provided one for each of the end tubes B<sup>2</sup>, as shown. The weight D is in the form of a lever, suitably pivoted at D' and having its arm D<sup>2</sup> arranged for operation by inclines A<sup>2</sup> at the ends of the bridge A and its other arm D<sup>3</sup> weighted or heavier than the arm D<sup>2</sup> and operating upon an arm E' of a counter-lever E, which is pivoted at E<sup>2</sup>, and has its other arm E<sup>3</sup> connected with the gate to operate the same. In connecting the lever E with the gate it is preferred to provide its arm E<sup>3</sup> with a cross-head E<sup>4</sup>, connected by links E<sup>5</sup> with cross connections B<sup>3</sup> at the lower end of the upright tube of the gate.

In operation the weight tends to raise the gate to form a barrier across the roadway when the bridge is open. If, however, the bridge is closed, the cams or inclines at the end thereof will ride upon the arm D<sup>2</sup> of the weighted lever, will depress such arm, and the lever E will be relieved of the weight of the lever D and the gate will lower by gravity to its depressed position, in which it will form no obstruction across the roadway.

It will be understood from the foregoing that the gate is entirely automatic in its operation and will not require a watchman or other attendant. When the bridge is closed, the barrier or gate will be lowered to the level of the roadway, and the instant the bridge is opened the gate will be operated to elevated position, as desired. Thus night or day the barrier is sure to be interposed across the roadway the instant the bridge is open and to remain so until the bridge is closed.

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

1. The combination of the vertically-movable gate, the lever connected with said gate, and the intermediate lever overlying said first lever and arranged at one end to operate thereon and at its other end for operation by the bridge, substantially as set forth.

2. The combination substantially as herein described of the gate having a cross-bar and tubes secured thereto, upright guide-rods on which said tubes slide, a weighted lever arranged at one end for operation and having



its other end weighted, and a counter-lever connected at one end with the gate and arranged at its other end to be operated upon by the weighted end of the first-named lever  
5 substantially as described.

3. The combination in an automatic gate for a bridge-approach, of the upright guide-rods, the gate having tubes sliding on said guide-rods, and means for operating the gate  
10 substantially as described.

4. The combination of the gate, upright guides therefor the weighted lever, the counter-lever arranged at one end for operation by the weighted lever and provided at its  
15 other end with a cross-head, and links connecting the cross-head with the gate substantially as set forth.

5. The combination of the gate having upright tubes and rods on which they slide, con-

nections between said tubes at their lower 20 ends, the counter-lever having a cross-head and links connecting the same with the cross connection between the tubes of the gate, the weighted lever arranged at one end to operate the counter-lever, and the bridge arranged 25 to operate upon the opposite end of the weighted lever substantially as set forth.

6. The combination with a vertically-movable gate of the counter-lever having a cross-head adjacent to the gate, and a plurality of 30 links between said cross-head and the gate whereby the lever exerts a straight upward pull upon the gate substantially as set forth.

JAMES CUMMINGS.

Witnesses:

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H. T. SHERMAN.