

No. 617,606.

Patented Jan. 10, 1899.

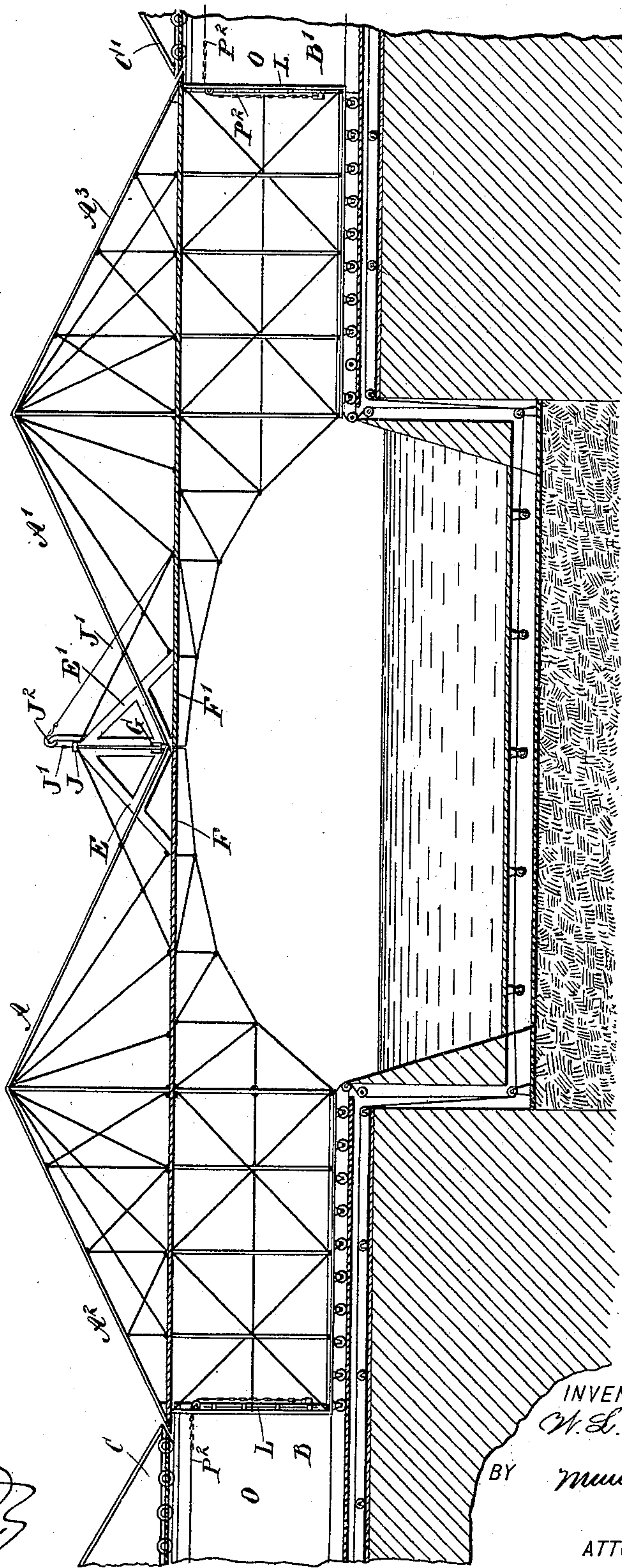
W. L. SAMPSON.

DRAWBRIDGE AND LOCKING DEVICE THEREFOR.

(Application filed Feb. 15, 1898.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

H. Walker

Rev. H. H. H.

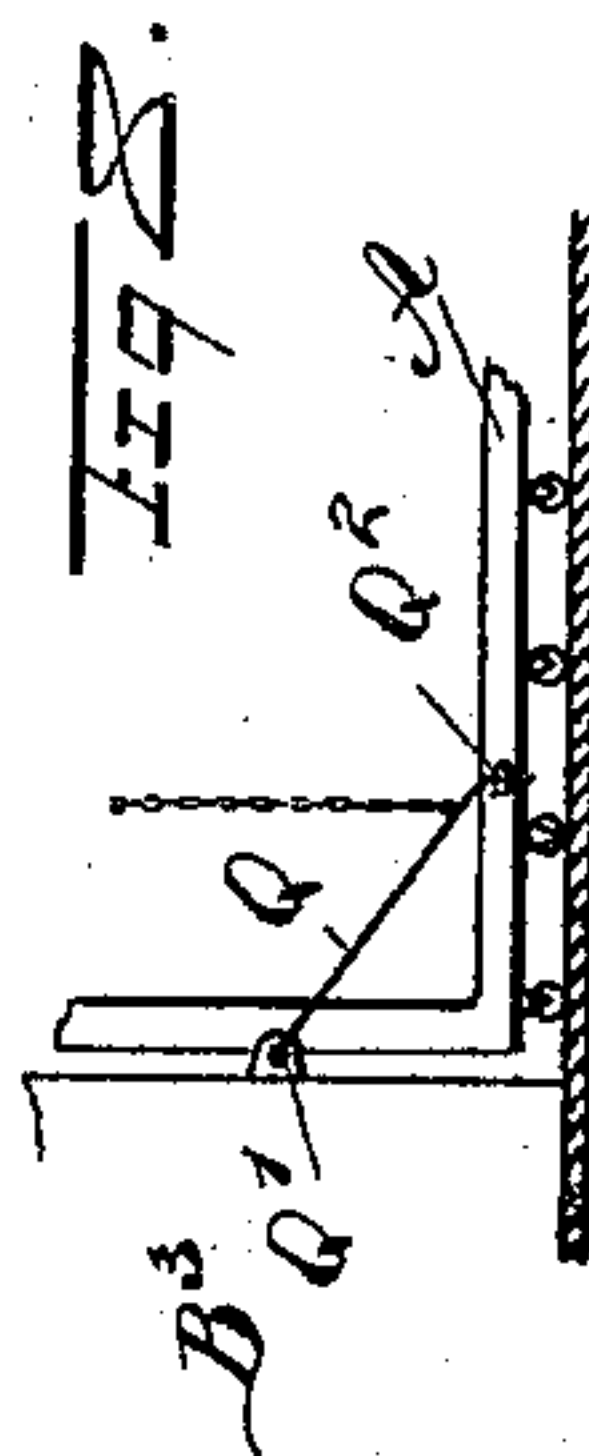
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BY

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ATTORNEYS.



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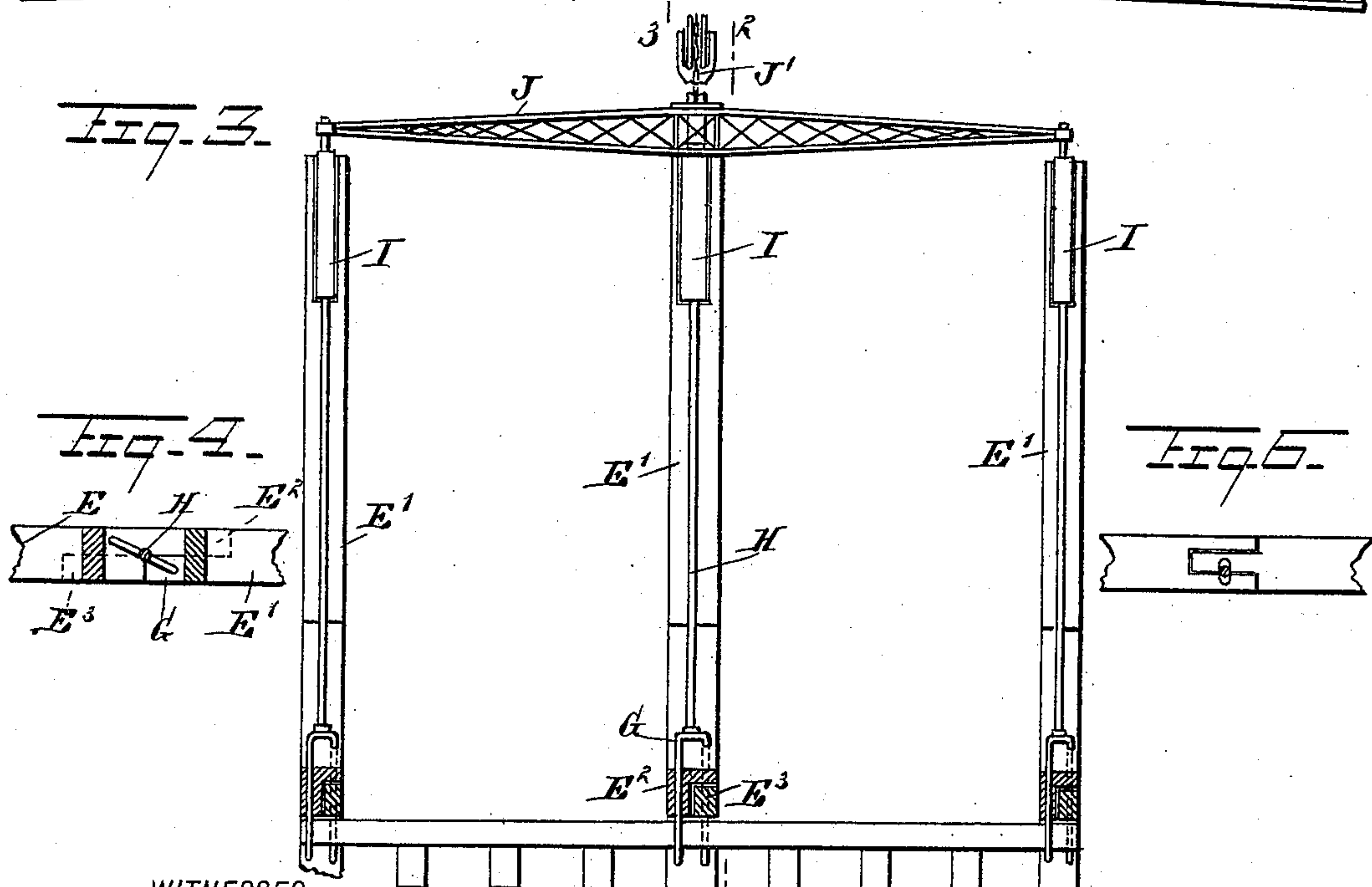
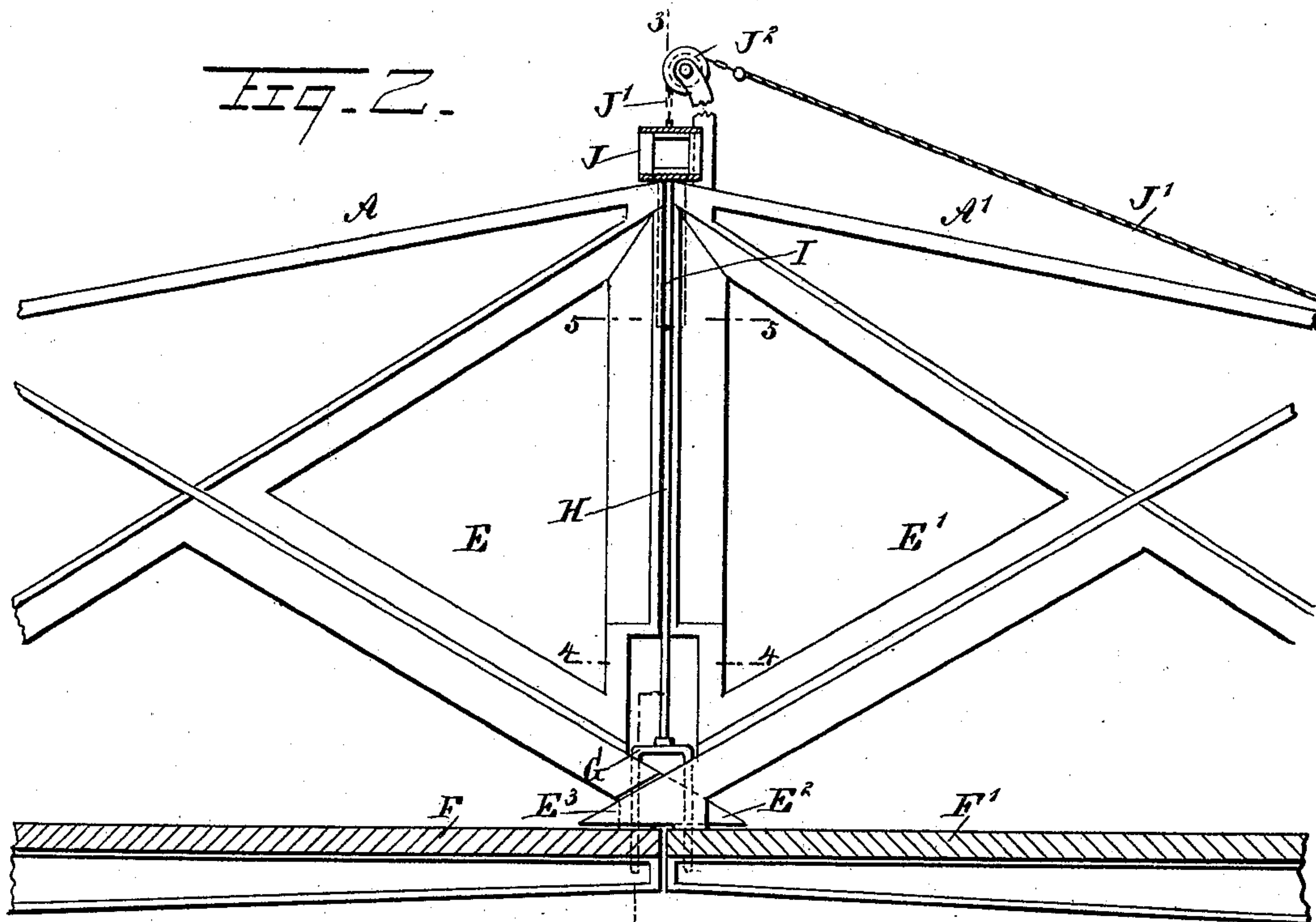
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WITNESSES:

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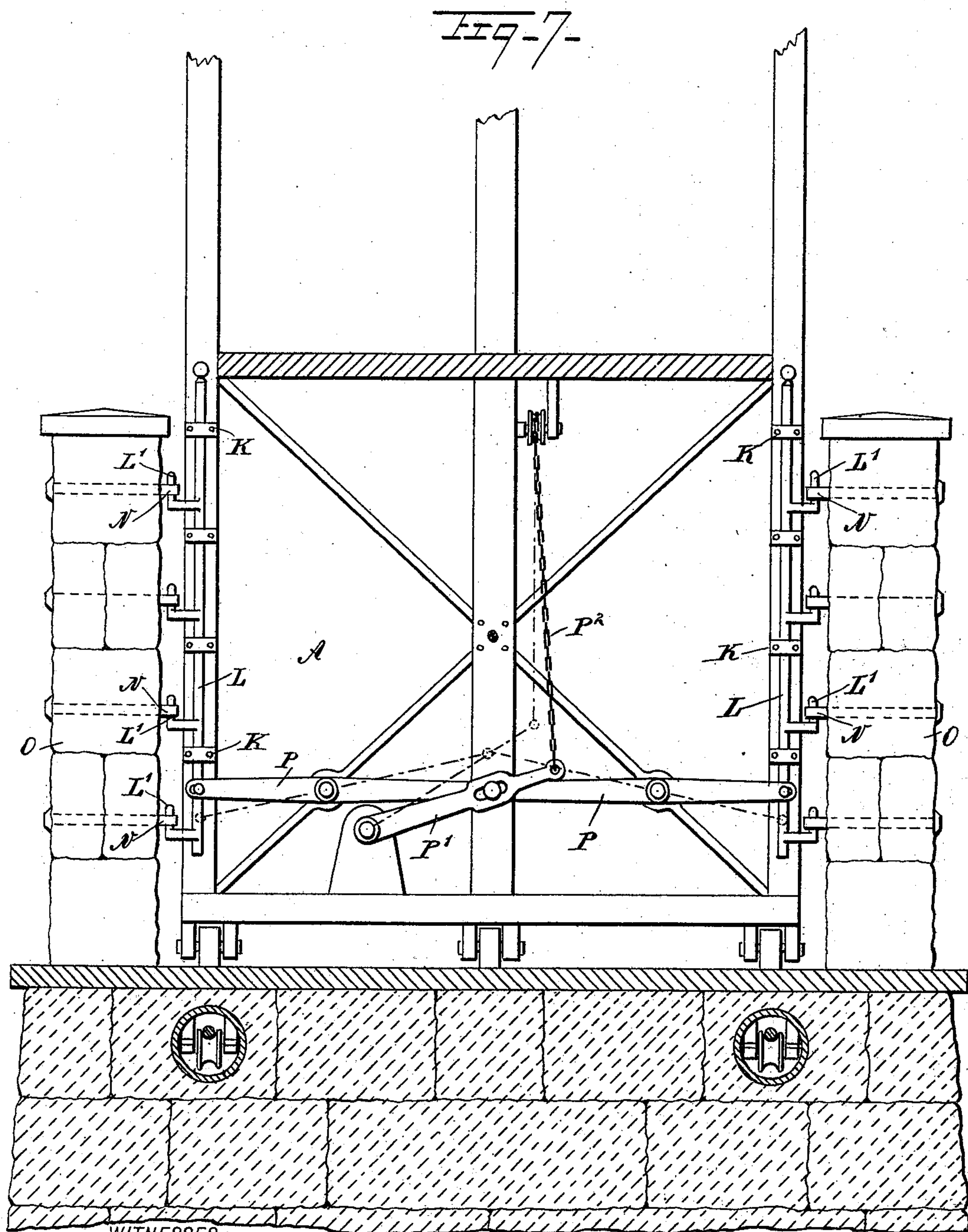
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

WILLIAM L. SAMPSON, OF OCEAN GROVE, NEW JERSEY.

DRAWBRIDGE AND LOCKING DEVICE THEREFOR.

SPECIFICATION forming part of Letters Patent No. 617,606, dated January 10, 1899.

Application filed February 15, 1898. Serial No. 670,417. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. SAMPSON, of Ocean Grove, in the county of Monmouth and State of New Jersey, have invented a new and Improved Drawbridge and Bridge-Locking Device, of which the following is a full, clear, and exact description.

The invention relates to drawbridges such as shown and described in the Letters Patent of the United States No. 598,012, granted to me on January 25, 1898.

The object of the invention is to provide a new and improved drawbridge and bridge-locking device which is simple and durable in construction and with the working parts arranged above the water-level, the locking device serving to lock the bridge-spans when in a closed position against lateral as well as against longitudinal movement to hold the railroad-rails extending over the bridge in proper alinement with the rails on land to insure safety to a train passing over the bridge.

The invention consists of novel features and parts and combinations of the same, as will be described hereinafter and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the drawbridge provided with my improvement. Fig. 2 is an enlarged section of the adjacent ends of the spans locked together, the section being taken on the line 2 2 of Fig. 3. Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 2. Fig. 4 is a sectional plan view of part of the same on the line 4 4 of Fig. 2. Fig. 5 is a similar view of part of the same on the line 5 5 of Fig. 2. Fig. 6 is a sectional plan view of a modified form of the span-locking device. Fig. 7 is an enlarged transverse section of the base of the span locked to the abutment, and Fig. 8 is a side elevation of a modified form of the span-locking device.

The drawbridge illustrated in Fig. 1 is provided with two cantaliver-spans $A A'$, mounted to travel toward and from each other on suitable foundations $B B'$, extending above the water-level, so that the spans are completely above the water, and thus overcome an objectionable feature of my former inven-

tion above referred to. The means employed for moving the spans toward and from each other are substantially the same as the ones described in my former patent, with the exception that the gearing chains or cables extend through pipes or a tunnel in the bed of the waterway, as will be readily understood by reference to Fig. 1. The bridge is also provided with aprons $C C'$, connected by hinges with the abutments and adapted to travel up inclines $A^2 A^3$, respectively, on the spans $A A'$ in the manner more fully set forth in the patent mentioned.

In order to lock the spans securely in place when the bridge is closed to prevent all lateral and sidewise motion, I provide the following device: The spans $A A'$ are provided with outside and middle trusses $E E'$, respectively, of which the heel E^2 of the truss E projects beyond the outer or free end of the span A upon the floor F' of the other span A' , and the heel E^3 of the truss E' similarly extends upon the floor of the span A when the two spans are in a closed position, as indicated in Figs. 1 and 2. A U-shaped locking-bolt G passes with its side arms downward through apertures in the heels E^2 and E^3 and the floors F and F' , so as to securely lock each heel to the floor of the opposite span. By this arrangement the free ends of the two spans are securely fastened together against longitudinal and transverse movement, especially as the heels are halved in the truss-timber to break joints, as plainly shown in Figs. 3 and 4.

Each locking-bolt G is connected at its middle portion with an upwardly-extending rod H , attached to a polygonal bolt I , adapted to drop into registering recesses formed in the upper end of the truss-timbers, and said bolts I are connected with each other by a transversely-extending connecting-beam J , hung on a chain or cable J' , extending upwardly and passing over a pulley J^2 , journaled at the middle truss of one of the spans, to then extend to the shore to be under the control of the engineer or other person in charge of the bridge, so that when the engineer exerts a pull on the rope either by hand or suitable machinery then the beam J is lifted, and with it the locking-bolts I and G , to unlock the spans $A A'$ preparatory to opening the bridge.

When the spans are in a closed position, the operator upon releasing the rope J' permits the bolts G and I to drop to their places to lock the free ends of the spans against longitudinal and lateral movement.

The inner ends of the spans A A' are also adapted to be locked in place when the bridge is closed, and for this purpose I provide the arrangement illustrated in Fig. 7, in which each span is provided at its base at the side trusses with bearings K for vertically-disposed bars L to slide in, each of the bars being provided with a plurality of vertically-disposed pintles L', adapted to engage eyes N, secured in the side walls of the abutments O, between which the inner ends of the spans are adapted to move when the bridge is opened. The two bars L on each end of a span are connected by suitable levers P with an operating-lever P' under the control of the engineer by means of a rope or chain P² to impart a swinging motion to the levers for moving the bars L, with their pintles L', in or out of engagement with the eyes N, thus locking or unlocking the corresponding span, according to the position of the pintles relatively to the eyes N.

The locking device shown in Fig. 8 consists principally of a brace or rod Q, pivoted at Q' to the abutment B or B' and hooking onto a staple Q² or the like, attached to the corresponding span A or A'. A rope or chain connects with the free end of the brace and extends upward to the engineer's or bridge-tender's office to permit the engineer to lower and engage the brace or rod with the staple, or swing it upward out of engagement with the staple when it is desired to unlock the spans. The braces hold the span against longitudinal as well as against upward movement.

In my patent above referred to the spans were mounted to travel on tracks submerged in the water; but in the present form (illustrated in Fig. 1) the tracks are above the water and supported on the foundations B B'. It is understood that by the use of the cantaliver-spans A A', as shown, sufficient space is left between the adjacent ends of the foundations for the vessels to pass through the open bridge.

Having thus fully described my invention,

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

1. A drawbridge comprising oppositely-arranged foundations carrying tracks above the water-level, cantaliver-spans mounted to travel on the said tracks to move toward or from each other, to close and open the bridge, an incline on each span, and aprons adapted to travel up the said inclines on moving the spans into an open position, substantially as shown and described.

2. A bridge-locking device comprising truss-heels extending upon the floor of the opposite spans, and a locking-bolt engaging said heels and the floors of the two spans, substantially as shown and described.

3. A bridge-locking device consisting of the heels of trusses for adjacent spans, said heels fitting one upon the other and each extending upon the floor of the opposite span, substantially as shown and described.

4. A bridge-locking device comprising truss-heels extending upon the floor of the opposite spans, a locking-bolt engaging said heels and the floors of the two spans, and a second set of bolts connected with the first-named bolts and adapted to engage registering recesses in the timber of adjacent trusses, substantially as shown and described.

5. A bridge-locking device comprising truss-heels extending upon the floor of the opposite spans, a locking-bolt engaging said heels and the floors of the two spans, a second set of bolts connected with the first-named bolts and adapted to engage registering recesses in the timber of adjacent trusses, and means, substantially as described, for operating said bolts to move the same in and out of position, as set forth.

6. A bridge-locking device provided with movable bars on the base of each span, each bar being provided with pintles, fixed eyes on the side walls of the abutments, and adapted to be engaged by said pintles, and means, substantially as described, for moving said bars simultaneously to move the pintles in and out of engagement with the eyes, as set forth.

WILLIAM L. SAMPSON.

Witnesses:

THEO. G. HOSTER,
EVERARD BOLTON MARSHALL.