(No Model.)

J. MILLIDGE & M. L. JOHNSON.

DRAW BRIDGE GATE.

No. 428,927. Patented May 27, 1890.

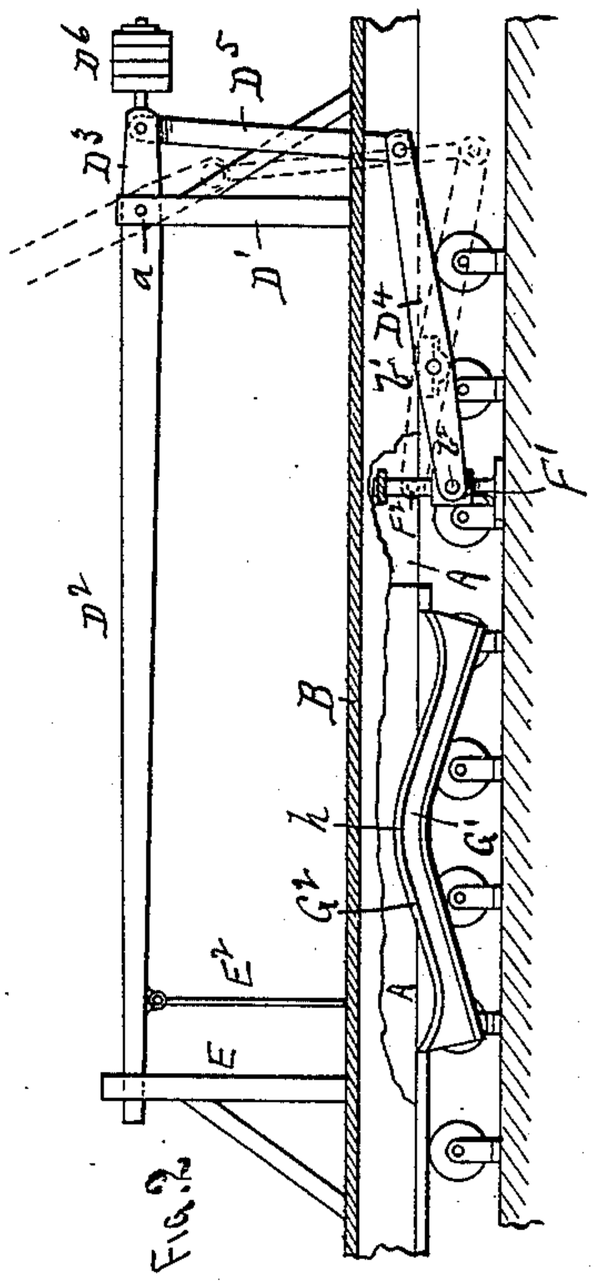

Fig. 2.

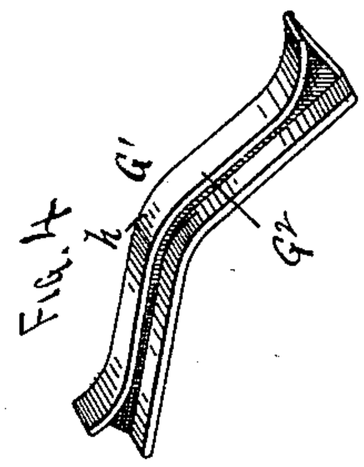

Fig. 4.

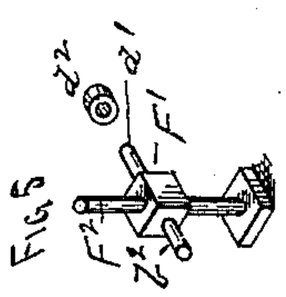

Fig. 5.

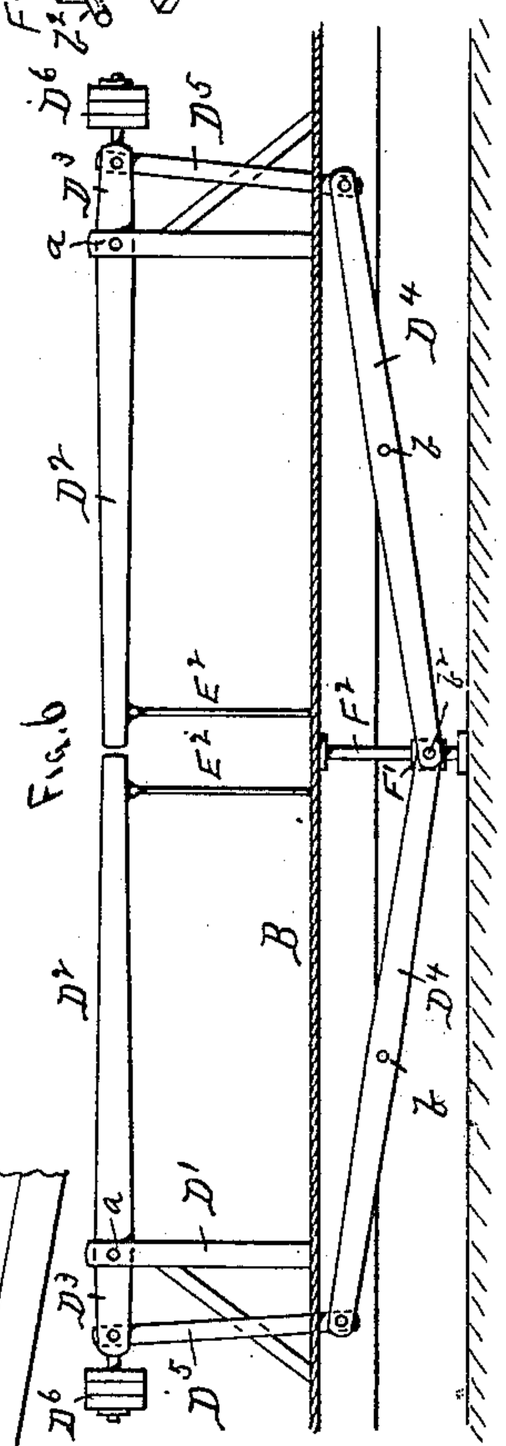

Fig. 6.

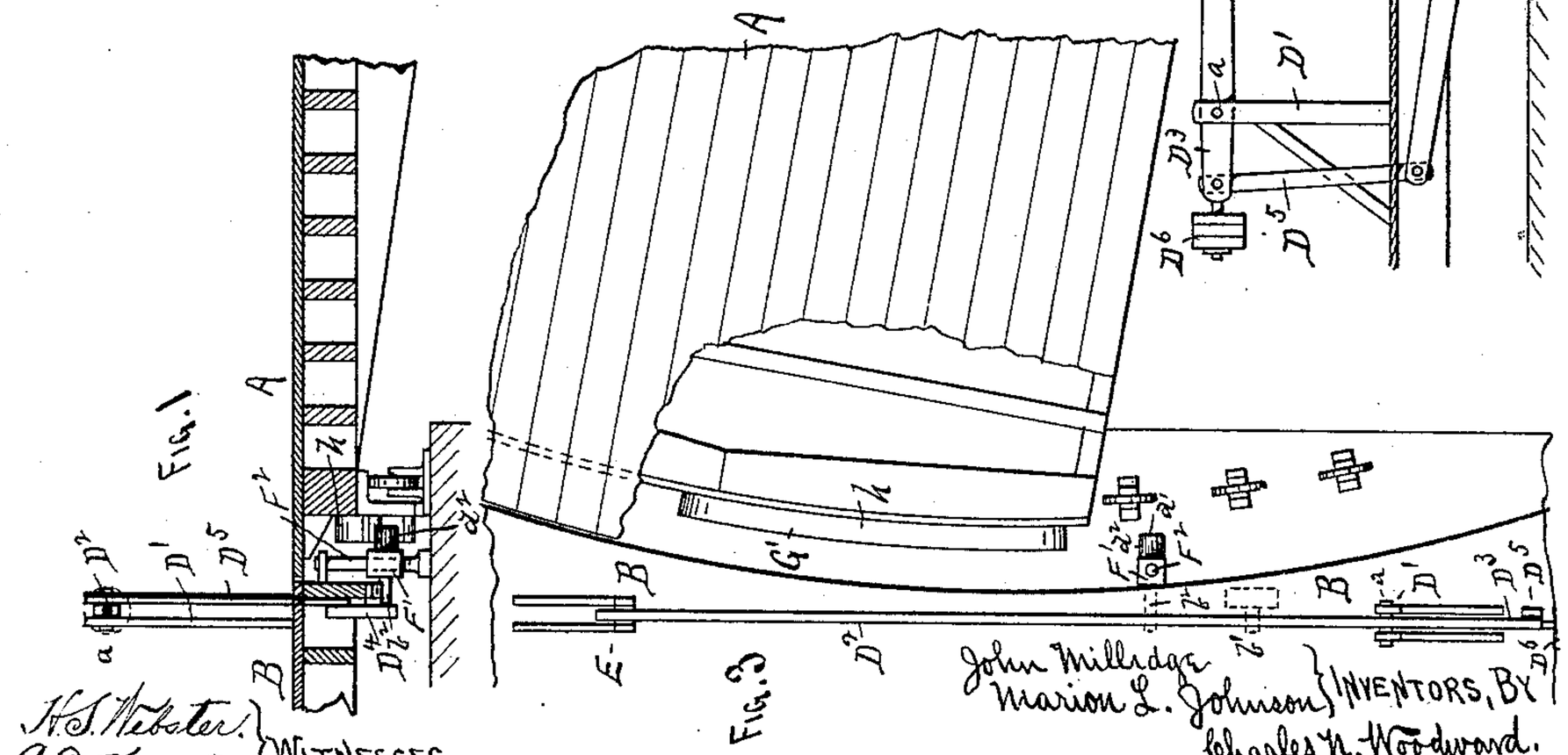

Fig. 3.

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DRAW-BRIDGE GATE.

SPECIFICATION forming part of Letters Patent No. 428,927, dated May 27, 1890.

Application filed November 8, 1889. Serial No. 329,625. (No model.)

To all whom it may concern:

Be it known that we, JOHN MILLIDGE, residing at Bailey's Harbor, in the county of Door and State of Wisconsin, and MARION L. JOHNSON, residing at Mears, in the county of Oceana and State of Michigan, both being citizens of the United States, have jointly invented certain new and useful Improvements in Draw-Bridge Gates, of which the following is a specification.

This invention relates to that class of gates which are adapted to be thrown across the entrances to the bridge when the latter is open; and it consists in the construction, combination, and arrangement of the gate and the mechanism whereby it is operated, as hereinafter shown and described, and specifically pointed out in the claim.

In the drawings, Figure 1 is a longitudinal sectional view, Fig. 2 is an end elevation, and Fig. 3 is a plan view, of a portion of a draw-bridge and one of the approaches with our improved gate and its operating mechanism arranged in connection therewith. Fig. 4 is a detached perspective view of the "cam-plate" which is attached to the bridge, and Fig. 5 is a detached perspective view of the sliding pivot by which the operating-levers are actuated. Fig. 6 is a view similar to Fig. 2, illustrating the modification which will be employed when the gate is used over a roadway too wide for a single "stop-arm."

A represents a portion of one end of a draw-bridge, and B a portion of one of the approaches thereto, which may be of any desired construction or form, as our invention is applicable to any form of draw-bridge. Upon one side of the roadway of the approach B is erected a post D′, in which an arm D^2 is pivoted at *a*, this arm, when lowered down, forming a bar or gate across the roadway, as shown in Fig. 2. The free end of this arm will generally be supported by a notched post E or a pivoted rod E^2, or both, as may be required. The arm D^2 extends beyond the post D′ at D^3, and is connected to one end of a pivoted lever D^4, beneath the floor of the roadway, by a connecting-bar D^5. The lever D^4 is pivoted at *b*′ to the framework of the approach, and is pivotally connected at its inner end to a block F′, adapted to slide upon a stationary post F^2. This block F′ is provided on the opposite side from the pivot b^2, by which it is pivoted to the lever D^4, with a stud *d*′, adapted to be acted upon by a cam-plate G′, (fast on the bridge A,) when the latter is closed, to move the block F′, and thus correspondingly elevate one end and depress the other end of the lever D^4, and through the connection of the latter with the arm D^2 elevate it, as indicated by dotted lines in Fig. 2, and leave the roadway unobstructed so long as the stud *d*′ is in contact with the highest point of the cam-plate G′. The cam-plate will be of the proper length and so placed upon the bridge that when the bridge is closed the stud *d*′ will be at its highest point *h*, and thus hold the arm D^2 elevated so long as the bridge is kept closed.

If the bridge is constructed to swing in one direction only, the cam-plate will be formed with one incline only; but if the bridge is constructed to swing entirely around then the cam-plate will be formed with double inclines, as in the drawings, so that it will operate the arm D^2 in the same manner, no matter from which direction the bridge is swung.

The cam-plate is shown double, or with a hood G^2, beneath which the stud *d*′ travels, so that the arm D^2 cannot be moved upward or downward by hand, but is movable only by the cam-plate. The stud *d*′ will have an anti-friction roller d^2 to cause it to operate more freely on the cam-plate.

When the roadway is too wide for a single arm D^2, a double arrangement of the levers D^4, bars D^2, and arms D^5 will be employed, as shown in Fig. 6, each of the arms D^2 reaching half-way across the roadway, and each having its own independent system of levers, bars, posts, and arms, but both pivoted to one block F′, as shown. This modification is substantially the same as that shown in the other views, and is not a departure from the spirit or intent of our invention.

A counter-balance D^6 will be connected to some part of the system of levers or bars, preferably upon the short arm D^3 of the stop-bar D^2, so as to balance the long end of the stop-arm and enable it to be operated with the expenditure of less power.

Having thus described our invention, what we claim as new is—

In a draw-bridge gate, a pivoted stop-arm D^2, adapted to be raised and lowered across the approach to said bridge, pivoted lever D^4, connected to said stop-arm by connecting-bar D^5, sliding block F′, pivoted to said lever and having stud d', and a cam-plate G′ upon said bridge and adapted to act upon said stud to raise said block and actuate said stop-bar when said bridge is operated, substantially as and for the purpose set forth.

In testimony whereof we have each hereunto set our hands in the presence of two subscribing witnesses.

JOHN MILLIDGE.
MARION L. JOHNSON.

Witnesses to the signature of John Millidge:
THOS. W. MCCULLOUGH,
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Witnesses to the signature of Marion L. Johnson:
GEORGE B. HITCHCOCK,
CHARLES S. HITCHCOCK.