

(No Model.)

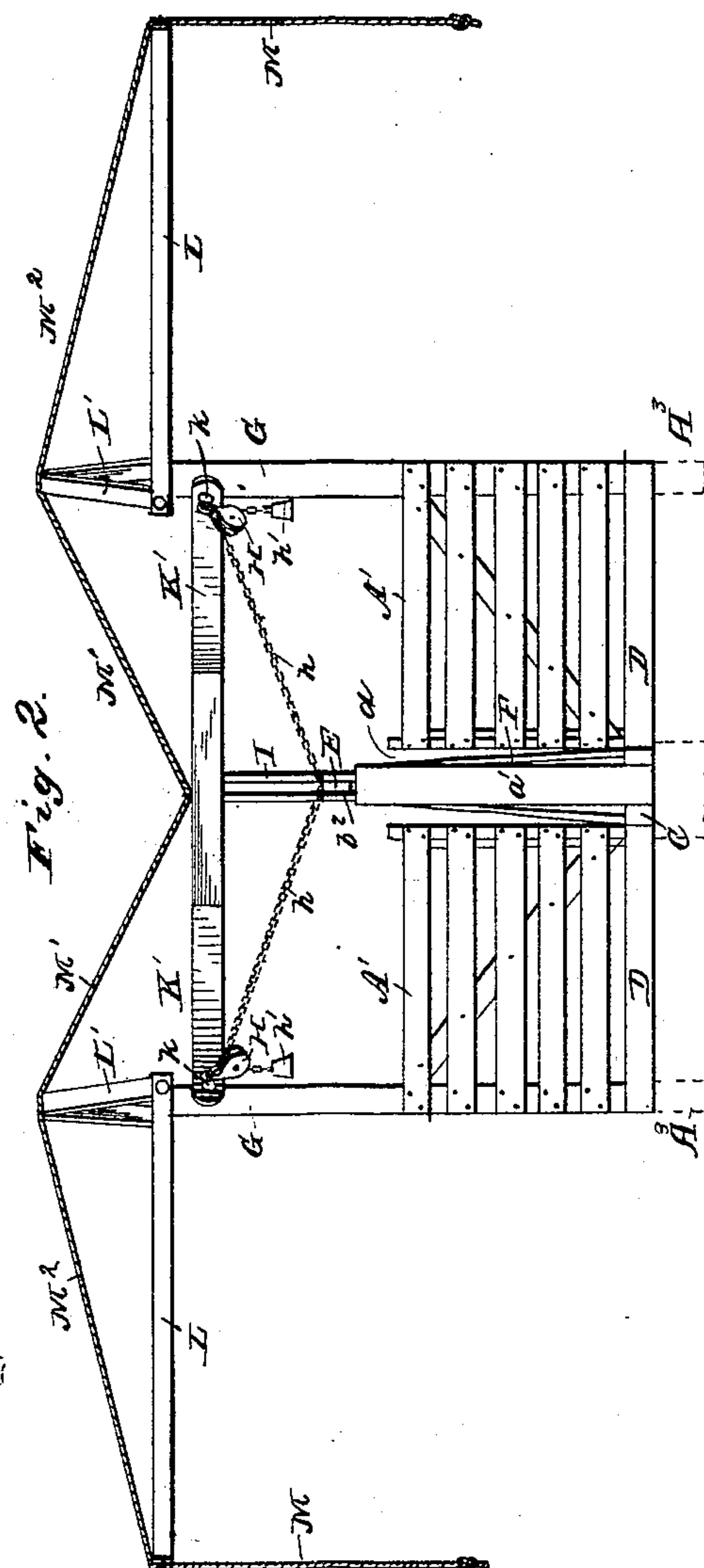
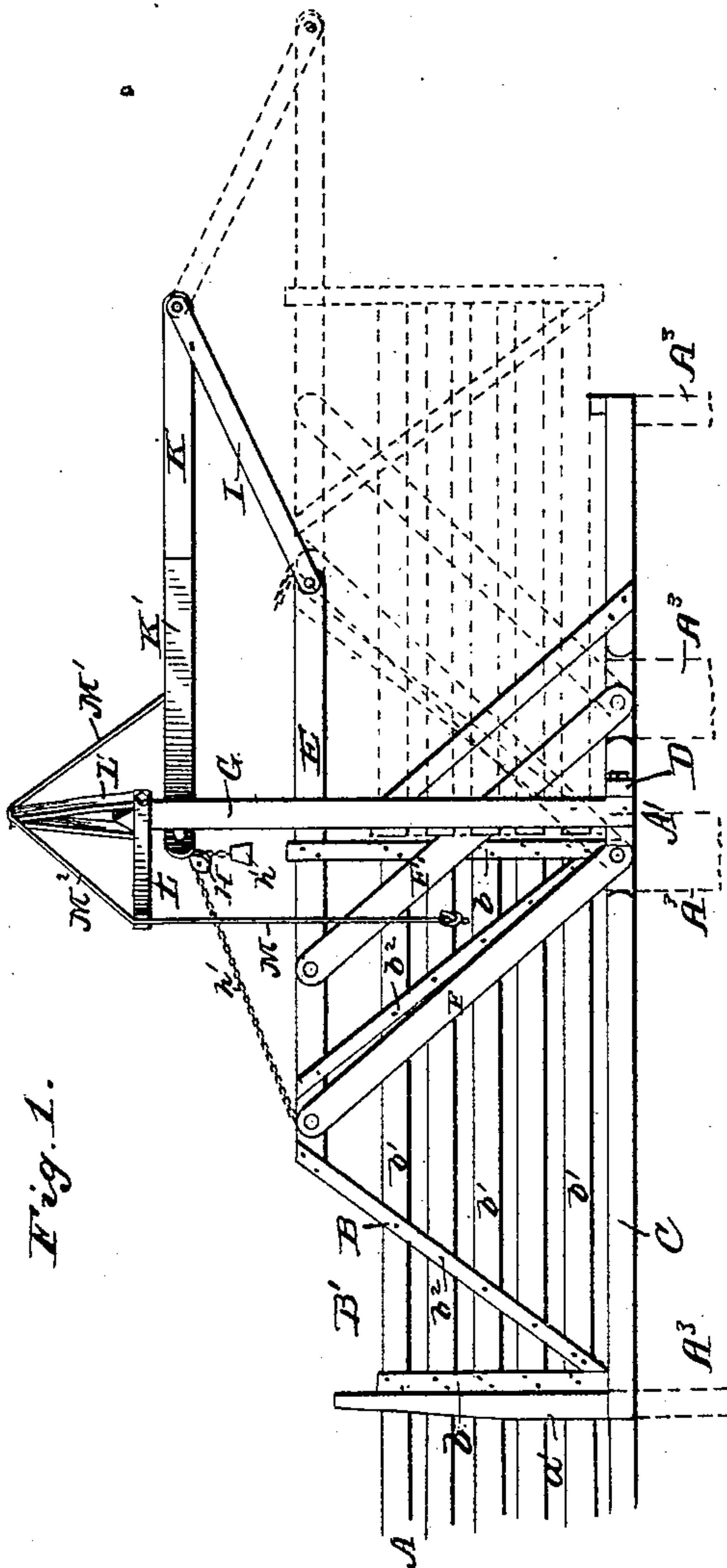
2 Sheets—Sheet 1.

J. A. MILLER.

GATE.

No. 390,693.

Patented Oct. 9, 1888.



Witnesses:

E. D. Smith,

R. W. Sommers.

Inventor:

James A. Miller.

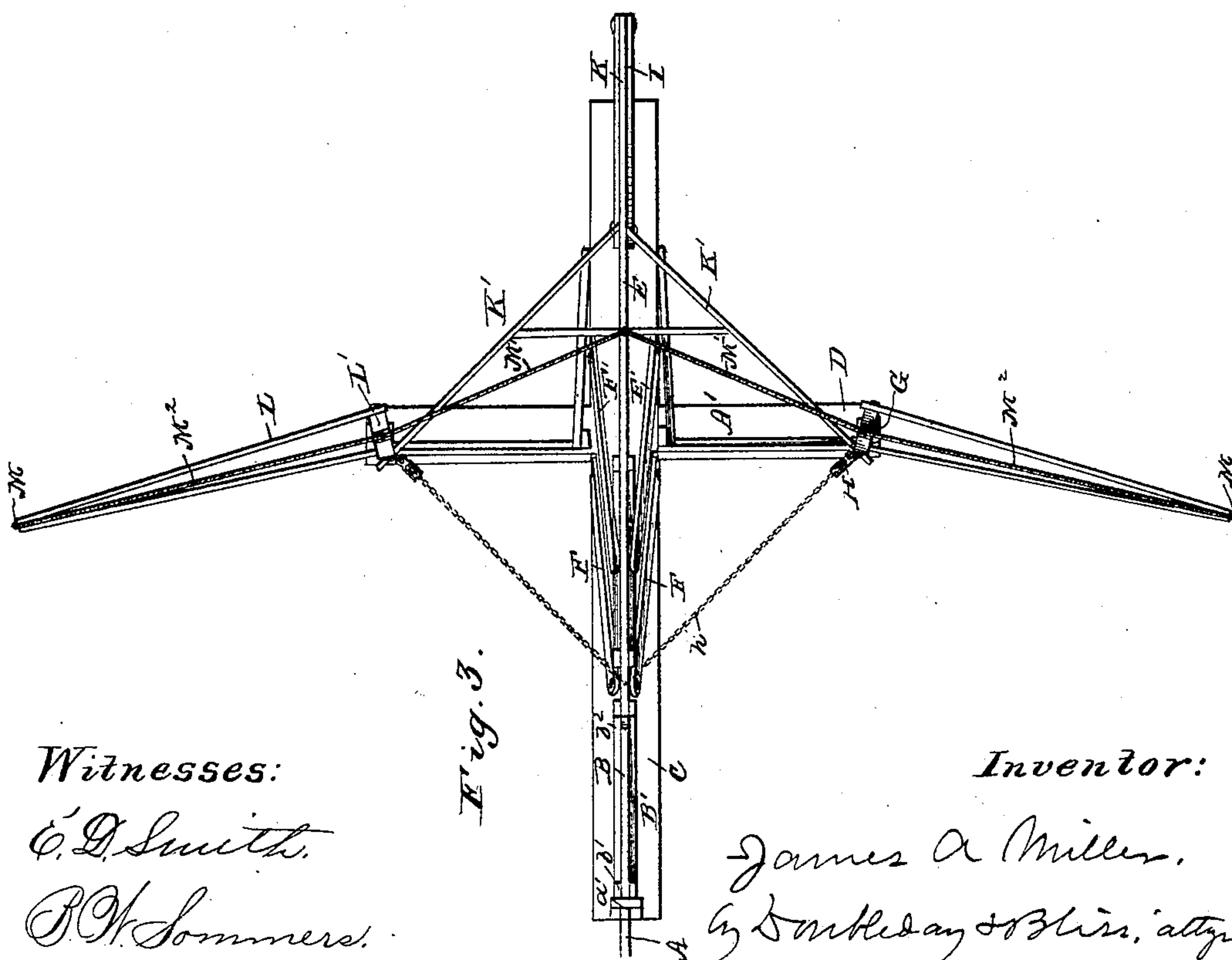
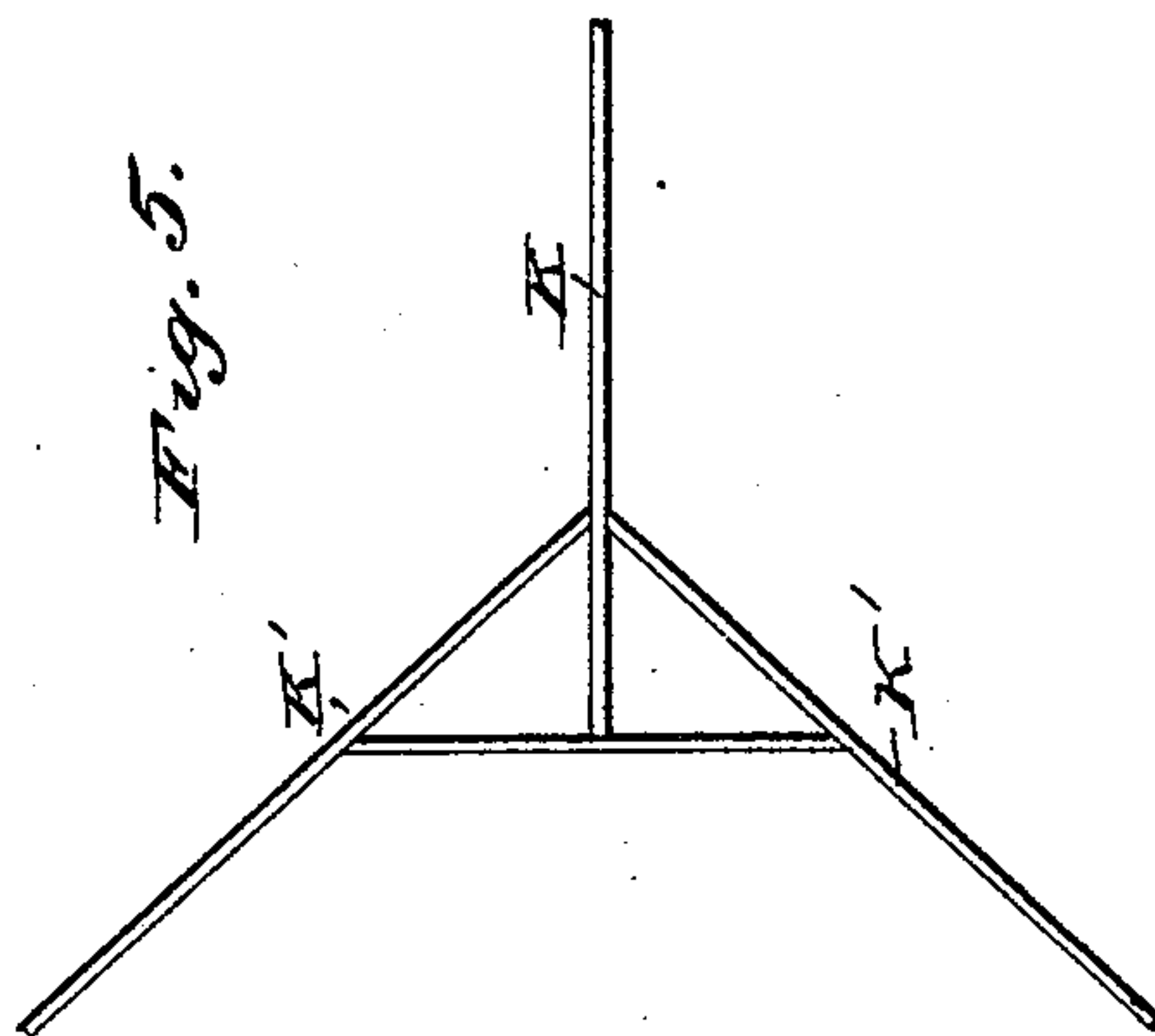
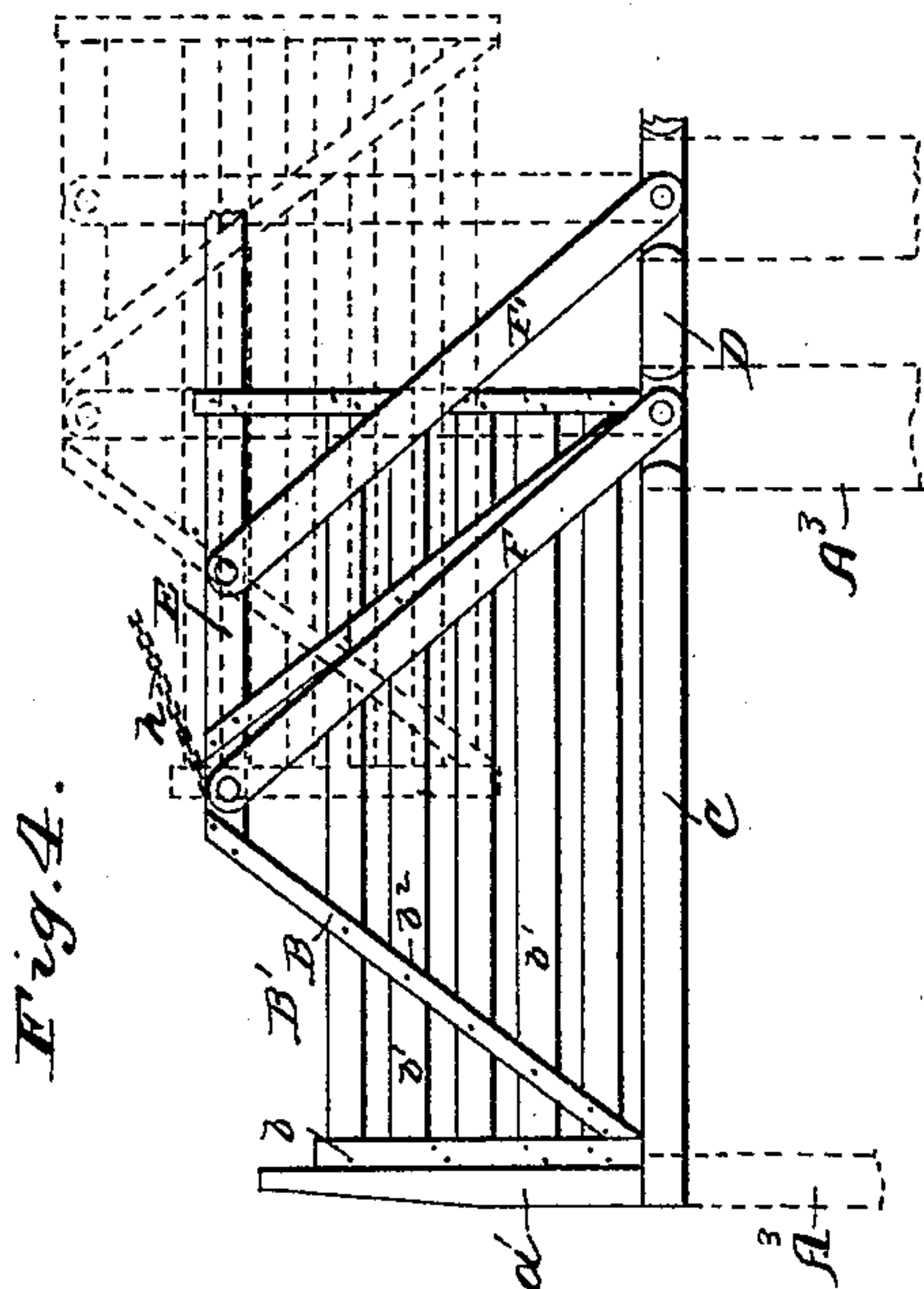
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UNITED STATES PATENT OFFICE.

JAMES ABNER MILLER, OF BUFFALO CROSS ROADS, PENNSYLVANIA.

GATE.

SPECIFICATION forming part of Letters Patent No. 390,693, dated October 9, 1888.

Application filed January 19, 1888. Serial No. 261,295. (No model.)

To all whom it may concern:

Be it known that I, JAMES ABNER MILLER, a citizen of the United States, residing at Buffalo Cross Roads, in the county of Union and State of Pennsylvania, have invented certain new and useful Improvements in Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side elevation of a gate embodying my improvements. Fig. 2 is a view at right angles to that in Fig. 1. Fig. 3 is a top plan view. Fig. 4 is a side view of the gate, having its supporting-links detached. Fig. 5 is a plan view of the rocking-lever frame.

In the drawings a portion of a fence is shown at A A, and also a portion of an intersecting fence or frame at A' A'. In the latter a passage-way is formed at *a* to permit the movements of the gate. The latter is represented by B, it being arranged in line with the fence A A. The gate when in place closes the passage B'. I prefer to provide a wooden frame-work whose parts are adjacent to the position of the gate. As shown, this frame-work comprises a bar or series of bars, C, running from the post *a'* of the fence A A to and beyond the intersecting fence A'.

D represents a transverse part of the frame at the bottom thereof and in line with the parts A' A' of the intersecting fence. It is not necessary that there should be this intersecting fence at A' A', for the frame work necessary to support and operate the gate can be arranged independently of such a fence.

The gate B may be of any preferred form and size so far as concerns the number and dimensions of its upright, horizontal, and inclined bars. As shown, it is composed of end uprights, *b b*, horizontal bars *b'*, and inclined brace-bars *b''*.

E represents a supplemental bar lying above, and preferably parallel to, the horizontal parts of the gate, it being secured to the upper ends of the upright *b* and inclined braces *b''*. The gate is supported upon links F F', which are pivoted at their lower ends to the above-described frame-work and at their upper ends to the bar E. Preferably I employ two links—one on each side of the gate—and arrange them relatively to the latter longitudinally, substantially as shown, one pair, F, at the center, and one pair, F', nearer one of the ends. The

links F F' should be so arranged relatively to the passage-way B', which is closed by the gate, that the latter can be carried by them entirely beyond the passage-way. This can be done by having the lower pivots of the links F nearly in the line of the cross fence or frame A' A' and the lower pivots of the links F' outside of the said part A'.

It will be seen that when the gate is supported upon links of this character it can be carried upward and outward from the passage-way B' without departing from a horizontal position.

Gates have been heretofore constructed to slide or roll horizontally into and out of position; but one of the objects of the present invention is to avoid entirely the use of wheels or rollers, and at the same time provide a gate which can be moved to and fro in one vertical plane, and which shall not be required to swing horizontally.

The gate is counterbalanced as follows: G G are posts or uprights secured to and forming part of the cross-frame or fence A' A'. These posts support pulleys H H, over which pulleys pass cords or chains *h*. The latter are secured to the central part of the gate B, and to the free ends are attached weights *h'*. The pulleys H H are swiveled or freely suspended by ropes or chains, so that they can turn into various positions to accommodate themselves to the different positions of the fastened ends of the cords or chains *h*, which ends, of course, move to and fro with the gate.

The gate can be readily operated by one standing on the ground, as it is merely necessary to lift up upon the bars *b'*. If a person desires to pass, it is necessary only to partially elevate the gate, which, as will be borne in mind, is counterbalanced by the aforesaid weights *h'*; and if it is desired to open it far enough to allow the passage of a vehicle or of cattle the passage can be entirely opened by pushing the gate up far enough to throw the links F F' beyond their vertical position, after which the gate will automatically move the rest of the distance into its opened position.

To permit the gate to be similarly opened by one sitting or standing in a vehicle, I employ the following devices: I is a link (a pair of these being preferably employed) pivoted at one end to the aforesaid bar E, secured to

the gate, and at the other to a lifting lever or frame comprising the parts K K' K'. The parts K' K' are at their ends pivoted to the aforesaid posts G G, and from these they converge and are secured to the part K, which is in substantially the plane of the gate or parallel thereto.

The links I I, the lever-frame K K', the bar E, and the posts are so related to each other that if the said lever or frame K K' be rocked a short distance on the pivots at the gate will be elevated and can be caused to swing from one of its positions to the other. To thus rock the parts K K', use is made of the pulling-levers L L, respectively pivoted to the posts G G, and each so situated that its outer or free end lies above the roadway, or at least in such position that it can be readily utilized by one seated or standing in a vehicle. To operate them, a cord, rope, or link, M, is secured to the outer end of each, and is so placed as to be reached by a person in a vehicle. These levers L L may be made either of single bars of wood or metal, or they may be made of doubled forked bars diverging from the outer ends and having the inner ends supported on a common pivot or bolt. From said inner ends there rise arms L'. These are connected to the aforesaid frame K K' by cords, wires, or links M' M'.

I have shown the outer ends of the levers L as being connected to the upper ends of the arms L' by a cord, wire, or link, M². The parts M M' M² may all be formed of one continuous cord or wire. The arms L may be either rigid with the parts L' or they may be pivoted thereto, so that the outer ends of the levers L can be adjusted in position without varying the relations between the arms L' and the lever K K'. If the parts L L' M² be made rigid together, they can be formed so as to constitute a truss-lever, in which case light iron bars and wire can be used in constructing them.

From the above description it will be seen that if a vehicle approaches the gate the driver can easily open the latter by pulling downward upon the lever L through the part

M, this causing the necessary rocking of the lever-frame L L' which, as it rises draws the gate upward and causes it to swing past the vertical lines of the links F F'.

Instead of horizontal bars, such as shown at C, resting upon or partially embedded in the ground, use may be made of isolated posts situated at suitable points, as is indicated by dotted lines at A³, adapted to support those parts of the mechanism which are more or less stationary relatively to the ground.

I am aware of the fact that gates have been heretofore supported on parallel links, and do not claim those parts, by themselves considered; but I believe myself to be the first to have combined with such parts the construction and arrangement of levers which I have herein shown and described.

What I claim is—

1. The combination with the gate and means, substantially as described, for carrying it when it is moving, of the supports C, one on each side of the gate, and the vibrating lifting-lever K K', pivotally connected with both of said supports C, and flexibly connected to the gate, substantially as set forth.

2. The combination, with the vertically-swinging gate, of the lifting-lever K K', supported independently of the gate, the pivoted levers L, having the lever-arms L' connected thereto, and means, substantially as described, for connecting the levers L with the lifting-bar independently of the gate, substantially as set forth.

3. The combination, with the vertically-swinging gate, having a rearward extension, E, of the lifting-lever K, supported above the gate and flexibly connected to the said extension at the rear of the gate proper, and means, substantially as described, for lifting the lever K, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES ABNER MILLER.

Witnesses:

W. M. MILLER,
FRANK L. DERSHEM.