

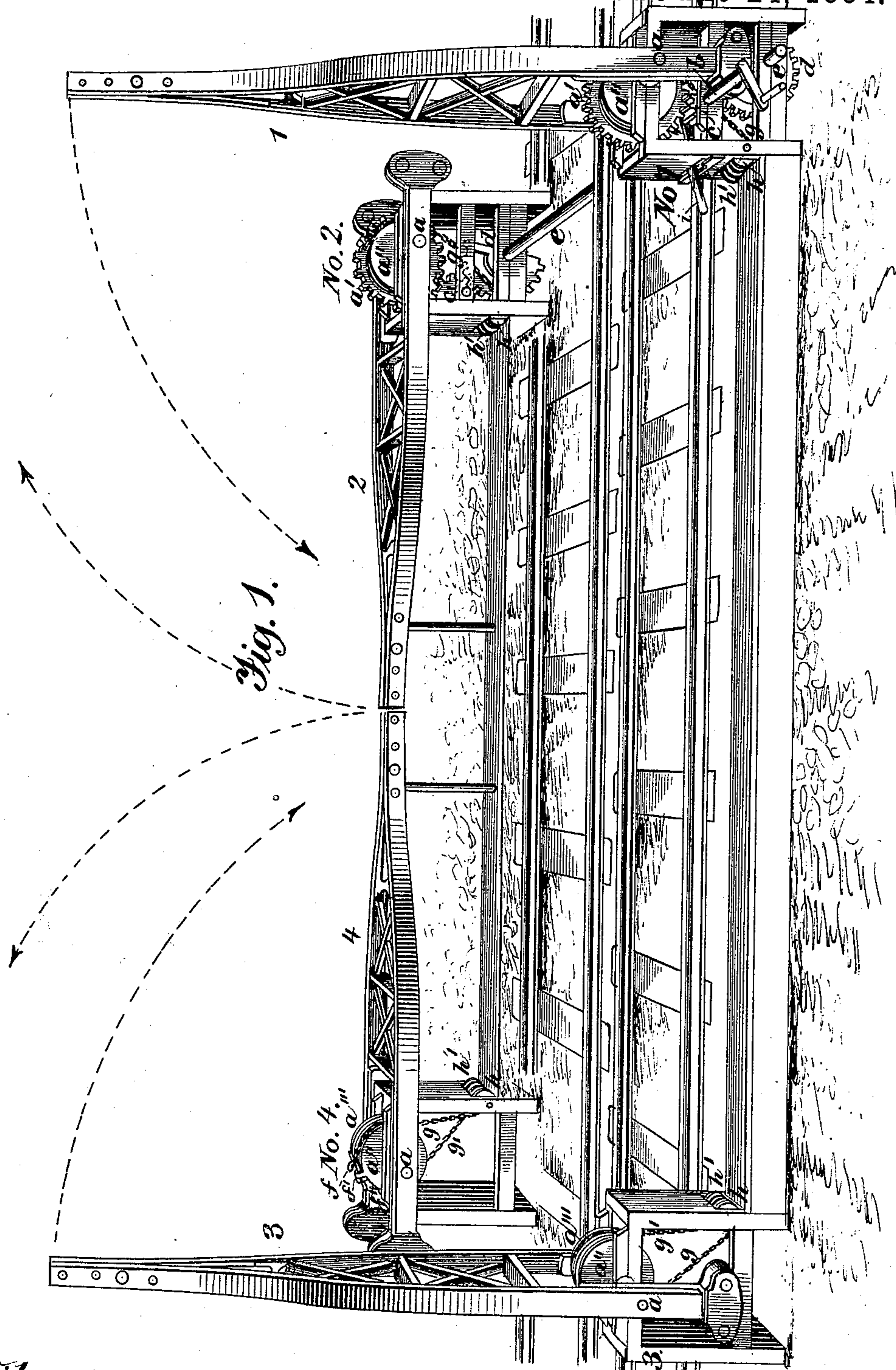
(No Model.)

3 Sheets—Sheet 1.

J. HICKEY.  
RAILWAY GATE.

No. 300,970.

Patented June 24, 1884.



Witnesses.  
A. Ruppert.  
E. Cruise

No. 1111 **Inventor.**  
John Hickey,  
by W. J. Howard  
attor.

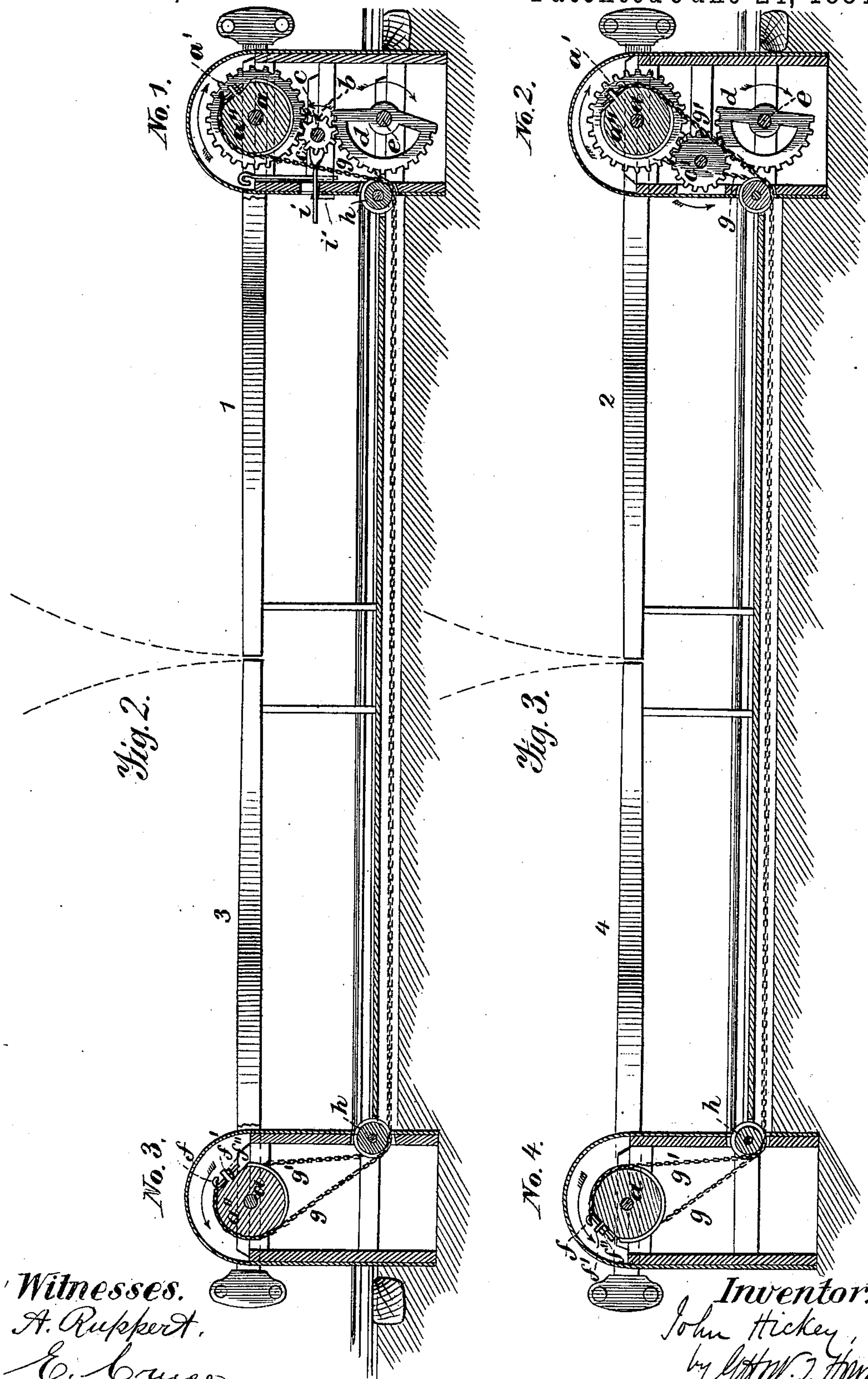
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A. Ruppert,  
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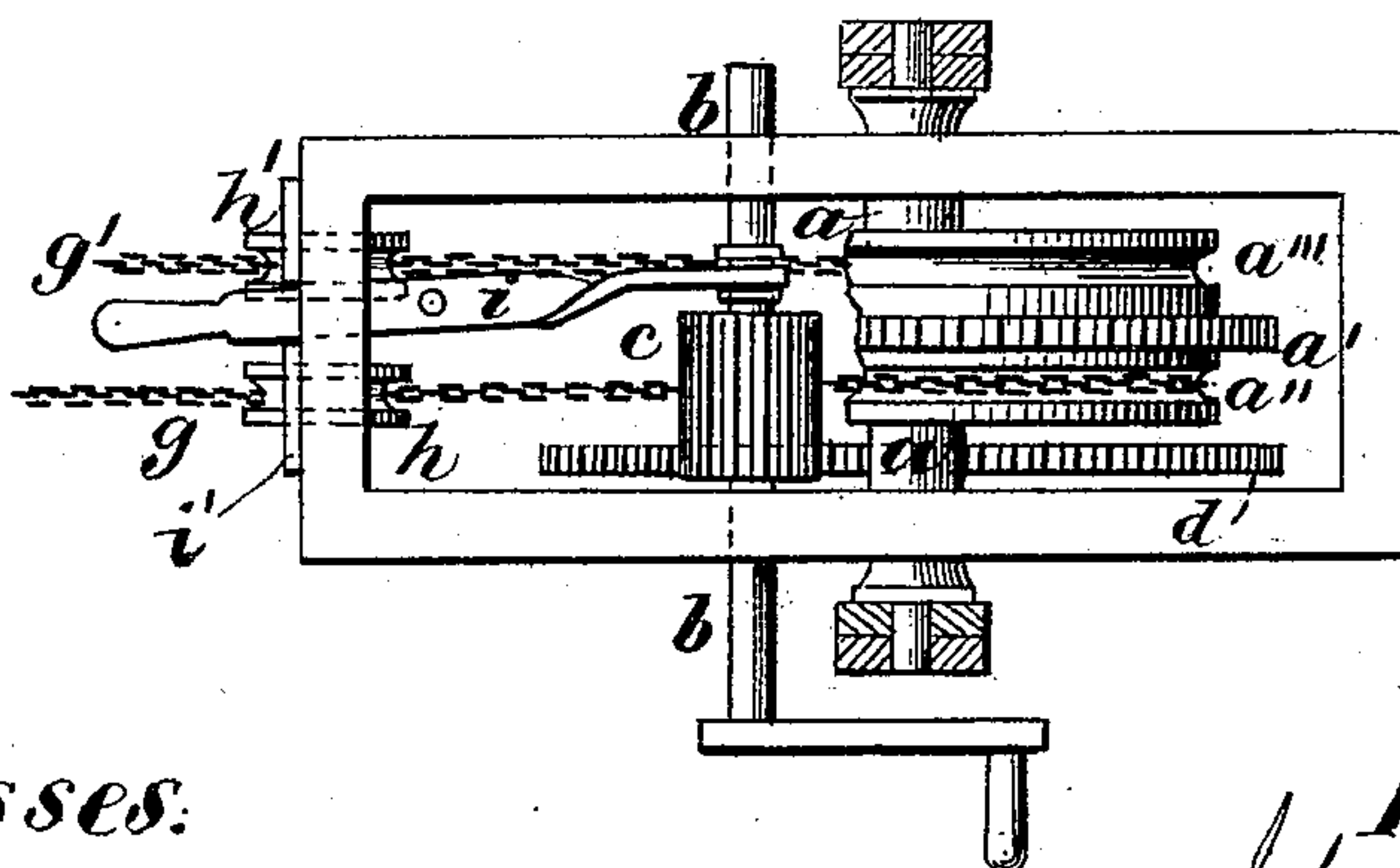
Inventor.  
John Hickey,  
by *W. J. Howard*



3 Sheets—Sheet 3.

No. 300,970.

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A. Rupert.  
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# UNITED STATES PATENT OFFICE.

JOHN HICKEY, OF CHICAGO, ILLINOIS.

## RAILWAY-GATE.

SPECIFICATION forming part of Letters Patent No. 300,970, dated June 24, 1884.

Application filed February 1, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HICKEY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful  
5 Improvements in Railway-Gates, of which the following is a specification.

This invention is an improvement upon the gate known to railroad-men as the "Flagg gate," which is described in certain patents  
10 granted to J. S. Winsor and H. A. Stearns; and the chief object of the present invention is to enable the two gate-bars at one side of the street to be raised or lowered together, but independently of the gate-bars at the op-  
15 posite side of the street, or to enable all the gate-bars to be raised or lowered at both sides of the street simultaneously.

Another object of the invention is to simplify and cheapen the construction of gates of  
20 this class.

In the accompanying drawings, Figure 1 is a perspective view of a four-post gate, the posts, for purposes of illustration, being numbered 1, 2, 3, and 4. Fig. 2 shows a longitudinal  
25 section through posts Nos. 1 and 3. Fig. 3 is a similar section through posts 2 and 4. Fig. 4 is a vertical transverse sectional elevation of posts Nos. 1 and 2. Fig. 5 is a plan of post No. 1, with the cover removed and parts broken  
30 away.

Similar letters of reference indicate similar parts in all the views.

As shown in Fig. 1, there are four posts—one at each corner of the structure—which  
35 posts consist of suitable framing inclosed by a metallic or other casing. Within each post is a horizontal shaft, *a*, upon which is mounted in posts 1 and 2 a gear-wheel or segmental gear, *a'*, to which are rigidly attached two  
40 grooved pulleys, *a'' a'''*. In post 1, which is the crank-post, is mounted a longitudinal sliding shaft, *b*, upon which is keyed a broad-faced toothed pinion, *c*, which engages with the gear  
45 *a'*, and also with the gear or toothed segment *d*, secured to a gas-pipe or other shaft, *e*, extending across the track to post No. 2. The gears *a'* and *d'* are in different vertical planes, and the arrangement is such that either can be engaged independently of the other by the  
50 toothed pinion *c*, or both simultaneously engaged by such pinion, according as the pinion

is moved longitudinally of its shaft. The arrangement of gearing in post No. 2 is substantially the same as in post No. 1, except that the gears *a'* and *d* are in the same vertical  
55 plane, and instead of a broad-faced pinion upon a sliding shaft an ordinary pinion, *c'*, having the same width of face as the gears *a'* and *d* and mounted upon a shaft incapable of longitudinal movement, is used. The pinion  
60 engages at all times both gears *a'* and *d*. The gear *d* connects with the gas-pipe shaft *e*. Posts Nos. 3 and 4 are each provided with a main horizontal shaft, *a*, upon which is mounted a double-grooved pulley or sheave, *a'' a'''*. The  
65 grooved pulleys of each of the four posts are provided with moving or adjustable connections, to which the chains are attached, so that they may be tightened as they become loose. The adjustable device consists of a hook-bolt,  
70 *f*, which passes through a lug, *f'*, cast upon the pulley, said bolt being provided with a nut, *f''*. It is seen that by tightening the nuts of the bolts *f'* the chains *g* and *g'* are tightened. At the base of each post are two independent  
75 sheaves or pulleys, *h h'*, and the arrangement of the chains with their sheaves and connections is such that upon turning the crank in a direction to revolve the main gear of post No. 1 to the right (which will cause the fall of the  
80 gate-bar) the corresponding pulley of the post No. 3 will be rotated to the left, causing also the fall of its gate-bar. A partial revolution in the opposite direction will of course cause the lifting of the bars. The same result is ac-  
85 complished with bars Nos. 2 and 4 at the opposite side of the track, when it is desired to move the gate-bars of that side of the track simultaneously with the movement of the bars Nos. 1 and 3, and the connections are made  
90 with that end in view.

In order to accomplish the movement of all four of the gate-bars simultaneously, the crank-shaft *b* must be so slid or adjusted as to cause the pinion *c* to engage with both the gears *a'*  
95 and *d*. (See the left of Fig. 4.) When it is intended to move the gate-bars of posts 1 and 2 simultaneously but independently of bars 3 and 4, the crank-shaft is pushed inward out of contact with the gear *d*. To move bars 2  
100 and 4 simultaneously but independently of bars 1 and 3, the pinion is drawn outward, so



as to be free from engagement with the gear *a'*, but in engagement with the gear *d*. The pinion and its shaft are moved longitudinally by means of a shifter, *i*, pivoted to the frame-work of the post. The shifter *i* extends out from the post to a position where it can be conveniently reached and held by the gate-tender with one hand while he operates the crank with the other. A lock is also used whereby the pinion may be held in engagement with the two gears so as to move all four gate-bars together, which appears to be the action most commonly employed. The lock may consist of the device shown in Figs. 1 and 2 and seen enlarged in Fig. 5. A plate, *i'*, is secured to the outside of the crank-post, having a notch, into which the shifter *i* is placed when it is to be locked. In Fig. 1 the shifter is shown free from the notch. The gate-bars are bifurcated, consisting of two parts braced and bolted together, each part of the bifurcated arm being rigidly connected with one end of the main or pivoted shaft.

I disclaim an arrangement of gates worked from one of the standards or posts by a crank-shaft having a long pinion arranged to engage with two toothed wheels on the gate-pivot at the same time or with each alone by shifting the crank-shaft. Such an arrangement is not the equivalent of my invention, requiring that movement shall be transmitted from the crank-shaft to certain of the gates by a cord and pulley within the crank-post, whereas in my invention movement is transmitted within the crank-post by geared wheels, which are positive in their action and admit of no lost motion.

I claim as my invention—

1. The combination, with the crank-post and gate-bars of a gate of the class named, of a gear-wheel mounted upon the gate-pivot at the crank-post, a gear-wheel mounted upon an independent shaft, said wheel standing in different vertical planes, and a broad-faced pinion mounted upon a longitudinally-moving crank-shaft, said pinion being adapted to en-

gage both of said gears or either, substantially as and for the purpose specified.

2. In a gate of the class named, the crank-post and gate-bars, a gear-wheel mounted upon the gate-pivot at the crank-post, a gear-wheel mounted upon an independent shaft, said wheels standing in different vertical planes, and a broad-faced pinion mounted upon a longitudinally-moving crank-shaft, combined with an independent shifter for giving longitudinal movement to the crank-shaft, the pinion on said shaft being adapted to engage both gears or either, substantially as and for the purposes specified.

3. In a gate of the class named, the crank-post and gate-bars, a gear-wheel mounted upon the gate-pivot at the crank-post, a gear-wheel mounted upon an independent shaft, said wheels standing in different vertical planes, and a broad-faced pinion mounted upon a longitudinally-moving crank-shaft and adapted to engage both or either of said gear-wheels, combined with pulley, chain, and rod connections, uniting and admitting of the joint operation of the four bars, or either pair independently of the other pair, substantially as set forth.

4. In a gate of the class named, the crank-post and gate-bars, a gear-wheel mounted upon the gate-pivot at the crank-post, a gear-wheel mounted upon an independent shaft, said wheels standing in different vertical planes, and a broad-faced pinion mounted upon a longitudinally-moving crank-shaft, combined with an independent shifter for moving said crank-shaft and a lock for engaging the shifter, substantially as and for the purposes specified.

In testimony whereof I have hereunto set my hand this 25th day of January, A. D. 1884.

JOHN HICKEY.

Witnesses:

C. C. LINTHICUM,  
C. R. BABEUF.