

(No Model.)

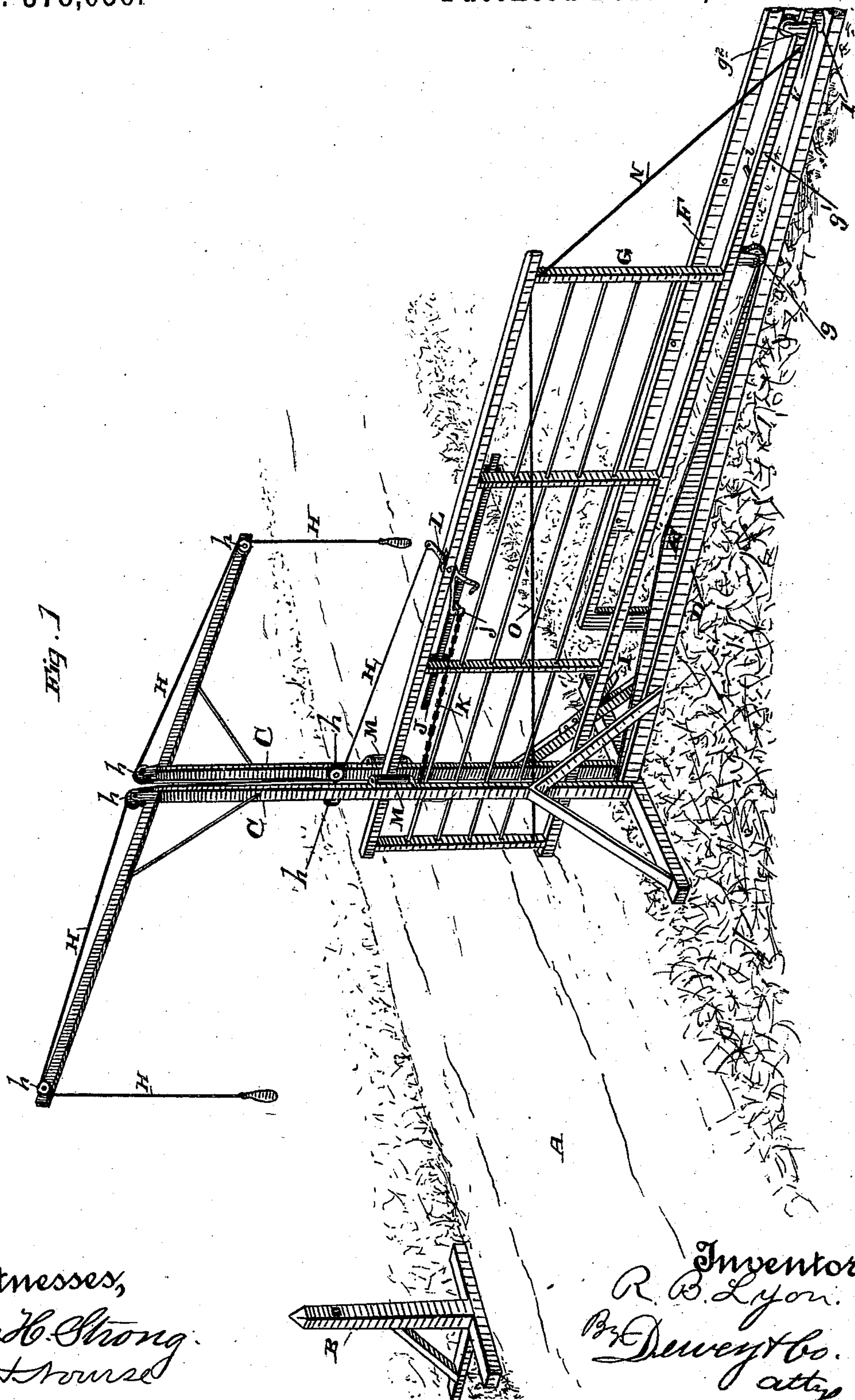
2 Sheets—Sheet 1.

R. B. LYON.

GATE.

No. 378,056.

Patented Feb. 14, 1888.



Witnesses,
Geo H. Strong
J. H. House

Inventor,
R. B. Lyon.
B. Dewey & Co.
attys

(No Model.)

2 Sheets—Sheet 2.

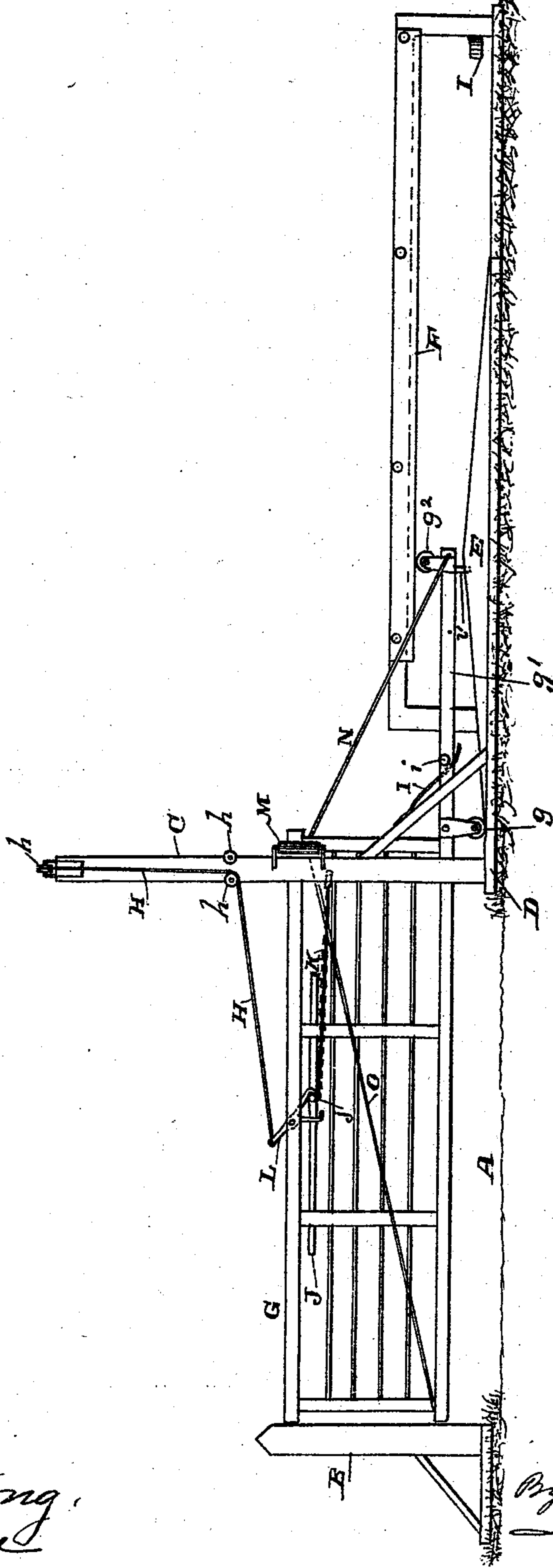
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Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT B. LYON, OF SONOMA, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
THOMAS S. GLAISTER, OF SAME PLACE.

GATE.

SPECIFICATION forming part of Letters Patent No. 378,056, dated February 14, 1888.

Application filed October 4, 1887. Serial No. 251,476. (No model.)

To all whom it may concern:

Be it known that I, ROBERT B. LYON, of Sonoma, Sonoma county, State of California, have invented an Improvement in Gates; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of automatic or self-operating gates in which the gate is mounted on a double inclined plane up one side of which it is caused to travel by the primary force applied, descending the other side and completing its movement by gravity; and my invention consists in the improved gate, hereinafter fully described and claimed.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my gate, showing it open. Fig. 2 is an elevation of same, showing it closed.

A is the roadway, beside which is placed on one side the limiting gate-post B and on the other side the double or slotted guide-post C for the gate. Back of this post, and in line with the fence of which the gate forms a part, is placed a bed-frame, D, on the upper surface of which is supported the double inclined track E. Above this track and supported from the bed-frame is a second or guide track, F, which is here shown horizontal, though it may be inclined correspondingly to the lower track, E.

G is the gate, having the roller or wheel g at its back end, which travels on the inclined track E, and a rear extension, g' , provided with a wheel or roller, g^2 , which operates under the guide-track. The gate passes freely through the slotted or double post C and is supported only by its wheel g and its wheel g^2 , confined between the two tracks.

H are the operating-cords which pass from each side of the gate over suitable guide-pulleys, h , and are secured to the gate by an attachment, which I shall presently describe.

The operation of the gate thus far is as follows: When it is in an open position, it extends along the bed-frame D, its wheel g being at the rear end of the inclined track, and the wheel g^2 , on its extension, being at the rear end of the guide-track, and the gate then occupies a straight position. Now by pulling upon one of the operating-cords sufficiently to draw the

gate forward the wheel g travels up the inclined plane or track, being enabled to do this by the tilting of the gate, under the guidance or strain of the wheel g^2 , moving under the straight track, until the wheel g passes the apex of the inclined plane. The gate then runs forward down said plane by its own gravity to a closed position, where it engages the limiting-post B suitably and occupies a straight position again, its wheel g being then at the forward end of the inclined track and its wheel g^2 at the forward end of the guide-track. Upon again pulling the operating-cord the reverse of this operation takes place, the gate moving backward to the apex of the inclined track, tilting as it moves, until, passing said apex, it descends by gravity.

It will be seen that when I use a guide-track correspondingly inclined to the track E the gate will move forward and back without tilting. To avoid jar on the gate at the limit of either of its movements, I provide a forward spring or cushion, I, and a rear spring or cushion, I', with which stops i i' on the gate-extension g' are adapted to come in contact. Now in attaching the operating-cords to the gate my object is to provide a connection which shall cause the pull or strain to be applied beyond the center of the gate, from whichever side the gate may be moved. Otherwise, if the cord were attached directly to the center, there would be a dead-point in the pulling; and if attached on one side of the center, while it would answer for the movement of the gate in one direction, it would not answer for its movement in the other direction. To accomplish this, therefore, I mount in the top of the gate a rod or bar, J, which is adapted to slide longitudinally, said rod or bar having on one side a pin, j , to which a chain or cord, K, is attached, the other end of which is fastened to the gate-post C; and said chain or cord is of such a length as to become taut and to pull the rod or cord lengthwise during the last portion of the movement of the gate on either side. In the top bar of the gate, at its center, I pivot a curved lever, L, to the top of which the ends of the united operating-cords H are attached, said lever having a forked lower end, the arms of which have bent ends. The arms

of the lever pass down on each side of the pin *j* of the sliding rod or bar *J*. Now, if the gate be standing in an open position, the rod or bar *J* will be pulled to its forward limit, its pin *j* being then in contact with the bent end of the forward arm of the pivoted lever *L*, so that the top of said lever is thrown back beyond the center of the gate, and the pull or strain on said gate in starting it, and during its operation up to the apex of the inclined track, remains so. During this pull the lower end of the arm bears against the pin in an approximately-vertical direction, whereby the lever *L* is locked by the almost rigid contact of said arm with the pin of the bar *J*. Therefore it cannot swing forward under the strain, nor push the bar back, even after the gate has started and the chain or cord *K* has become slack. Now, after the gate has passed the apex of the track and begins to go down on the other side, this position of the parts continues until the cord or chain *K*, becoming taut again, pulls back the rod or bar *J*, so that its pin *j* comes in contact with the other arm of the pivoted lever and throws the top of said lever over the other side of the center of the gate. In this way the pull or strain is applied beyond the center of the gate on both movements, so that the gate is pulled up to the apex of the inclined track positively, and requires no momentum to overcome a dead-point.

M are guide-rollers on the post *C*.

N is a brace extending from the back of the top of the gate to the end of the extension *g'*,

and *O* is a brace extending diagonally across the gate. 35

I am aware that double inclined tracks in this class of gates are not new, and I do not, therefore, claim such, broadly; but said track, in connection with the guide-track and the gate mounted, as described, between them, enables me to put both tracks out of the roadway and yet perfectly support the gate as it spans the road. 40

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is— 45

A gate and a double inclined track on which it travels, in combination with operating cords and the means for attaching the cords to the gate, consisting of a pivoted lever to which the cords are attached, said lever being in the top center of the gate, and having its lower end forked, a sliding bar mounted in the gate, and having a pin playing between the arms of the lever, and a chain or cord connecting the bar with the gate-post, of such a length as to move the bar longitudinally at the end of each movement of the gate, whereby the pivoted lever is thrown from one side of the gate to the other and locked, substantially as and for the purpose herein described. 50 55 60

In witness whereof I have hereunto set my hand.

ROBERT B. LYON.

Witnesses:

M. F. TURLEY,
DAVID CULLAWAY.