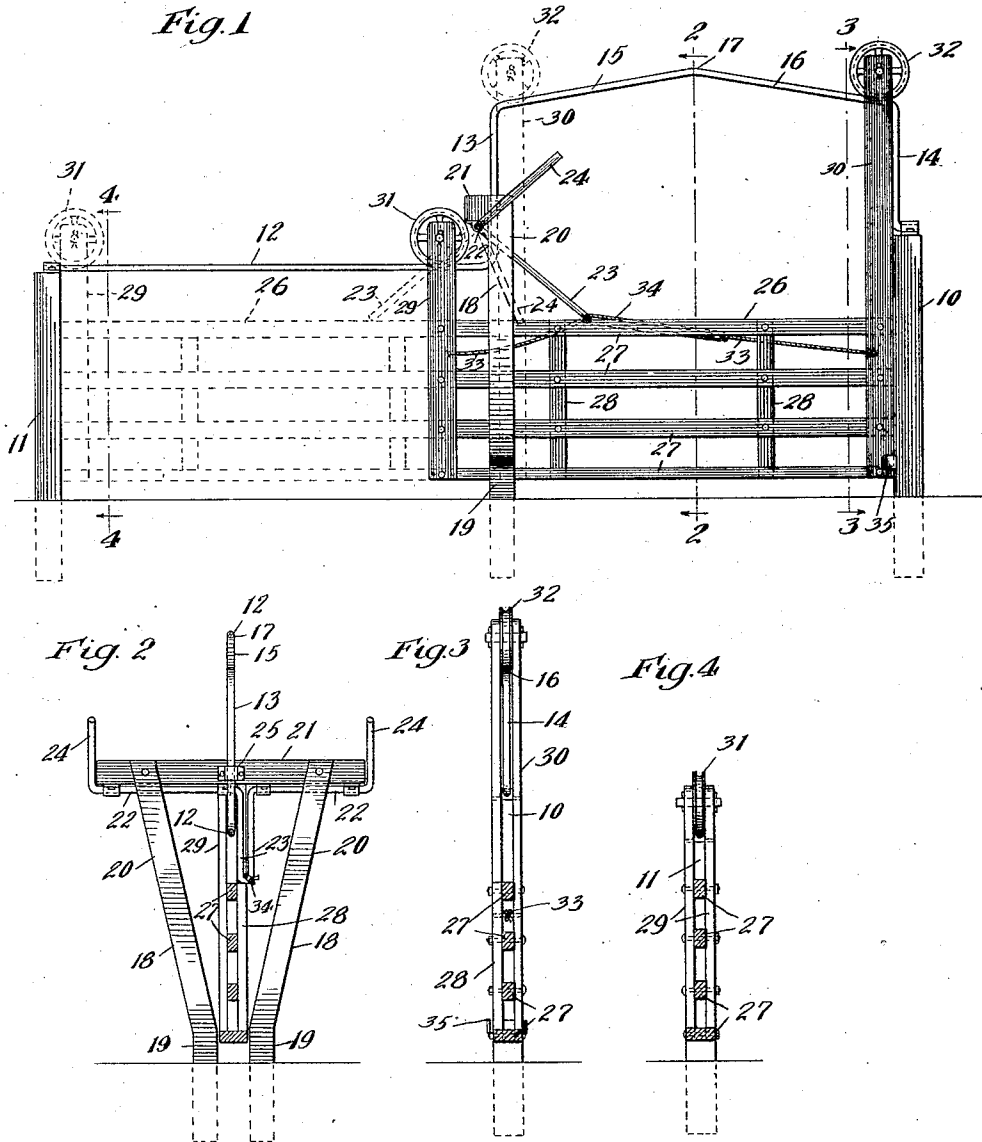


J. CARROLL.
FARM GATE.
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1,056,776.

Patented Mar. 25, 1913.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES CARROLL, OF PITTSFIELD, ILLINOIS.

FARM-GATE.

1,056,776.

Specification of Letters Patent.

Patented Mar. 25, 1913.

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To all whom it may concern:

Be it known that I, JAMES CARROLL, a citizen of the United States, residing in Pittsfield, in the county of Pike and State of Illinois, have invented a new and useful Improvement in Farm-Gates, of which the following is a specification.

This invention relates to improvements in gates and more particularly to farm automatic gates.

The object of my invention is to provide a gate which will not sag and one that may be cheaply manufactured, easily operated and which will occupy a small amount of space and one that will always assume a closed or open position and remain in either position without the necessity of latches or other locking devices.

More specifically my invention relates to a farm gate of the sliding type wherein the gate proper is supported on an overhead rail or track by means of rollers or wheels mounted in extended portions of the gate, said track having a portion thereof offset and extended upwardly to any desired height, to allow the passage thereunder of stock or vehicles, an operating lever connected preferably to the gate by means of a flexible loop member, said operating lever being provided with crank arms one at each side of the gate for moving or rocking the operating lever. The offset portion of the track rail over which one of the gate supporting rollers travels has two upwardly inclined portions having their meeting ends or apex, substantially above the center of the gate opening, whereby the gate when moved to a half open position by the operating arm and when the roller which travels on the inclined portions thereof will be at the highest point thereof will move automatically, due to its own weight, to either its completely open or closed position, depending upon the direction in which the gate has first been moved by the operating lever.

My invention furthermore consists in the improvements in the parts and devices and in the combinations of the parts and devices herein shown and described or claimed.

In the drawing forming a part of this specification, Figure 1 represents an elevation showing my improved structure with the gate closed and also showing in dotted lines the position assumed by the gate when open. Figs. 2, 3 and 4 are vertical sections taken respectively on the lines 2—2, 3—3 and

4—4 of Fig. 1 looking in the direction of the arrows.

In the drawing 10, 11 represent any pair of suitable posts spaced apart slightly less than twice the width of the gate. Extending between the posts 10 and 11 and fastened to the tops thereof is the guide rail or supporting track 12, said track or rail 12 extending substantially horizontally from the post 11 half way to the post 10 where it is bent or formed with a vertical portion 13 corresponding to another vertical portion 14 directly above the post 10, said vertical portions 13 and 14 being connected by inclined portions 15 and 16 which form an apex 17.

Midway between the posts 10 and 11 is a guide and a bracing structure comprising two members 18 each having a short vertical section 19 at the bottom thereof and an outwardly inclined portion 20, the vertical portions 19 forming a guide for the gate 26. The upper or diverging portions 20 of the members 18 are connected by a suitable cross piece 21 on which is pivotally mounted a shaft 22 having formed preferably integrally therewith an operating lever or arm 23, which arm 23 may be conveniently formed by doubling the shaft upon itself as more clearly shown in Fig. 2, and also formed on the shaft 22 and preferably integrally therewith, at each end are crank arms 24, said crank arms 24 and the operating lever 23 being angularly offset from each other substantially at ninety degrees. In order to prevent the track or rail 12 from sagging due to the weight of the gate supported thereby I preferably attach the vertical portion 13 of the track to the cross-member 21 as by means of a cleat 25, said cleat 25 being preferably retained or held in position by means of screws whereby the rail or track 12 may be adjusted therein.

The gate 26 which is supported and slidably mounted upon the track 12 may be formed of any suitable construction, that which I have shown being comprised of cross-bars 27, intermediate uprights 28 and end uprights having extensions 29 and 30. Pivotal mounted in the upper portions of the extensions of the uprights 29 is a supporting grooved roller 31 adapted to travel on the horizontal section of the track 12 and similarly mounted in the extensions of the uprights 30 at the opposite end of the gate is another supporting grooved roller 32 adapted to traverse the inclined portions 15

and 16 of the supporting track. It will of course be apparent that the gate is of greater length than the vertical offset portion of the supporting track in order that one of the supporting members for the gate will travel on the offset portion of the track and the other supporting member on the horizontal portion of the track.

Attached to the gate 26 is a flexible member 33 preferably attached at each end to the gate and preferably formed with a loop portion 34 intermediate its ends, said loop portion 34 being slidably connected with the operating lever 23 whereby upon opening the gate the operating lever 23 engages that portion of the loop 34 nearest the post 11 and upon closing the gate engages the opposite end of the loop 34.

In the operation of opening my improved gate either of the crank arms 24 is rocked, thereby turning the operating arm 23 which moves the gate to a position where the gate is slightly more than half way open when further rotation of the crank arm is unnecessary as the gate will then automatically slide to its completely open position due to the fact that one end of the gate has been raised by the roller 32 which has traveled up the incline portion 16 to a position slightly past the apex 17 and the weight of the gate will cause the roller 32 to roll down the inclined portion 15. In closing the gate it will of course be obvious that the reverse of the above sequence of movements takes place and that the gate will automatically assume either a completely closed or open position as soon as the crank arm has been released. I have also shown on the post 10 a guiding member 35 which serves to properly center the gate as the same assumes its closed position and also serves to prevent any undue or unnecessary swinging of the gate.

Many changes may be made in the various details of my device without departing from the spirit of the invention and all such changes are contemplated as fairly come within the scope of the appended claims.

I claim:—

1. In a device of the class described, the combination with two spaced upright posts, of a track extending from the top of one post to the top of the other, a gate supported by said track and movable between the posts, said track having a portion thereof offset vertically and of less length than that of the gate and being provided also with inclined portions, and means adapted to move the gate from one end of the track to the other, including a member oscillatable about an axis transverse to the gate and a flexible connection between said member and the gate, substantially as specified.

2. In a device of the class described, the combination with two spaced upright posts,

of a track extending between the tops of the posts, a gate movably supported by said track and movable between the posts, means for moving the gate from one end of the track to the other between the posts, said means comprising upwardly extending diverging members between which the gate is adapted to be guided, a cross bar between said members and a shaft extending along said bar and rotatably mounted thereon, said shaft having a lever integrally formed therewith and having also crank arms formed integrally therewith, one at each end, for rotating the same, and a flexible member connecting said lever to the gate substantially as specified.

3. In a device of the class described, the combination with two spaced upright posts, of a track extending between the tops of the posts, a gate movably supported by said track and movable between the posts, means for moving the gate from one end of the track to the other between the posts, said means comprising a support located intermediate the posts and having mounted thereon an operating lever and a connecting member between said lever and the gate, said connection comprising a flexible member attached at its ends to the gate and having an intermediate loop portion in which the end of the operating lever is adapted to move back and forth, substantially as specified.

4. In a device of the class described, the combination with two spaced upright posts, of a track extending between the tops of the posts, a gate movably supported by said track and movable between the posts, means for moving the gate from one end of the track to the other between the posts, said means comprising upwardly extending diverging members between which the gate is adapted to be guided, a cross bar between said members and an operating lever pivotally mounted on said cross bar, said arm being connected to the gate by means of a flexible member attached at its ends to the gate and having an intermediate loop portion in which the end of the operating lever is adapted to move back and forth.

5. In a device of the class described, the combination of two spaced posts, a track or supporting member connected to the tops of said posts, said track having a vertical offset portion including inclined sections, a gate supported by said track and movable between the posts, said gate being provided with extensions at each end having supporting rollers mounted therein and adapted to roll on the track, one of said rollers being adapted to traverse the inclined sections of the track, a support located intermediate the posts, said support comprising two diverging members having a cross-piece connected thereto, a shaft rotatably mounted on said

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cross piece, said shaft having crank arms and an operating lever integrally formed therewith and a flexible member connecting the operating lever and the gate, said flexible member having an intermediate loop portion in which the operating lever is adapted to move back and forth, substantially as specified.

5 6. In a device of the class described, the combination with two spaced upright posts, of a single piece track extending between the tops of the posts, a gate movably supported by said track, means for moving the gate from one end of the track to the other between the posts, said means comprising 15 intermediate upright posts having a cross bar mounted thereon, and an operating arm pivotally mounted on said cross bar, said single piece track having a vertical portion removably secured to said cross bar whereby 20 the track may be adjusted to compensate for sagging.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."