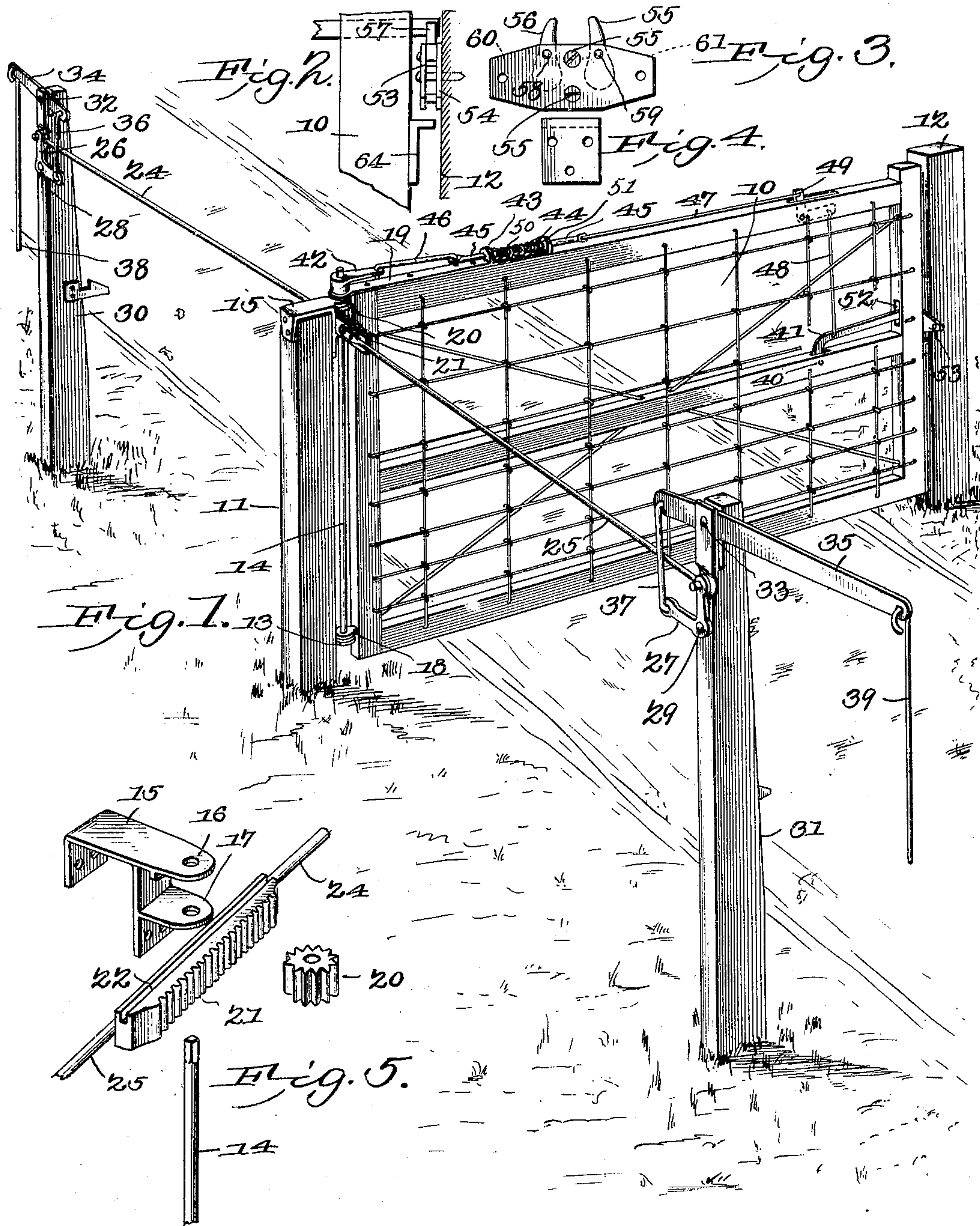


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J. W. REYNOLDS.  
GATE.

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# UNITED STATES PATENT OFFICE.

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## GATE.

SPECIFICATION forming part of Letters Patent No. 791,047, dated May 30, 1905.

Application filed January 31, 1905. Serial No. 243,522.

*To all whom it may concern:*

Be it known that I, JOHN WILLIAM REYNOLDS, a citizen of the United States, residing at Frankfort, in the county of Clinton and State of Indiana, have invented a new and useful Gate, of which the following is a specification.

This invention relates to gates of the class arranged to be operated from a distance, so that persons approaching from either direction may open and close the gate without alighting from the vehicle, and has for its object to improve the construction of the hanging and operating means and increase the efficiency of the same.

With this and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages.

In the drawings thus employed, Figure 1 is a perspective view of the improved device. Figs. 2, 3, and 4 are detail views, enlarged, of the automatic latch mechanism. Fig. 5 represents the parts forming the gate-hinge in perspective and separated.

The gate portion 10 of the improved device may be of any desired construction and of any desired material and is mounted to swing between posts 11 12, disposed at opposite sides of the gateway-opening. The post 11 is provided with a bracket 13, relatively near the ground, to receive the lower end of a rod 14 and with a bracket 15 at the upper end, the latter having spaced horizontal ears 16 17, through which the upper end of the rod 14 passes. The gate 10 is provided with a bracket

18 for rotatively engaging the rod 14 and bearing upon the lower bracket 15 and also with a bracket 19 for rotatively engaging the rod above the upper ear 16 and bearing upon the same, the gate being thus free to swing upon the rod as a hinge. The bracket 19 is extended longitudinally of the gate and provided with spaced vertical ears 43 44, forming guides for a rod 45, the object to be hereinafter explained.

Rigidly connected to the rod 14, between the ears 16 17, is a gear-pinion 20, with which a rack-bar 21 engages, the rack-bar having a guide-channel 22, in which a guide-rib 23 on the ear 16 fits. Attached to the rack-bar 21 are oppositely-extending pull-rods 24 25, pivoted, respectively, at their free ends to one arm of bell-crank members 26 27, which are in turn pivoted at 28 29 to posts 30 31, spaced upon either side of the gateway-opening opposite the outer end of the gate 10 when the latter is fully open. Pivoted at 32 33 to the posts 30 31 are levers 34 35, coupled by one end to the bell-crank members 26 27 by rods 36 37 and provided at their outer ends with pull rods or cables 38 39.

Pivoted at 40 in the gate 10 is a latch member 41, extending through a slot 52 in the outer end member of the gate and beyond the same for engaging a latch member on the post 12. Rigidly connected to the upper end of the rod 14 is a crank-arm 42, coupled at its free end to the adjacent end of the rod 45 by a link 46, the rod 45 being coupled to the latch-bar 41 by rods 47 48 and bell-crank 49. A retraction-spring 50 is arranged upon the rod 45 between the guides 43 44 and acting against a stop-collar 51 on the rod to maintain the rod and latch-bar yieldably in operative position.

The construction and operation of the trip-latch employed upon the post 12 is represented more fully in Figs. 2 and 3 and consists of spaced plates 53 54, attached to the face of the post, as by screws 55, and having swinging latch-tongues 56 57 pivoted between the plates at 58 59 and extending into the path of the latch-bar 41, the latch members being limited in their movement in one direction by



stop members 60 61 and free to be depressed by the latch member when moving in one direction only. Thus when the gate swings from one direction the latch-bar will depress the  
 5 latch-tongue 56 and pass over it and be stopped by the latch-tongue 57, while the depressed tongue 56 will rise by gravity in the rear of the latch-bar and prevent its return. Then it will be obvious that the reverse action will  
 10 occur when the gate is closed from the opposite direction. By this arrangement it will be obvious that as the person approaches the gate and draws down on either one of the pull members 38 or 39 the gear-rack acting  
 15 on the pinion will rotate the rod 14 and carry the crank-arm 42 around with it, drawing the rod 45 along the gate member and releasing the latch-bar 41, and the continued pull upon the draw-rod swinging the gate around until  
 20 the latch-bar 41 engages a latch-trip 62 or 63, as the case may be, upon the posts 30 or 31. As the traveler reaches the post 30 or 31 after passing through the gateway a pull upon the rod or cable 38 or 39 will effect the closing of  
 25 the gate by again releasing the latch-bar. Thus the gate will be disconnected from its latch and swung open by a single pull upon the draw rod or cable and closed in the same manner.  
 30 Attached to the outer member of the gate 10 is a stop-plate 64, projecting beneath the latch-plates 53 54 for bearing against the same in event of any attempt to raise the gate bodily at the free end, as when hogs or other  
 35 animals attempt to open the gate by thrust-

ing their noses beneath it. This is an important feature of the invention and adds materially to its value and efficiency.

The construction is simple in design, strong and durable, easily operated, and certain in  
 40 its action and can be applied to all the different forms of gates manufactured.

Having fully described the invention, what is claimed is—

In a gate, posts spaced apart at opposite  
 45 sides of the gateway-opening and with a trip-latch upon one post and a bracket upon the other of said posts near the ground, a bracket having spaced ears and disposed upon said  
 50 last-mentioned post near its top, a rod mounted for rotation in said lower bracket and through the ears of said upper bracket, a gate having spaced brackets rotatively engaging said rod, a latch-bar movably connected to said gate  
 55 for detachable engagement with said trip-latch when the gate is closed, a crank-arm rigidly connected to said rod, connecting means between said crank-arm and latch-bar, a gear-pinion carried by said rod between  
 60 said bracket-ears, a gear-rack slidable between said bracket-ears and engaging said gear-pinion, and means for operating said gear-rack.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN WILLIAM REYNOLDS.

Witnesses:

EDWARD CROSBY BEAVER,  
 JOHN YOUNG.