

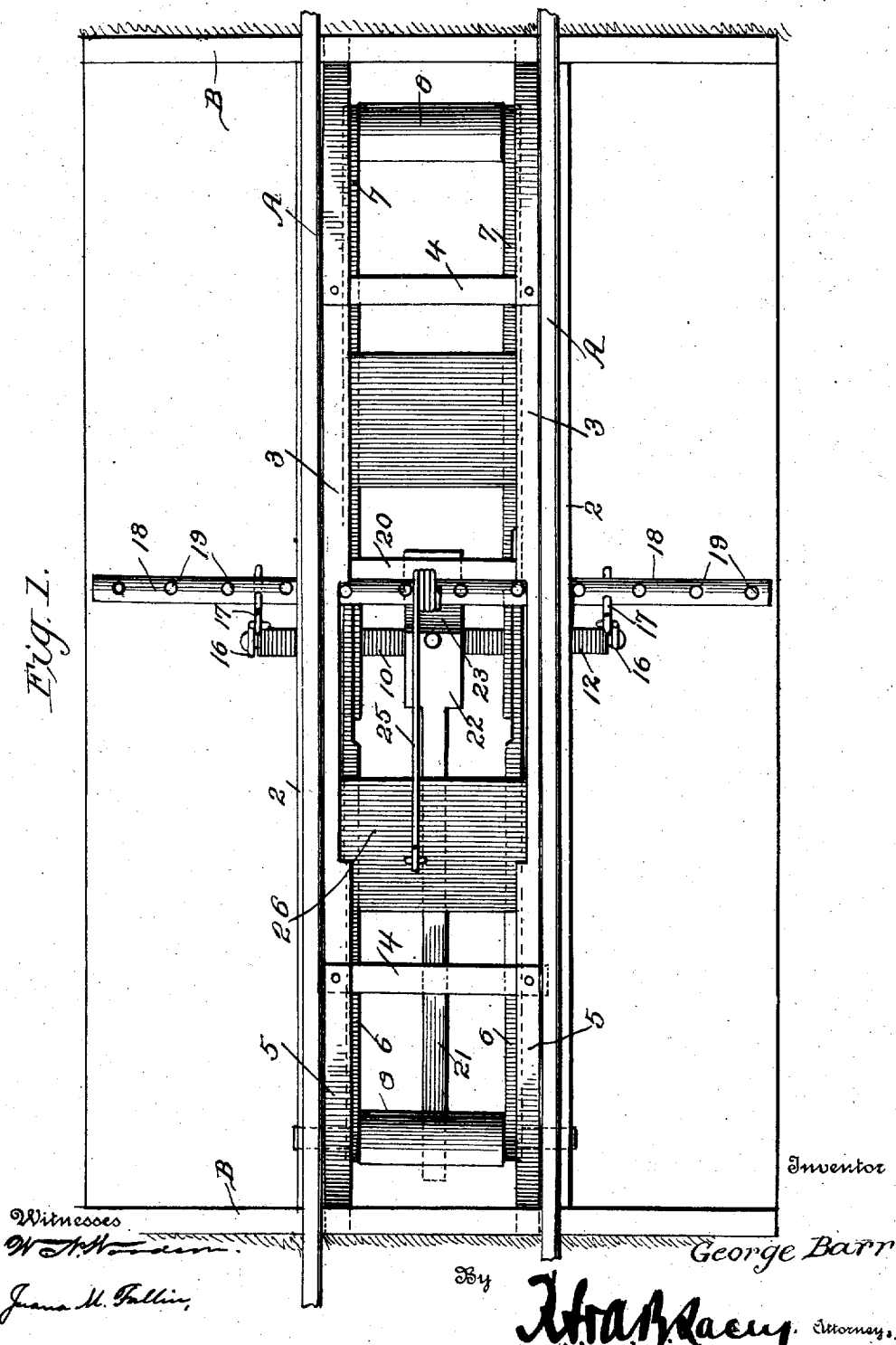
986,428.

G. BARR.
AUTOMATIC RAILWAY GATE.
APPLICATION FILED APR. 2, 1910.

Patented Mar. 14, 1911.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

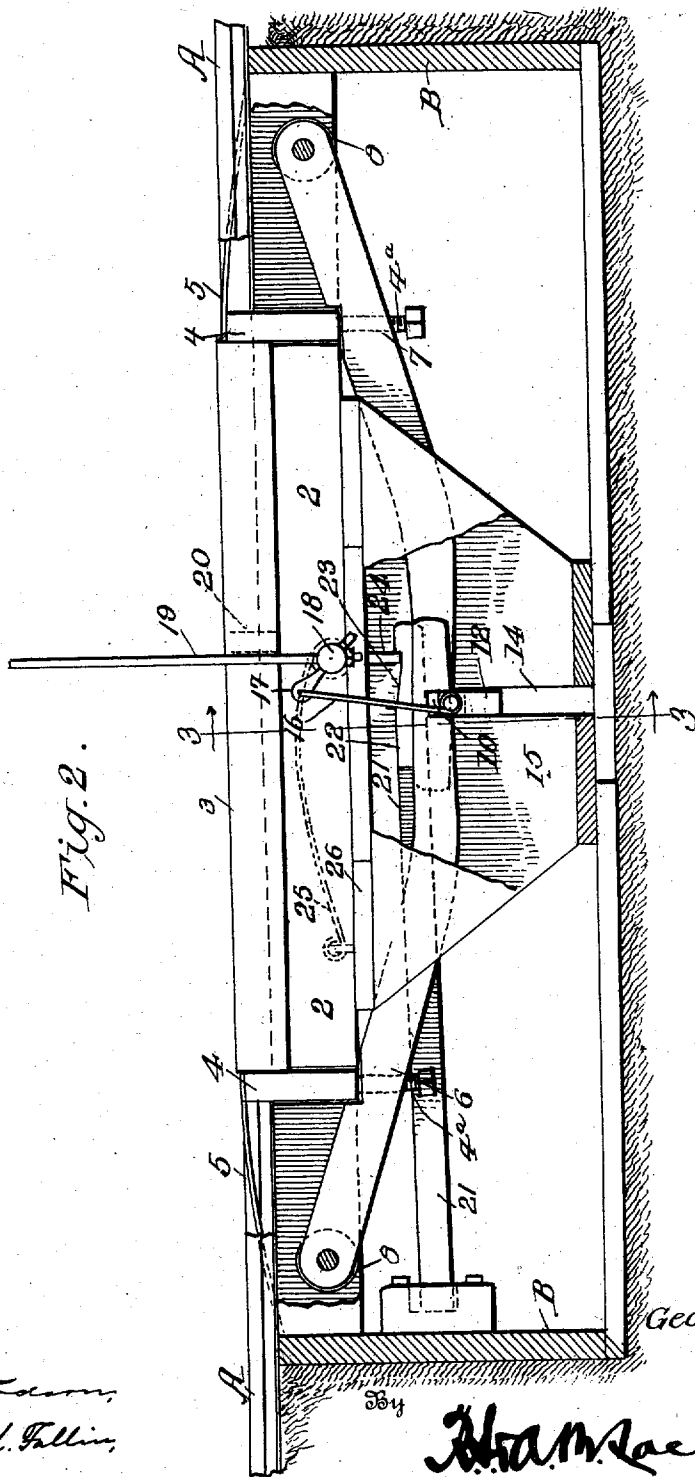


Fig. 2.

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3 SHEETS-SHEET 3.

Fig. 3.

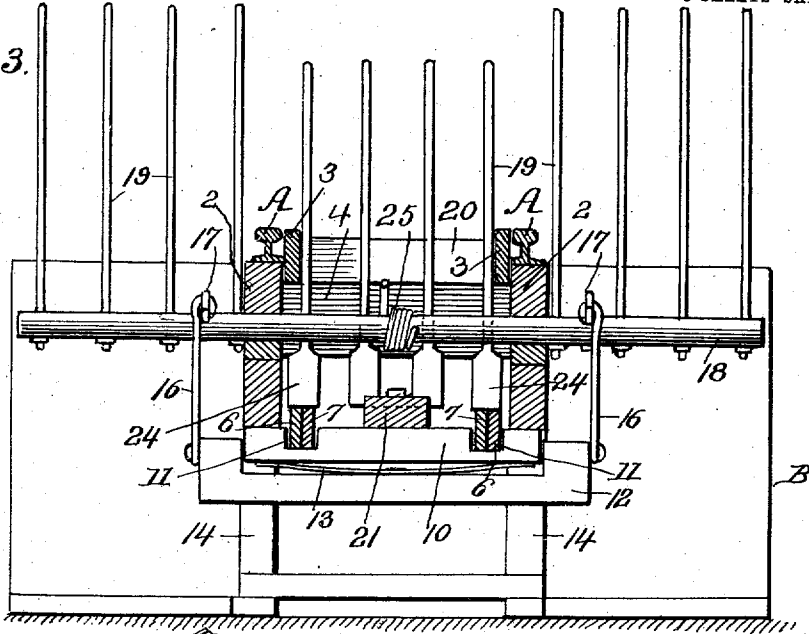


Fig. 4.

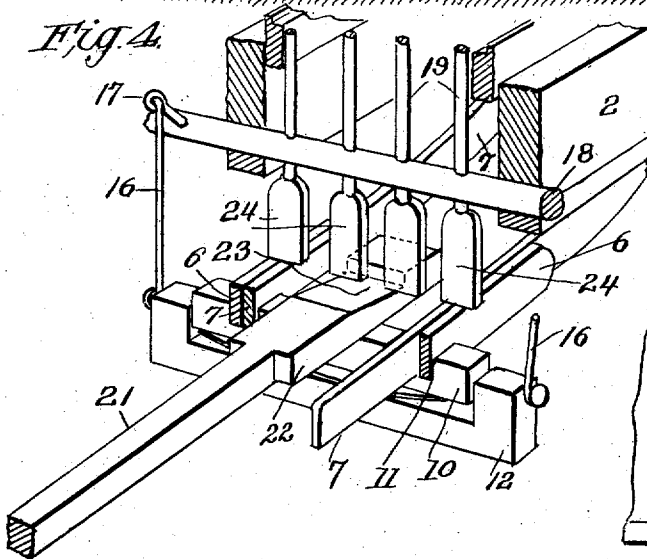
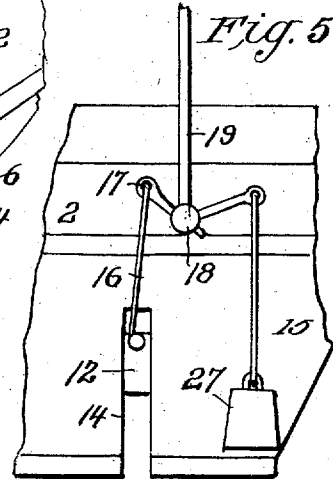


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE BARR, OF LA CENTER, WASHINGTON, ASSIGNOR OF ONE-HALF TO BENJAMIN F. ANDERSON, OF LA CENTER, WASHINGTON.

AUTOMATIC RAILWAY-GATE.

986,428.

Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed April 2, 1910. Serial No. 553,031.

To all whom it may concern:

Be it known that I, GEORGE BARR, a citizen of the United States, residing at La Center, in the county of Clarke and State of Washington, have invented certain new and useful Improvements in Automatic Railway-Gates, of which the following is a specification.

My invention relates to automatic gates for railways which are moved into an inoperative position when a train is approaching the point where the gate is situated, this class of gates being particularly used as cattle guards to prevent cattle straying along the railroad track.

My invention contemplates the use of depressible track-sections arranged adjacent to the rails of a track and adapted to be operated by the flanges of the car wheels, the depressible track-sections being connected to levers which act to rotate a gate-shaft from which the bars of the gate project.

The invention also includes means for locking the gate in its normal vertical position so that it cannot be pushed over to a horizontal position by cattle, or by accidental meddling, and can only be operated by a positive depression of the track-sections by the passage of a railway train.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a plan view of my improved gate. Fig. 2 is a side elevation thereof partly in section. Fig. 3 is a transverse vertical section on the line 3—3 of Fig. 2. Fig. 4 is a perspective detail view partly in section showing the means for locking the gate in its vertical position, and Fig. 5 is a fragmentary detail view showing a modified manner of operating the gate.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to these figures A designates the rails of a track, said rails being shown for the purpose of illustration, as passing over an excavation or cut, the abutments of which are designated B.

Supporting the track-rails A and extending between the abutments B are the longitudinal beams 2 and located adjacent to the rails A and preferably on the inside faces

thereof are longitudinally extending depressible bars or track-sections 3 connected at their outer ends by the cross-bars 4 so as to form a rectangular frame disposed between the rails and normally held on a level with the rails by spring devices, as will be later described. It is to be understood that these depressible bars 3, or in other words the depressible track section formed by the bars 3 and the cross-bars 4, are to extend a sufficient distance on either side of the gate to permit the proper actuation of the gate prior to the arrival of the locomotive or car at the point where the gate is situated. In view of the difficulty of illustrating this, however, the depressible bars are shown as being relatively short. Extending from the ends of the longitudinal depressible bars 3, are the inclined spring strips 5 which extend down to the road-bed of the track and are attached thereto in any suitable manner. The flanges of the rail will contact with these inclined spring strips 5 and thus act to depress the depressible track-section as the flanges ride up the inclined portions 5.

The cross-bars 4 rest upon opposite pairs of levers 6 and 7, the outer ends of which are spaced apart by rollers 8 and pivotally supported upon the longitudinal beams 2. The inner ends of these pairs of levers 6 and 7 overlap, as shown in Fig. 2, and whereas the levers 6 and 7 are inclined the overlapping ends thereof are horizontal. The inner ends of both pairs of levers 6 and 7 rest upon a vertically movable cross-bar 10 having notches 11 in which the overlapping ends of the levers are received. This cross-bar 10 is supported in a recess in a hanger 12. A bowed spring 13 is disposed between the upper face of the hanger 12 and the under face of the cross-bar 10 so that the cross-bar is resiliently supported upon the hanger and may be independently depressed without depressing the hanger, for a purpose as will be hereinafter stated.

The extremities of the hanger 12 extend out through guide-slots 14 formed in side-pieces 15 which extend down from the beams 2. Connecting rods 16 are attached to the extremities of the hanger and extend up to arms 17 projecting out from a shaft 18, the shaft being mounted to rotate in the beams 2. It will thus be seen that the depression of the hanger 12 will cause a rotation of the shaft 18 through a quarter of the revolution.

Extending through the shaft 18 are the pickets 19, these being so arranged upon the shaft 18 with relation to the arm 17 that when the hanger is in its raised position the pickets 19 are extended vertically and that when the hanger is depressed and the shaft rocked, or rotated through a quarter of a revolution the pickets will be turned to a horizontal position. A stop 20 is provided extending between the beams 2 against which the pickets contact when in a vertical position.

Pivotally supported at one end beneath the point of pivotal support for one of the pairs of levers 6 and 7 is the locking lever 21. As shown, this is pivoted beneath the pivotal ends of the levers 7 and extends between said levers and is enlarged as at 22 to form a head, this head resting upon the cross-bar 10, as shown in Fig. 3. The upper face of this head is transversely grooved or channeled as at 23 to engage with a downwardly projecting member or members on the shaft 18. These downwardly projecting members which are designated 24 preferably have the form of flattened lugs, and are shown as being made integral with the middle series of pickets and forming heads for said pickets. When the pickets are in an upright or normal position, these lugs 24 will be engaged by the grooves 23 and thus be held from any turning movement.

In order to hold the depressible track-bars 3 in their uppermost position and to hold the pickets in a vertical position, I may provide either a spring or weight which, acting upon the shaft 18, will hold the shaft against rotation from its normal position. As shown in Fig. 1, the means for acting against this rotation consists of a spring 25 which is attached in any suitable manner to a cross-bar 26, or to any other fixed point and which is then coiled around the shaft 18 and attached thereto. It will be observed that when the shaft 18 is rotated this coil will be contracted against the ends of the spring and that when the shaft is released the coil will open out, thus rotating the shaft and bringing it to its normal position.

The operation of my device is as follows:—As a train approaches the gate, the flanges of its wheels will ride up on the inclined members 5 and will depress the track-sections 3. As the track-sections 3 are depressed they will move downward on the levers 6 and 7, and the first movement of these levers is to depress the bar 10 and contract the spring 13. The depression of the bar 10 acts to lower the locking arm or lever 21 so that it releases its engagement with the arms projecting from the shaft 18. The continued downward movement of the levers 6 and 7, however, will fully compress the spring 13 and will depress the hanger 12

which, through the links 16 will rotate the shaft 18 and lower the gate. As soon as the train has passed, the action of the spring or weight will reversely rotate the shaft and the pickets will be raised. I do not wish to limit myself to this construction, as it is perfectly obvious that a weight might be used for this purpose and in Fig. 5 I show such a means for actuating the shaft, the weight being designated 27, and being attached to a link 28, or other fixed connection extending from the shaft, and raised when the track or actuating bars 3 are depressed. It will be obvious that the rotation of the shaft will raise the weight and that as soon as the weight of the train has left the depressible track-sections the weight 27 will cause the shaft to rotate reversely and raise the pickets to an elevated position.

In order to form an adjustable seat, or rest for the cross-bar 4, I provide the screw-pins 4^a which extend up through the levers 6 and upon which the lower edges of the cross-bars rest. By adjusting these screw-pins, wear may be taken up and the upper faces of the bars 3 kept at a proper elevation with relation to the track.

While I have shown my device as applied to railway gates, it will be obvious that the gates can also be used at cross-roads as well, and that the construction might be considerably simplified for this purpose, and yet be within the spirit of the invention.

While I have shown what I believe to be the preferable form of my invention, I do not wish to be limited thereto, as it is obvious that many changes might be made in minor details and in proportions to parts and in the arrangement of the elements without departing from the spirit of my invention.

Having thus described the invention what is claimed as new is:—

1. In a railway gate, the combination with track-rails, of opposed pairs of depressible members located adjacent to the rails and adapted to be engaged by the wheels of a car, a rotatable shaft extending beneath said rails and having upwardly projecting pickets, and levers connected to said shaft to rotate the same upon a depression of the levers, said depressible members resting upon said levers.

2. In a railway gate, the combination with track-rails, of oppositely disposed depressible members arranged adjacent to the track-rails and adapted to be depressed by the weight of a car, a shaft passing beneath the track-rails and having upwardly projecting pickets, levers pivoted at one end and extending in opposite directions to a point beneath said shaft, a hanger freely supporting the ends of said levers, a connection between said hanger and the shaft,

whereby the latter may be rotated upon a depression of the former, and means yieldingly acting to hold the shaft from rotation and with its pickets in an upright vertical position.

3. In a railway gate the combination with track-rails, of a depressible member mounted adjacent to the track-rails and adapted to be engaged by the wheel of a car, a shaft passing beneath the track-rails, pickets projecting from the shaft, means operatively connected between the depressible member and said shaft whereby the latter may be rotated upon a depression of the former, means for yieldingly holding the shaft in its normal position with the pickets vertical, and means thrown out of operation by the initial depression of said depressible member for holding said shaft from rotation.

4. In a railway gate, the combination with track-rails, a depressible member mounted adjacent to the track-rails adapted to be engaged by the wheels of a car, a shaft passing beneath the track-rails and having vertical pickets thereon, levers engaged by said depressible member, a hanger upon which said levers rest, means on the hanger engaging the shaft to rotate the latter upon a depression of the former, a yielding member interposed between the hanger and said levers, and a locking member supported upon said yielding member and acting to lock the shaft in its normal position.

5. In a railway gate, the combination with track-rails, normally extending oppositely disposed depressible members mounted adjacent to the track-rails, oppositely disposed pairs of levers located beneath the track-rails and overlapping each other, said depressible members being sup-

ported on said levers, a cross-bar on which the ends of said levers are supported, a hanger beneath the cross-bar, a spring interposed between the hanger and the cross-bar, a shaft extending beneath the tracks, pickets projecting from shaft, a connection between the hanger and the shaft whereby the latter may be rotated upon a depression of the former, means for holding the shaft in a normal position, a locking lever resting upon said cross-bar and having a transversely notched upper face, and a stud projecting downward from the shaft when in a normal position and adapted to be engaged by the notch in said lever.

6. In a railway gate, track-rails, longitudinally disposed bars located inside the track-rails, a cross-bar connecting said longitudinal bars, inclined members extending from the ends of the longitudinal bars to the track bed, a transverse shaft extending beneath the rails and having pickets projecting therefrom, means for holding said shaft with its pickets in a vertical position, oppositely disposed pairs of levers pivoted at their outer ends and extending downward and toward each other beneath the shaft, said levers supporting said depressible track-sections, a transverse bar upon which the levers are supported, a hanger recessed upon its upper face in which said bar is mounted a spring interposed between the hanger and bar, arms projecting from the shaft, and links extending between said arms and said hanger.

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

GEORGE BARR. [L. S.]

Witnesses:

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E. KANE.