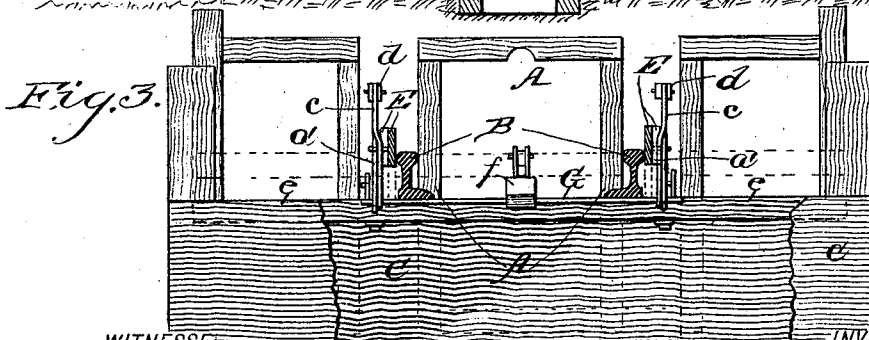
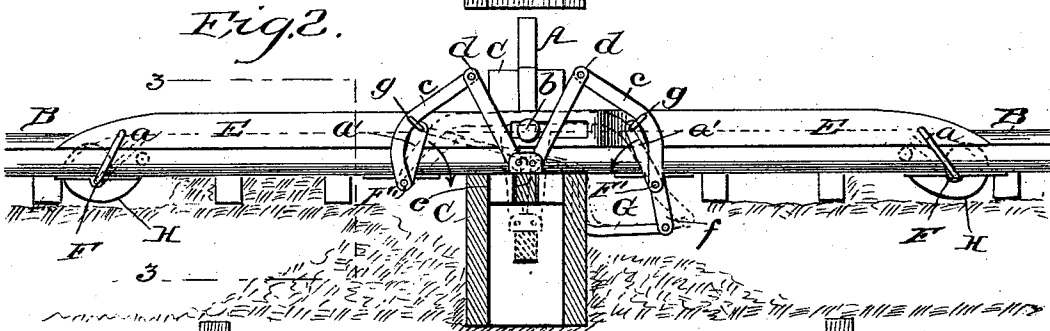
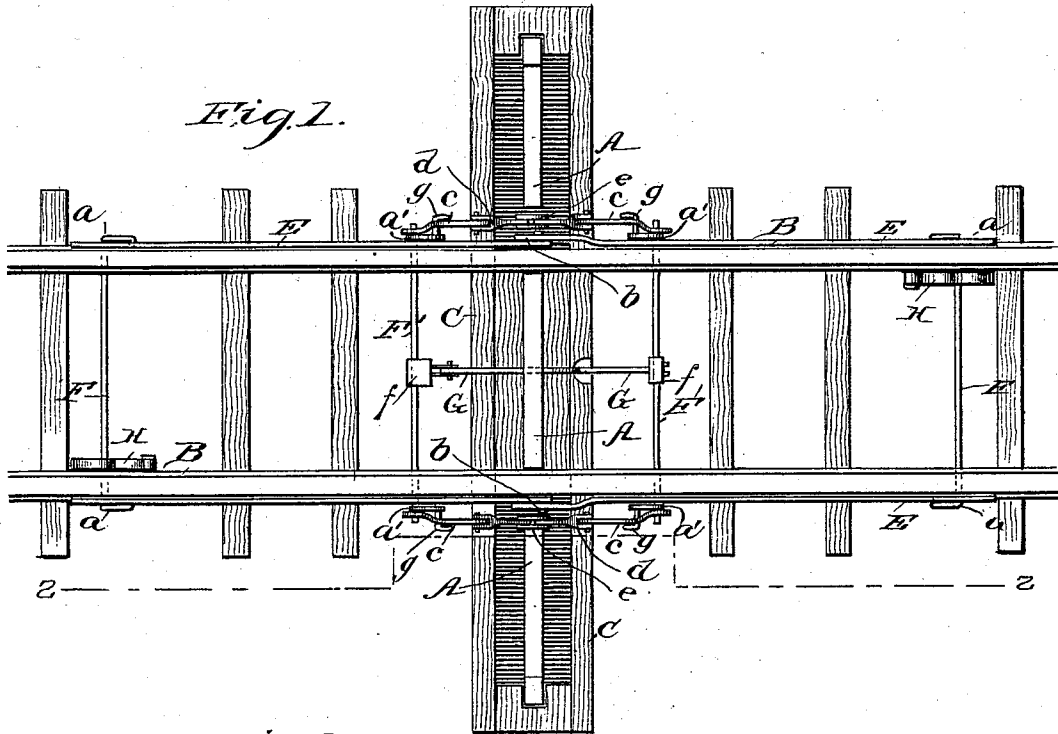


(No Model.)

A. J. GWIN.
RAILROAD CATTLE GUARD.

No. 527,684.

Patented Oct. 16, 1894.



WITNESSES: Fred G. Detouch, Amos M. Hart
INVENTOR: Andrew J. Gwin.
BY: [Signature]
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ANDREW J. GWIN, OF MINDEN, LOUISIANA, ASSIGNOR OF ONE-HALF TO
JAMES F. HILL, OF SAME PLACE.

RAILROAD CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 527,684, dated October 16, 1894.

Application filed February 17, 1894. Serial No. 500,488. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. GWIN, of Minden, in the parish of Webster and State of Louisiana, have invented a new and Improved Railroad Cattle-Guard, of which the following is a specification.

My invention is an improvement in that class of railway gates which serve as guards for preventing cattle from passing along the track. It is more particularly an improvement in gates which are operated by means of levers connected with short movable rails arranged alongside the traffic rails so as to be depressed by the wheels of a locomotive. In most cases, such movable rails have been adapted to operate in a vertical plane, but without longitudinal movement. This arrangement is objectionable, since said rails do not yield readily when the pilot wheels of a locomotive strike them, and, hence, the mechanism which connects said rails and the gate, is liable to be deranged, and the speed of the train must be reduced more than would be necessary if the said movable rails were adapted to move longitudinally.

I have devised a gate-operating mechanism in which the movable rails have such movement, and are connected with the vertically-sliding gate by an improved mechanism, as hereinafter described.

In the accompanying drawings Figure 1 is a plan view of my invention applied to a railroad track. Fig. 2 is a section on the line 2-2, Fig. 1. Fig. 3 is a cross section on the line 3-3, Fig. 2.

The guard or gate A, is arranged transversely of the track B, in the usual way, and adapted to slide vertically in a box C, having suitable vertical guideways. The gate A, has three parts or divisions, which, when the gate is elevated, cut off passage along the track B, between the rails, also on each side of the same. The gate is held elevated by means of springs appended to shafts F, F', as hereinafter described. The movable rails E, are arranged on the outer sides of the traffic rails B, and normally project some inches above the latter being supported by and pivoted to crank arms *a*, *a'*, which are fixed on the ends of rock shafts F, F', arranged transversely beneath the traffic rails. Two sets of

movable rails E, are employed, one on each side of the gate A, and the inner ends of the rails E, on each side are lapped and loosely secured together, at *b*, by a rivet working in a lengthwise slot. The outer ends of the rails E, are beveled on the upper side, to enable the locomotive wheels to pass easily on to them.

The means for connecting the movable rails E, with the gate A, consist of curved levers *c*, and connecting rods or bars *d*. The said levers are mounted loose on the inner rock shafts F', and the rods *d*, are pivoted at their respective ends to the upper ends of said levers *c*, and to the lower portion of the gate. The two inner rock shafts F', are connected by a rod G, (Figs. 1 and 2) arranged between the rails B, and pivoted to arms *f* that are keyed on the rock shafts F', and project vertically in opposite directions. Thus the said rock shafts F, and F', are caused to rotate simultaneously although in opposite directions, so that the curved levers *c*, of each shaft act together to raise the gate. To this end, the said levers rest on pins *g*, which project laterally from the ends of arms *a'*, which are keyed on the shafts F'. From this relation of parts it is apparent that when the shafts F' rotate in the direction of the arrows, Fig. 2, the arms *a'*, will be carried down, and the levers *c*, being then unsupported by the pins follow and allow the gate to drop by its own gravity.

The rails E and also the gate A are held elevated by means of the revolutes or coiled springs H, applied to the outer crank shafts F. One end of each spring H is secured to a shaft F, and the other end to the adjacent track sleeper. The tension of the springs tends to rotate the shafts F outward, or from each other, so that their arms *a*, are held normally elevated as shown in full lines.

It is evident that the arms *a*, of the inner crank shafts F' will be held similarly elevated by reason of their connection with the rails E. Thus the arms *a*, *a'*, support the rails as shown.

From the foregoing description it will be apparent the operation of the gate or guard is as follows: When a locomotive approaches the guard from either direction, its pilot wheels strike the beveled ends of the mov-

able rails and push them forward and press them downward simultaneously, whereby all the rock shafts are rotated a portion of a revolution, and the arms a' , of the inner rock shafts F' , are thrown forward and downward so that the gate drops until its top surface is below or flush with the traffic rails B , as shown by dotted lines Fig. 3. While the train is passing the movable rails E are held depressed and consequently the gate remains lowered, but so soon as the train has passed off the movable rails on the opposite side of the gate, the latter is raised by the action of the springs which rotate the shafts F , F' , and thus raise the arms a' , of the inner shafts F' , whose pins g in turn raise the levers c and thereby the gate also to the position shown in full lines.

It will be seen that the adaptation of the rails E to move lengthwise when struck by the locomotive wheels, tends to obviate danger of injury to the crank and rod connections between the rails and gate, since the shock of contact of the wheels with the rails is much slighter than would be the case if the rails were adapted for vertical movement only, and hence a train may pass onto the rails at a greater rate of speed and will cause the gate to lower more quickly in the one case than in the other.

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

1. The combination with traffic rails, and a gate arranged at a right angle thereto and adapted to slide vertically, of the movable rails alongside the traffic rails, two rock shafts having two sets of arms pivoted to said movable rails, the inner arms being fixed on the inner rock-shafts, levers which connect the

latter with the gate, and devices for connecting such arms and levers, for raising the gate, as shown and described.

2. The combination with the traffic rails, the vertically slidable gate, the rock shafts F , F' , having arms a , a' , movable rails supported by the latter, the links d , and levers c , pivoted loose on arms a' , pins g , which project from the latter and bear against said levers, and springs for holding the shafts and movable rails in normal position as shown and described.

3. The combination with the vertically sliding gate, or guard, of transverse rock shafts, crank arms fixed on the latter and having lateral pins, and movable rails supported on said pins, levers mounted loose on the inner rock shafts, and rods connecting them with the gate, as shown and described, whereby the movable rails have a compound horizontal and vertical movement, and when depressed allow the gate to drop but elevate the same when rotated to normal position, as shown and described.

4. The combination with the vertically sliding gate, and movable rails arranged alongside the traffic rails and having a sliding connection at their inner ends, of the two sets of rock shafts provided with crank arms which are pivoted to said rails, the inner crank-arms being provided with lateral pins; the levers pivoted on the inner shafts; and rods or links d , which pivotally connect the said levers with the gate, as shown and described.

ANDREW J. GWIN.

Witnesses:

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E. E. SULLIVAN.