

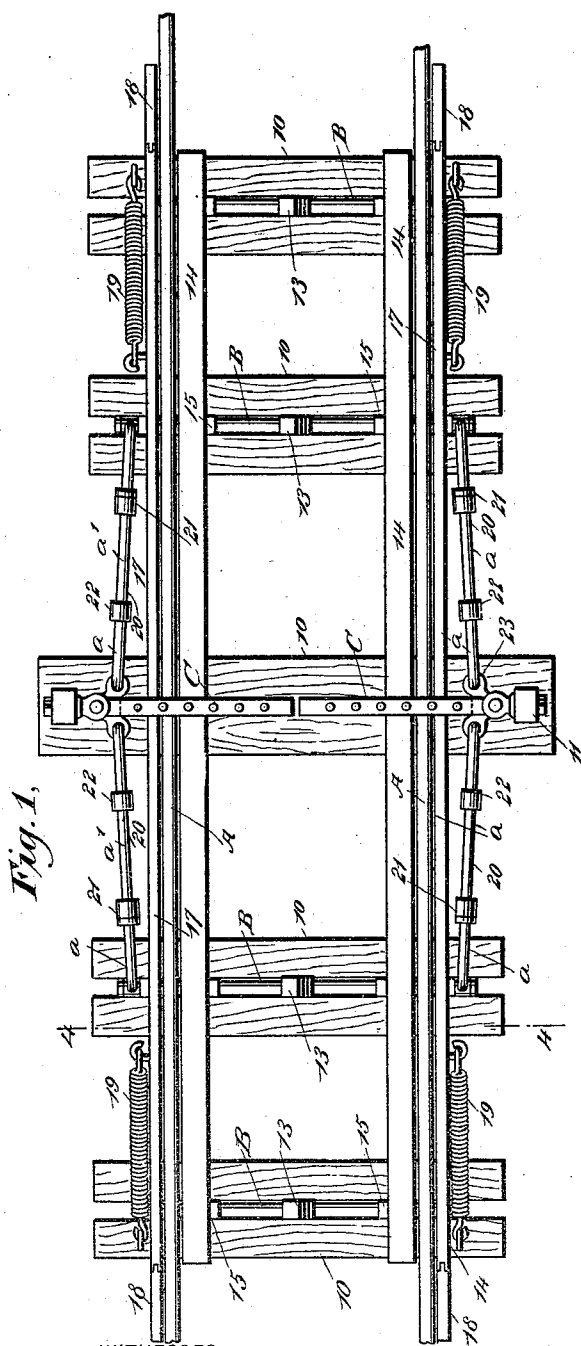
(No Model.)

2 Sheets—Sheet 1.

E. PRESTON.
RAILROAD CROSSING GATE.

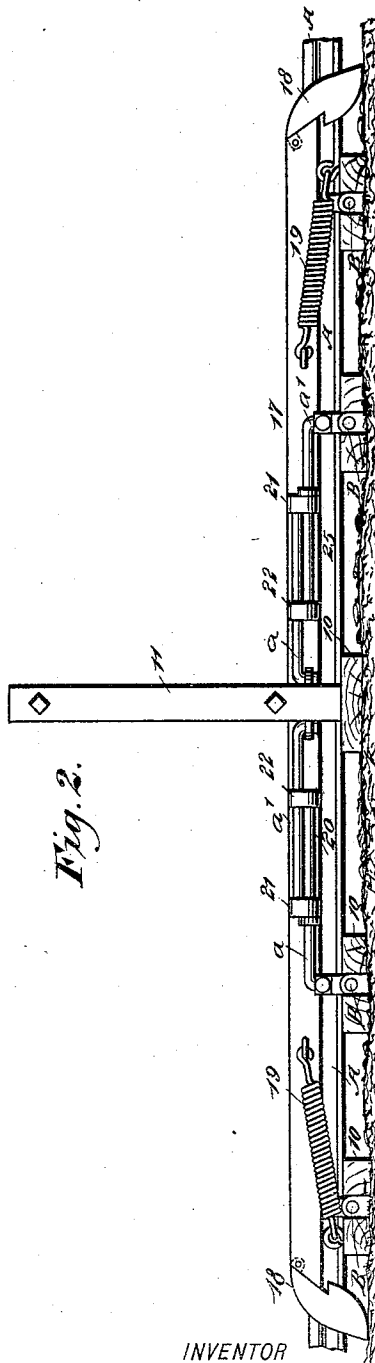
No. 549,463.

Patented Nov. 5, 1895.



WITNESSES:

Edward Thorpe.
J. Fred Aker.



INVENTOR

E. Preston

BY

Mum + Co

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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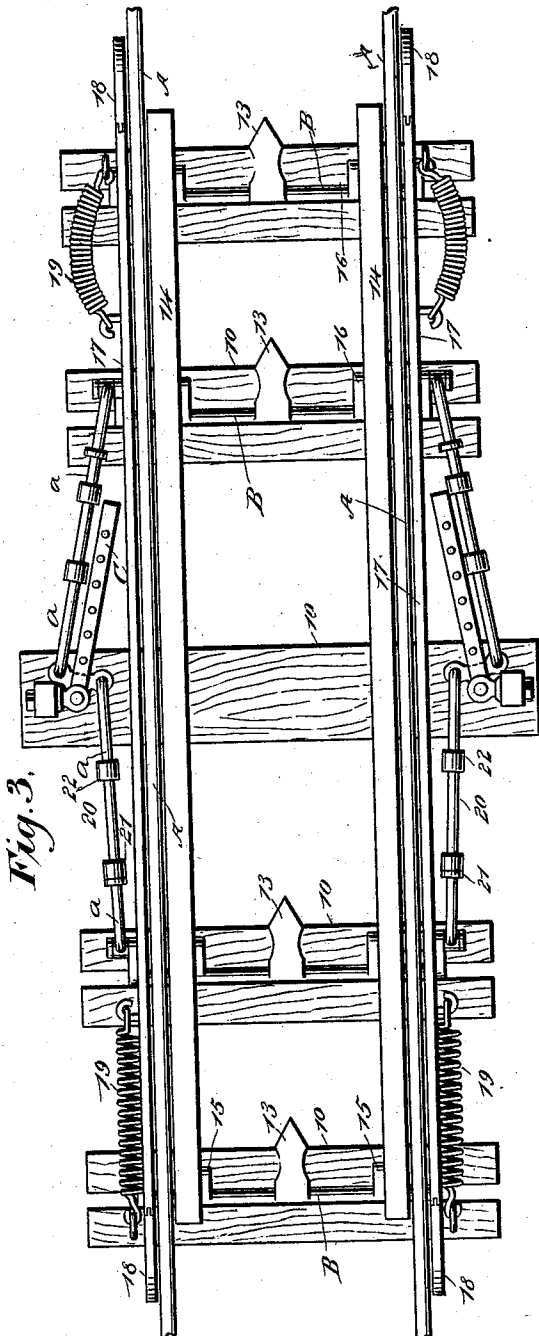


Fig. 3.

WITNESSES:

Edward Thorpe
And. Acker

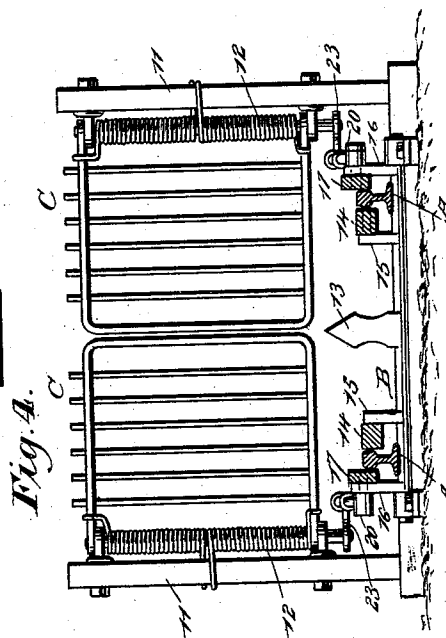


Fig. 4.

INVENTOR

E. Preston

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ELLIOTT PRESTON, OF STURGEON, MISSOURI.

RAILROAD-CROSSING GATE.

SPECIFICATION forming part of Letters Patent No. 549,463, dated November 5, 1895.

Application filed May 23, 1895. Serial No. 550,427. (No model.)

To all whom it may concern:

Be it known that I, ELLIOTT PRESTON, of Sturgeon, in the county of Boone and State of Missouri, have invented a new and Improved Railroad-Crossing Gate, of which the following is a full, clear, and exact description.

My invention relates to an improvement in railway-crossing gates; and it has for its object to provide a gate which will effectually prevent stock from crossing the road, and yet which will not offer any obstruction to the passage of a train, and the object of the invention is to provide a means for controlling the said railway-gates from the train and considerably in advance of the train reaching the gate either up or down the track.

A further object of the invention is to provide a railway-crossing gate which will be exceedingly simple, durable, and economic in its construction.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improved railway-gate, the gates being in closed position. Fig. 2 is a side elevation of the gate and the track adjacent thereto. Fig. 3 is a plan view of the track and the gates, the gates being shown in an open position; and Fig. 4 is a transverse section through the rails of a track, the gates being in elevation and in a closed position.

In carrying out the invention the rails A of the track are laid upon the usual ties 10, and at each side of a predetermined tie the said ties are made in two sections or are grooved longitudinally to receive each a crank-shaft B, and upon the tie at each side of which the crank-shafts are placed uprights 11 are secured, and the said uprights are adapted to carry gates C, which close, normally, over the track, forming a barrier to the passage of stock or of individuals up or down the track, the gates being adapted to be opened by the action of a passing train.

Each gate is provided with a spring 12, of any approved construction, the said springs

being so placed on the gates as to normally hold them closed, as shown in Figs. 1 and 4, and each of the crank-shafts B is provided at its center or between the rails of the track with an upright arm 13, preferably pointed at the top or upper end, which arms serve to insure the opening of the gates in the proper direction either by the approaching pilot of the engine or the brake bar or beam on a car.

At the inner side of each rail of the track A a bar 14 is located parallel with the rail, and these bars are secured in any approved manner to crank-arms 15, which are projected upward from the shafts B, as shown in Fig. 4, and the said shafts are further provided with crank-arms 16, which project upward at the outside of the rails of the track, as is likewise shown in Fig. 4, and these latter arms 16 serve to support a second bar 17, likewise parallel with the rails of the track. The inner bars 14 are adapted to be engaged by the flanges of the wheels of the engine and the cars of the train, while the outer bars 17 are pressed downward by the tread of the said wheels, and while both of these bars are actuated in order to operate the rock-shafts B, in the event that one bar only should be depressed the shafts would operate equally as well, the bars being provided at each side of the rail in order to insure the operation of the device.

The outer bars 17 are provided at their extremities with shoes 18, and these shoes are more or less convexed or curved upon their upper faces, being pivotally attached or hinged to the said rails, so that the tread of the wheels of the engine and cars will gradually ascend the shoes 18, in order that they may positively travel over and depress the said outer bars 17. The shoes 18 may be of any given length and be hinged to the bar 17 at one end, the other end of said shoe being depressed, thereby forming a gradual incline on which the wheels of the engine or cars ascend and depress said outer bar 17.

The outer bars 17 have attached thereto at or near each end at their outer faces one extremity of a spring 19, and the said springs at their other ends are secured to a convenient tie, the springs being made to incline upwardly and inwardly in direction of the gates. The crank-shafts B at each side of the gate

are provided at each end with a pitman or connecting-rod 20, and these rods are preferably made in two sections *a* and *a'*, having sliding engagements with one another, their movement being limited both forward and rearward by means of stops 21 and 22, and the opposing ends of the said pitmen or connecting-rods 20 are pivotally attached to an angled lever 23, secured one to the pivot-post of each of the gates C. Therefore, in operation, when a train is approaching a gate from either the up or the down portion of the track and as soon as the wheels strike either the inner or the outer bars 14 and 17 the rock-shafts will be rotated in direction of the gates and the gates will be forced open through the medium of the connecting-rods or pitmen 20, the upper sections of the pitmen at the sides of the gates at which the train is approaching having bearing against the stops 22, the sections of the opposing pitmen having movement upon each other, and consequently the gates will be forced open in advance of the train and held open until the train has passed between them, at which time the springs 19 will restore the rock-shafts to their normal position and will assist the springs 12 of the gates in closing the same, since in each operation of the track-bars 14 and 17 the springs 19 at one side of the gates will be expanded and the springs at the other side depressed, as illustrated in Fig. 3.

This device is exceedingly simple, durable, and economic, and is applicable to any railway. It will be an efficient barrier for cattle, preventing them from traveling along the track, and at the same time the railway-gate will offer no resistance to the passage of a train traveling in either direction.

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

1. The combination with a railway track, of gates mounted to swing over the track being normally closed or in transverse alignment, rock shafts journaled beneath the rails of the track, the said rock shafts being provided with upwardly projecting crank arms, bars secured to the said crank arms and adapted to be depressed by the wheels of a passing train, connecting rods uniting the said rock shafts with the said gates whereby the gates will be opened when the bars are depressed to admit of the passage of a train, and springs connected to the said bars and to a fixed support for restoring the rock shafts to their normal position, as and for the purpose specified.

2. The combination, with the rails of a track, gates held to swing across the said track, being normally held in a closed position, rock shafts provided with spurs located between the rails of the track, the rock shafts being journaled beneath the said rails, of bars carried by the said shafts, parallel with

the rails and adapted to be depressed by the wheels of a passing train, sectional connecting rods uniting the pivots of the gate with adjacent rock shafts, the sections of the said rod having sliding movement one on the other, and means, substantially as described, for restoring the bars pressed by the said wheels to their normal position and closing the said gates, as and for the purpose set forth.

3. The combination with the rails of a railway track, of rock shafts journaled beneath the said rails, bars attached to crank arms on said rock shafts, the said bars being located parallel with and at opposite sides of the rails, gates normally located over the said track, and connecting rods formed in sections having sliding movement upon each other, and connecting the rock shafts and the said gates, whereby the gates are opened when the bars are depressed, as and for the purpose specified.

4. The combination, with the rails of a track and rock shafts provided with crank arms journaled beneath the tread of the said rails, of spring-controlled gates extending across the track, being normally in a closed position, trip bars connected with the crank arms of the said rock shafts located at each side of the rails and parallel therewith, sectional connecting rods connecting the adjacent rock shafts with the pivots of the said gates, the sections of the rods having sliding movement upon each other, and springs attached to fixed supports and to one of the said bars, one set of springs being contracted and the other set expanded under the operation of the bars, as and for the purpose set forth.

5. The combination, with the rails of a railway track, rock shafts journaled beneath the tread of the said rails and provided with extensions between the said rails normally upwardly inclined, and crank arms at each side of the said extensions, gates extending across the said track, and springs normally closing the said gates, of bars located parallel with each rail, one at its outer and the other at its inner side, the inner bars being adapted to be engaged by the flange of the wheels of a passing train and the outer bars by the tread of the said wheels, shoes connected with the ends of the outer bars, having the inclined edge presented to the wheels of a passing train, collapsible connecting bars connected with the pivot points of the gates and with the said shafts, and springs connected with the said bars, normally holding them raised and adapted to return them to their normal position, as and for the purpose set forth.

ELLIOTT PRESTON.

Witnesses:

J. M. MATTENLEE,
A. W. CANADA.