

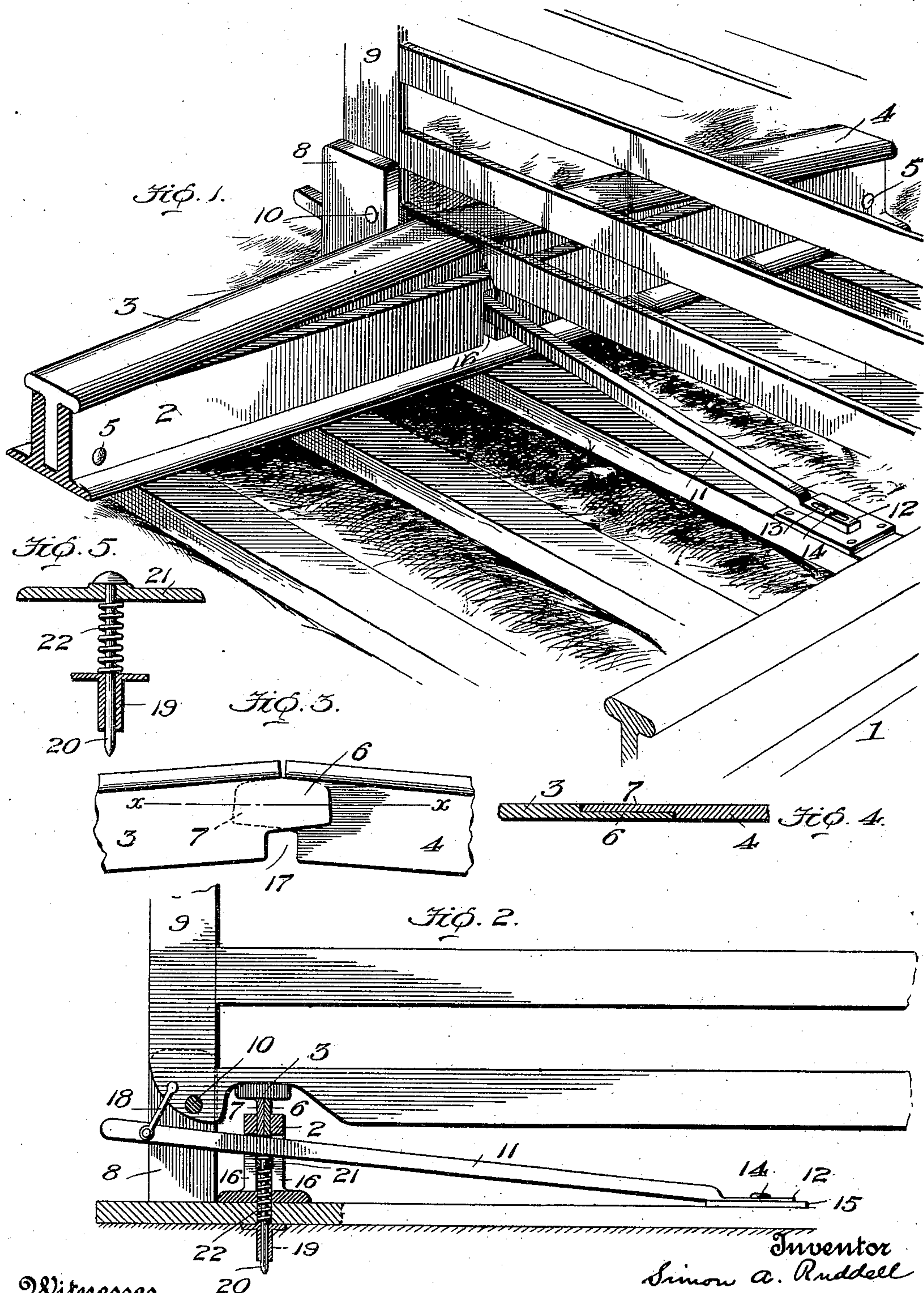
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Patented Oct. 29, 1901.

S. A. RUDELL.  
CATTLE GUARD FOR RAILWAYS.

(Application filed Mar. 11, 1901.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

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## CATTLE-GUARD FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 685,693, dated October 29, 1901.

Application filed March 11, 1901. Serial No. 50,671. (No model.)

*To all whom it may concern:*

Be it known that I, SIMON A. RUDDELL, a citizen of the United States, residing at Batesville, county of Independence, State of Arkansas, have invented certain new and useful Improvements in Cattle-Guards for Railways, of which the following is a specification.

My invention relates to cattle-guards for railways.

10 The object of the present invention is the provision of a cattle-guard which will be of few parts, all of strong and durable construction, and adapted for positive and easy action, whereby the device will be adapted to satisfactorily withstand the jar and strains to which it will be subjected by repeated operation.

15 The invention contemplates the provision of a cattle-guard of novel construction which will be operated by a tread-rail on the approach of the train and automatically thrown upward and out of the way and afterward automatically returned to closed position by the action of the mechanisms constituting its component parts.

25 The invention consists of an automatic cattle-guard comprising certain improved features and novel combinations of parts, more fully set forth hereinafter.

30 In the accompanying drawings, Figure 1 is a perspective view showing the application of the invention, the gate being shown in its normal lowered position; Fig. 2, a front elevation with certain parts in section, the gate being in lowered position; Fig. 3, a detail of the tread-rail; Fig. 4, a section on line *xx* of Fig. 3, and Fig. 5 a detail view of the parts for returning the gate to lowered position after it has been raised by a passing train.

40 At the point where the cattle-guard is located one of the rails, 1, is of the ordinary form, but the other rail, 2, is made with a double web, constituting a box-like structure, in which are located the tread-rails 3 and 4, which operate the guard or gate, said rails being pivoted at 5 at their ends farthest from the gate, while their inner ends are provided with tongues 6 and 7, which are overlapped and cut away, as more clearly shown in Figs. 3 and 4, and are free to move up and down, guided by the webs of the rail or box 2. At the outer side of the rail 2 is a short post 8, to

which the gate 9 is pivoted at 10, so that it can swing upward and assume a vertical position on the approach of a train.

55 Numeral 11 designates an operating-bar, which is provided with a foot 12, having a slot 13, in which loosely plays a bolt 14, passing into a bed-plate 15, on which the foot is adapted to slide. The bar extends through a slot 16 in the webs of the rail 2 and through the notch 17 between the ends of the tread-rails 3 and 4 and under the portions 6 and 7. A link 18 connects the end of the bar with the gate on the side of its fulcrum or pivot 10 opposite the rail, so that depression of the bar 11 will cause the gate to be swung upwardly. Such a depression of the bar is brought about by the weight of the train on the tread-rails 3 and 4, (which can be of any desired length,) as said tread-rails will bear down on the bar when depressed, the foot 12 of the bar meanwhile sliding on the bed-plate to a slight extent.

Below the tie or sleeper is located a guide-box 19, in which works a vertical push-bolt 20, carrying a cross-piece 21 at its upper end under its head, said cross-piece extending at right angles to the bar 11 and supporting it and being guided in its vertical movements by the two webs of the rail 2. A stout coil-spring 22 is interposed between the guide-box 19 and the cross-piece of head 21 and exerts a strong tendency to hold the push-bolt and cross-piece elevated and the bar 11 pushed up to the top of the slots 16 and to maintain the tread-rails in raised position. The pressure of this spring is conveyed through the rigid bar 11 and rigid link 18 to the gate or guard, whereby the latter is held normally down across the track.

95 The gate being normally down and across the track, on the approach of a train from either direction and the depression of the tread-rails the operating-bar will be forced downward against the action of the spring and the gate jerked up to a vertical position, where it will remain until the train has passed off the tread-rails, whereupon the spring will force the operating-bar up, which through the medium of the link will force the gate down to its horizontal position, assisted by the weight of the gate itself. During these movements the tread-rails are guided and



prevented from becoming displaced by the double-webbed construction of the rail 2, while the overlapping arrangement of the parts 6 and 7 insures the downward movement of both tread-rails simultaneously and an even pressure between the operating-bar and them, and at the same time the provision of the cross-piece 21 absolutely prevents displacement of the push-bolt from under the operating-bar and insures the guiding of the said push-bolt. The sliding movement of the foot 12 and the slight upward play at this point are provided for by the slot-and-bolt action.

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

1. In a cattle-guard, the combination with a pivoted, vertical swinging gate, of a track-rail having a double web, tread-rails having their webs lying between the webs of the track-rail and pivoted thereto, said tread-rails having overlapping projections at their contiguous ends, a vertically-movable operating-bar playing in a transverse slot in the webs of the track-rail and supporting the projecting, overlapping ends of the tread-rails, a link connecting said operating-bar to the gate, and a spring mechanism for holding the operating-bar normally raised.

2. In a cattle-guard, the combination with a track-rail having a double web, of guard-rails having their webs lying between its parts and pivoted thereto, an operating-bar extending transversely through the track-rail and movable vertically and supporting the contiguous ends of the tread-rails, a vertically-movable push-bolt between the webs of the track-rail, a cross head or piece on the

bolt, extending lengthwise of the track-rail and guided by the webs thereof, a spring for holding said push-bolt normally raised, whereby the operating-bar and tread-rails are held up, a pivoted gate and a link connecting said gate with the operating-bar.

3. The herein-described cattle-guard, comprising a track-rail having a double web; tread-rails having their webs located between the webs of the track-rail and pivoted thereto, but free at their contiguous ends and there provided with projecting, overlapping portions, an operating-bar extending transversely through the track-rail and supporting the overlapping ends of the tread-rails, a pivoted vertically-moving gate, a link connecting the gate with one end of the operating-bar, the other end of said operating-bar being provided with a foot having a slot, a bed-plate on which the foot rests, a bolt passing loosely through the slot and into the bed-plate, whereby the foot can slide, a gate, a push-bolt slidable vertically in said guide and up between the webs of the track-rail and under the operating-bar, a cross head or piece on said push-bolt which is disposed at right angles to the operating-bar and is movable between and guided by the webs of the track-rail, and a coil-spring surrounding the push-bolt and keeping the same normally urged upward, whereby the gate is maintained in lowered position.

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

SIMON A. RUDELL.

Witnesses:

HERMAN SCHOTT,  
J. RICH.