

Gate for Railway-Crossing.

Fig 1.

Fig 2.

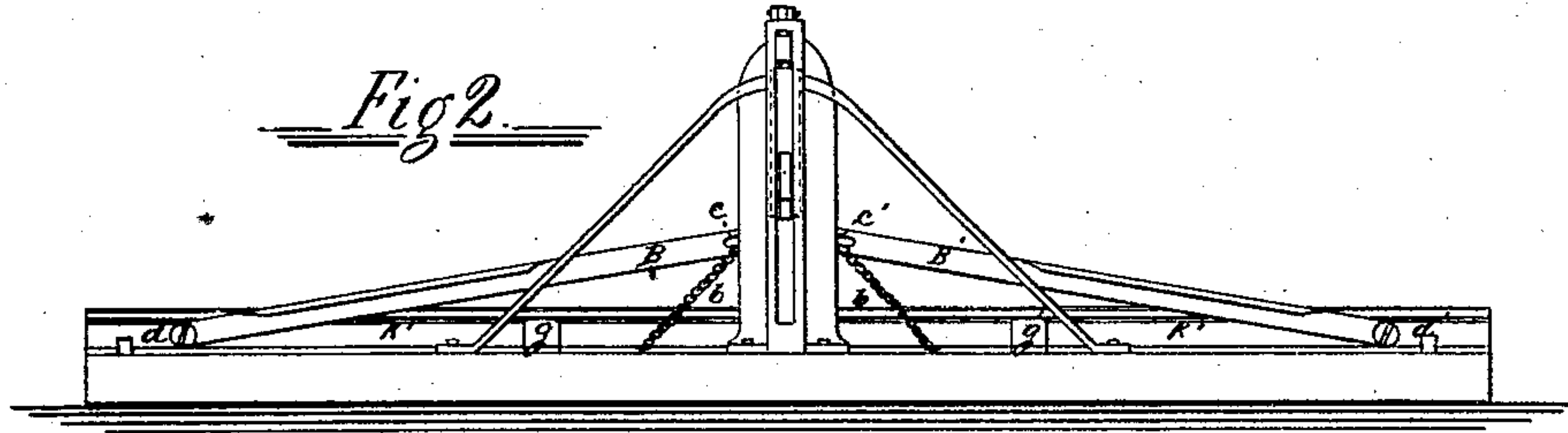
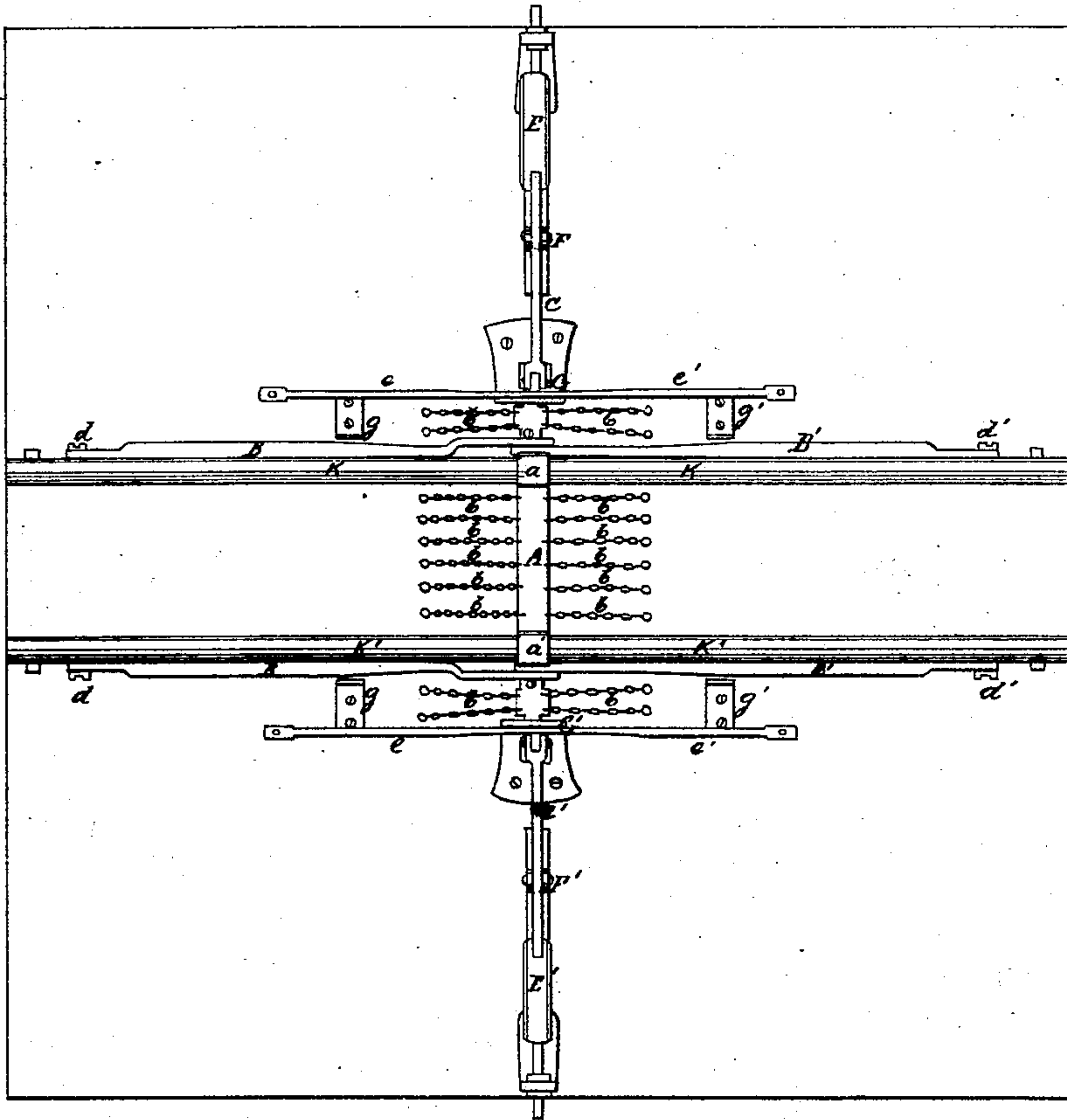


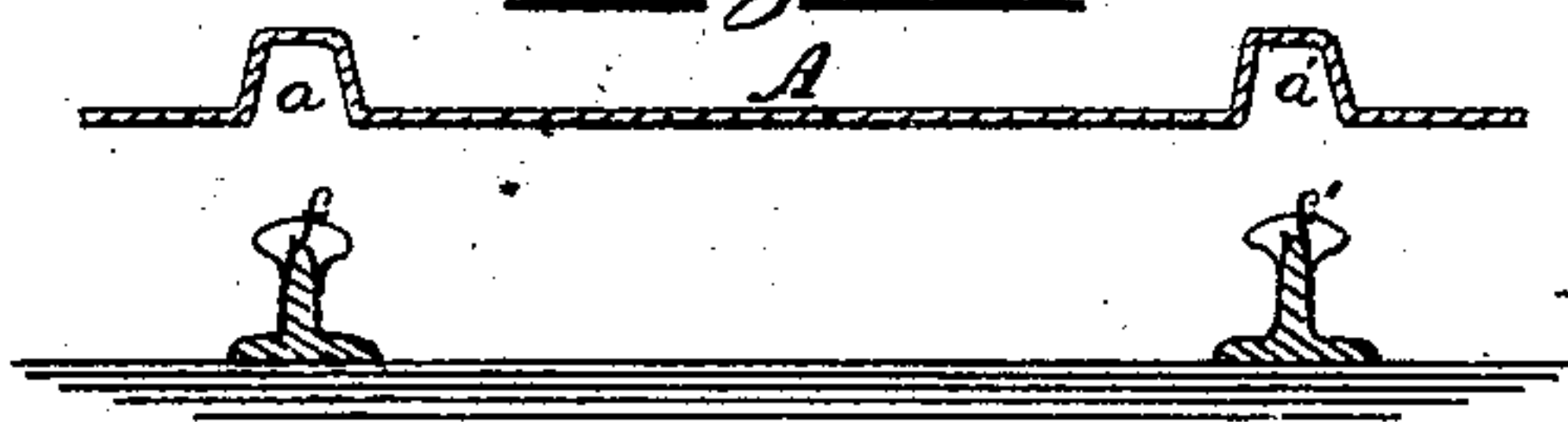
Fig 3.



Witnesses.

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Fig 4.



Inventor

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UNITED STATES PATENT OFFICE

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IMPROVEMENT IN GATES FOR RAILWAY-CROSSINGS.

Specification forming part of Letters Patent No. **160,166**, dated February 23, 1875; application filed October 9, 1874.

To all whom it may concern:

Be it known that I, SETH COX, of Oskaloosa, county of Mahaska, State of Iowa, have invented an Improved Cattle-Guard for Railways, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same.

My invention relates to a cattle-guard for railway-tracks, consisting of a bar of iron or other suitable material placed across the tracks, from which bar chains fastened thereto extend to and are secured at the level of the road, and which said bar, with said chains, is held in position as a guard by means of weighted levers, and is depressed to the level of the rails by the action of the wheels of the cars upon other suitably-constructed levers in such a manner as to allow trains to pass freely over it.

Figure 1 is a front elevation of my invention, showing the cross-bar elevated as a guard. Fig. 2 is a side elevation of the same. Fig. 3 is a plan of my invention.

A is the cross-bar or guard, placed above the rails K K', having the chains *b b* fastened to it on both sides, as shown, extending to and secured at the level of the road-bed, and being held in position above the rails by means of the weighted levers C and C', which are connected with the cross-bar by the rods D and D'. The cross-bar A is bent into the form shown at *a a'*, Fig. 1, and the face of the rails K K' is cut away, as shown at *f f'*, Fig. 4, so that when the guard is depressed the bent portions *a a'* of the cross-bar A fit closely upon the rails K K', and the top of the bent portions of the cross-bar A forms part of the face of the rails. The cross-bar A is held in position by, and moves in slots in, the guide-posts G and G', through which it passes, which guide-posts are sustained by suitable braces *e* and *e'*. The levers C and C', weighted at E and E', are pivoted in the posts F and F', their short arms being attached to the cross-bar A by means of the rods D and D' working in pivoted joints, as shown, while their long arms, bearing the weights, extend through and move in slots in the guide-posts H and H', and are thus kept in place. In the upper part of the slots in the guide-posts H and H' are fixed cushions of rubber *x x'*, so that when the levers C and C'

are pulled downward by the action of a train passing over the guard, the ends of the weighted arms of the levers shall not strike a violent blow against the walls of the slots, and produce a fracture or other injury to the mechanism. B and B' are the long depressing-levers, by means of which the guard is lowered to the level of the track, there being two pairs of these levers, one pair on either side of the guard, and the levers of each pair being pivoted on the outside of the rails, as shown at *d* and *d'*, and extending to the cross-bar A, which passes through the slotted openings *c* and *c'* in the ends of the depressing-levers, as shown, which slotted openings permit the free motion of the levers in depressing the guard. The levers B and B' are fitted closely to the outer side of the rails, and their upper surfaces are broadened from a short distance in advance of where the levers are pivoted to the rails, and finished with faces similar to the faces of the rails, so that the tread of the car-wheels of a passing train strike these faces of the depressing-levers somewhat in advance of where the levers are pivoted, and, thus acting upon the levers, lower the guard. The guide-plates *g* and *g'*, which assist in holding the depressing-levers in place when the guard is lowered, are placed upon the road-bed at the outer side of the rails, as shown, and at such a distance from the rails as will allow the lower part or bodies of the depressing-levers to pass not too snugly between the said guide-plates and the rails. At the point of contact, when the guard is lowered, between the bent portions *a* and *a'* of the cross-bar A and the rails K and K', the rails are cut away in the form of a blunt wedge shape, as shown at *f* and *f'*, Fig. 4, so that any snow or ice, or other similar substance, which may collect in the said notches in the rails will be readily crushed off by the action of the bar A.

Now, it is evident, when the guard is in the position shown in Fig. 1, the cross-bar A being held in place above the rails by means of the weighted levers C and C', and the chains *b* extending from the bar A to the road-bed being thus drawn up to form a barrier between and across the rails, that cattle cannot pass along the line of the rails; and it is also evident that, upon the approach of a train from

either direction, the wheels of the cars, passing onto the faces of the long depressing-levers B or B', will cause the guard to be gradually lowered, until the cross-bar A falls below the level of the rails, the bent portions *a* and *a'* fitting into the notches *f* and *f'* in the rails, the surface of the cross-bar A, at the bent portions *a* and *a'*, becoming a portion of the face of the rails, and forming a continuous and unimpeded track for the passage of the train; and when all the cars have passed over the entire length of the two pairs of depressing-levers B and B', the cross-bar A, with its chains *b*, by means of the weighted levers C and C', will be again elevated into the position shown in Fig. 1, and become a barrier to cattle passing along the track.

I do not desire to confine the length of the depressing-levers B and B' to the proportions shown in the drawings; but they may be made of any required length, and should be at least of a length greater than the distances between the trucks or sets of wheels of the cars in use upon the railway.

Instead of the weights E and E' operating the levers C and C', as shown in the drawings, springs acting upon the said levers by a suitable mechanism may be employed.

Instead of chains *b b b*, may be used bars of suitable material attached, free to move, at

the level of the road-bed, and extending to and connected with the bar A in such a manner as to be free to pass longitudinally through slots or staples in bar A as it descends.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the track of a railway, having the face of the rails K and K' cut away to form the wedge-shaped notches *f* and *f'*, of the cross-bar A, working in the slotted guide-posts G and G', with its curved or bent portions *a* and *a'* arranged to fit into the notches *f* and *f'*, so as to form part of the faces of the rails K and K'; the chains *b b b*, as shown; the levers C and C', with their weights E and E', and connected with the cross-bar A by the rods D and D', and mounted on pivotal joints in the posts F and F'; the weighted arms working in the slotted guide-posts H and H', provided with cushions of rubber *x* and *x'*; the long depressing-levers B and B' B', with their slotted openings *c c* and *c' c'*; and the guide-plates *g g* and *g' g'*, all constructed, arranged, and operating substantially as and for the purpose specified.

SETH COX.

Witnesses:

L. H. HOLE,
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