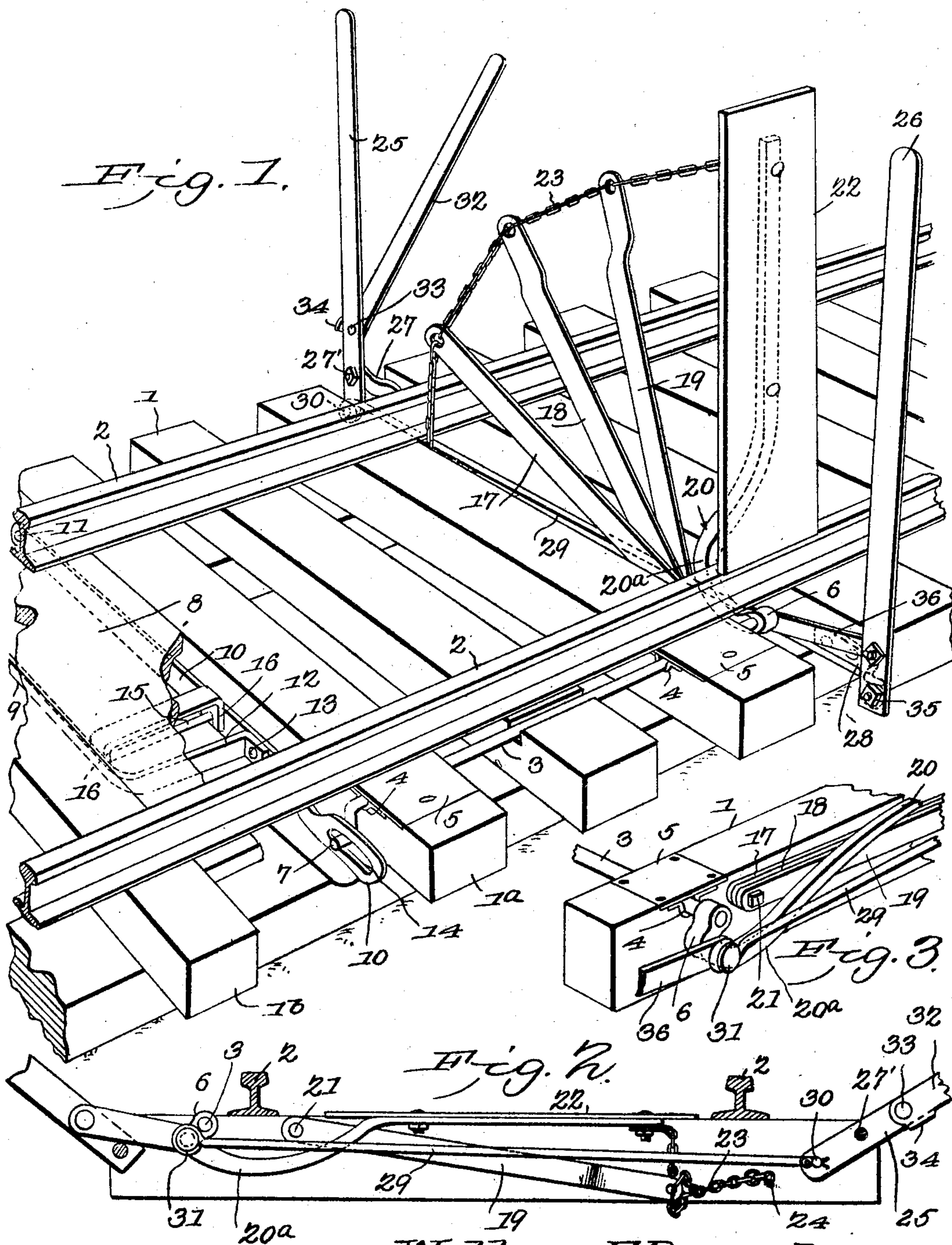


No. 795,586.

PATENTED JULY 25, 1905.

W. E. DEMENT.  
CATTLE GUARD.

APPLICATION FILED DEC. 22, 1904.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WALLACE E. DEMENT, OF BLAINE, WASHINGTON, ASSIGNOR OF ONE-HALF TO ARTHUR E. YEOMAN AND ONE-FOURTH TO DAVID N. PRENDERGAST, OF BLAINE, WASHINGTON.

## CATTLE-GUARD.

No. 795,586.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed December 22, 1904. Serial No. 238,018.

*To all whom it may concern:*

Be it known that I, WALLACE E. DEMENT, a citizen of the United States, residing at Blaine, in the county of Whatcom and State of Washington, have invented a new and useful Cattle-Guard, of which the following is a specification.

This invention relates to cattle-guards, and has for its object to provide an improved device of this character capable of being conveniently mounted in connection with a railway-track without altering the latter and which normally assumes a position out of the path of traffic over the road-bed.

A further object of the invention is to effect a quick elevation of the guard into a position to block the path of an animal along the road-bed as soon as the animal steps upon the trip-platform of the device.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view illustrating a cattle-guard of the present invention mounted in connection with a railway-track and shown in its elevated position, parts of the trip-platform being broken away to illustrate the mounting thereof. Fig. 2 is a cross-sectional view illustrating the position of the guard in its normal collapsed condition. Fig. 3 is a detail perspective view.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

To adequately illustrate the application and operation of the present invention, a portion of a railway-track, including cross-ties 1 and rails 2, has been shown in the accompanying drawings. At one side of the track and substantially parallel therewith there is a rock-shaft 3, which is let into the upper faces of the projected end portions of the ties and mounted therein in suitable bearings 4, which are covered by plates 5, spiked or otherwise

secured to the ties, so as to prevent displacement of the rock-shaft. This shaft is provided at its rear end with a crank 6 and at its forward end with a double crank 7, each of the cranks working between adjacent cross-ties. At the front end of the rock-shaft one of the ties is omitted, so as to provide a comparatively wide interval between the adjacent ties to accommodate the trip-platform 8, which is designed to work vertically between the ties 1<sup>a</sup> and 1<sup>b</sup> with its opposite ends underlapping the rails. For the support of this platform there are two substantially parallel levers 9 and 10, which are terminally pivoted to the ties 1<sup>b</sup> and 1<sup>a</sup>, respectively, the pivotal support of the lever 10 being shown at 11, the other pivotal support being omitted for lack of space. The lever 9 has its free end terminated short of the free end of the other lever and extended laterally to form a cross-head 12, which is connected to the lever 10, as at 13, while the free end portion of the lever 10 is extended beneath the adjacent rail and provided with a longitudinal slot 14 receiving the double crank 7. In rear of the cross-head 12 there is a cross-bar 15 connected to the levers 9 and 10, and a pair of notched bearing members 16 depend from the under side of the trip-platform 8 and straddle the bar 15, whereby the trip-platform is supported by the levers and is intermediately pivoted or fulcrumed upon the cross-bar 15, whereby the weight of an animal upon the platform tends to swing the levers downwardly, and thereby actuate the double crank 7 to rock the shaft 3. It will here be explained that the pivotal supporting of the platform intermediate of its ends is an important feature of the present invention, for the reason that when weight is placed upon either end of the platform it immediately tilts upon the cross-bar 15 until its opposite end strikes the under side of the adjacent rail, whereupon said rail becomes the fulcrum-bearing of the platform, and the latter is depressed as quickly and positively as when the weight is applied at the middle of the platform.

The guard or obstruction of the present invention consists of a plurality of arms or members, (designated 17, 18, 19, and 20,) operating between the pairs of ties between which the crank 6 is located. The lower members 17, 18, and 19 are terminally ful-



crummed, as at 21 in Fig. 2 of the drawings, to the adjacent tie and adjacent the inner side of one of the rails of the track, the other arm 20 being longer than the first-mentioned arm and provided with a bowed extension 20<sup>a</sup> to extend beneath the adjacent rail and rigidly connected to the crank 6. As a matter of convenience the crank 6 and the extension 20<sup>a</sup> may be formed integral and have been so shown in the drawings. The arm or member 20 carries a plate 22 upon its upper side of a width to bear upon the upper faces of the adjacent ties and of a length to close the space between the ties and between the rails of the track in the collapsed and normal condition of the guard, thereby to house the latter against injury by traffic over the track. The free ends of the several arms or members of the guard are connected by a cable or like flexible connection 23, the lower extremity of the cable being connected to the adjacent tie, as at 24, so as to prevent the arms from being swung above predetermined limits under the momentum obtained when thrown upwardly by actuation of the trip-platform.

In addition to guarding and obstructing the space between the rails it is also proposed to provide a guard at each side of the track, and in carrying out this feature guard arms or members 25 and 26 are provided at opposite sides of the track and pivotally supported upon the respective brackets 27 and 28, carried by adjacent cross-ties. The arm 25 is pivoted upon the bracket 27, as at 27', at a point above its lower end, and to said lower end a throw-bar or connecting-rod 29 is pivotally connected, as at 30, the opposite end of the rod being pivoted to the crank 6, as indicated at 31, whereby the arm 25 is thrown simultaneously with the main portion of the guard. A supplemental arm 32 is terminally fulcrumed at its lower end upon the arm 25, as indicated at 33, so as to be thrown forwardly by momentum to close the space between the member 25 and the free ends of the members of the main guard, said arm 32 having a stop-shoulder or projection 34 to engage the back edge of the arm 25 and support the supplemental arm in its operative position at the desired inclination to the arm 25. At the opposite side of the track the arm 26 is terminally fulcrumed at its lower end, as at 35, upon the bracket 28, there being a link 36 connecting the arm with the crank 6, whereby said arm 26 is simultaneously thrown with the other members of the guard.

In its normal condition the main guard is collapsed or folded between the adjacent ties and is covered by the plate 22, the side members 25 and 26 of the guard being inclined outwardly from the track, so as not to obstruct traffic thereover. Should an animal step upon the trip-platform 8, the depression of the latter will turn the rock-shaft 3, where-

upon the members of the main guard will be quickly thrown upwardly and the members 25 and 26 swung inwardly to the elevated position shown in Fig. 1, thereby presenting an effective guard or obstruction in front of the animal to arrest further progress thereof along the track. Moreover, the sudden elevation of the guard tends to frighten the animal, which will naturally retreat from the track, whereupon the guard will automatically gravitate to its normal folded condition just as soon as the weight of the animal has been removed from the trip-platform.

From the foregoing description it will be understood that the present device is complete in itself and may be readily mounted in connection with a railway-track without cutting into the rails or otherwise altering the road-bed and when applied is housed against damage and does not interfere with traffic over the track. Moreover, when the device is active it presents an effective obstruction or barrier, which immediately gravitates to its normal folded condition when the animal leaves the track.

Having fully described the invention, what is claimed is—

1. In a cattle-guard, the combination of a plurality of vertically-swinging guard members, a cable loosely connecting the members with its lower end anchored to the road-bed, a vertically-movable trip-platform, and an operative connection between the platform and the guard members to swing the latter upwardly when the platform is depressed.

2. In a cattle-guard, the combination of a plurality of vertically-swinging members having a mutual pivotal support, a rock-shaft, another guard member carried by and movable with the rock-shaft, a cable loosely connecting the guard members and anchored to the road-bed, and a vertically-movable trip-platform operatively connected to the rock-shaft.

3. In a cattle-guard, a vertically-swinging guard member carrying a pivotal supplemental member capable of projection by momentum into an active position.

4. In a cattle-guard, a vertically-swinging guard member having a supplemental member pivoted thereon and capable of projection by momentum into an active position, and a stop carried by one of the members and engaged by the other to support the supplemental member in its active position.

5. In a cattle-guard, the combination of a vertically-swinging guard member, a supplemental member pivotally carried by the guard member and capable of being projected by momentum into an active position, a stop carried by one of the members for engagement by the other member to support the supplemental member in its active position, a rock-shaft, a connecting-rod between the rock-



shaft and the main guard member, and a vertically - movable trip - platform operatively connected to the rock-shaft.

6. In a cattle-guard, the combination of a vertically-swinging main guard operating between the rails of a railway-track, vertically-swinging side guards mounted at opposite sides of the track, a rock-shaft disposed in substantial parallelism with the rails of the track, a crank upon the rock-shaft, the said guard members being operatively connected to the crank, and a vertically-movable trip-platform connected to the rock-shaft.

7. The combination with a railway-track, of a movable cattle-guard, a lever disposed transversely beneath the rails of the track and fulcrumed at one end, an operative connection between the lever and the guard, and a vertically-movable trip-platform fulcrumed intermediate of its ends upon the lever with its end portions lying beneath the rails, each rail constituting a terminal fulcrum-bearing for the platform when the opposite end of the latter is depressed.

8. The combination with a railway-track, of a movable cattle-guard, a pair of levers disposed transversely beneath the track and fulcrumed at corresponding ends, a cross-bar connecting the levers, a vertically-movable platform having pendent bearings engaging the cross-bar with the opposite ends of the platform lying beneath the respective rails, and an operative connection between the platform and the guard, each rail constituting a

terminal fulcrum-bearing for the platform when its opposite end is depressed.

9. The combination with a railway-track, of a movable cattle-guard, a rock-shaft mounted longitudinally of the track and connected to the guard and also provided with a crank, a lever fulcrumed transversely beneath the rails with its free portion slotted and receiving the crank, and a trip-platform carried by the lever.

10. The combination with a railway-track, of a plurality of vertically-swinging guard members pivotally supported between a pair of ties, a rock-shaft disposed longitudinally of the track and provided at opposite ends with cranks, a guard member rigidly connected to one of the cranks, a cable connecting the free ends of the guard members and anchored to the road-bed, a lever disposed transversely beneath the rails of the track and connected to the other crank of the rock-shaft, and a trip-platform intermediately fulcrumed upon the lever with its opposite ends lying beneath the rails, each rail constituting a fulcrum-support for the platform when its opposite end is depressed.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WALLACE E. DEMENT.

Witnesses:

JNO. J. PINCKNEY,  
CHAS. B. MORGAN.