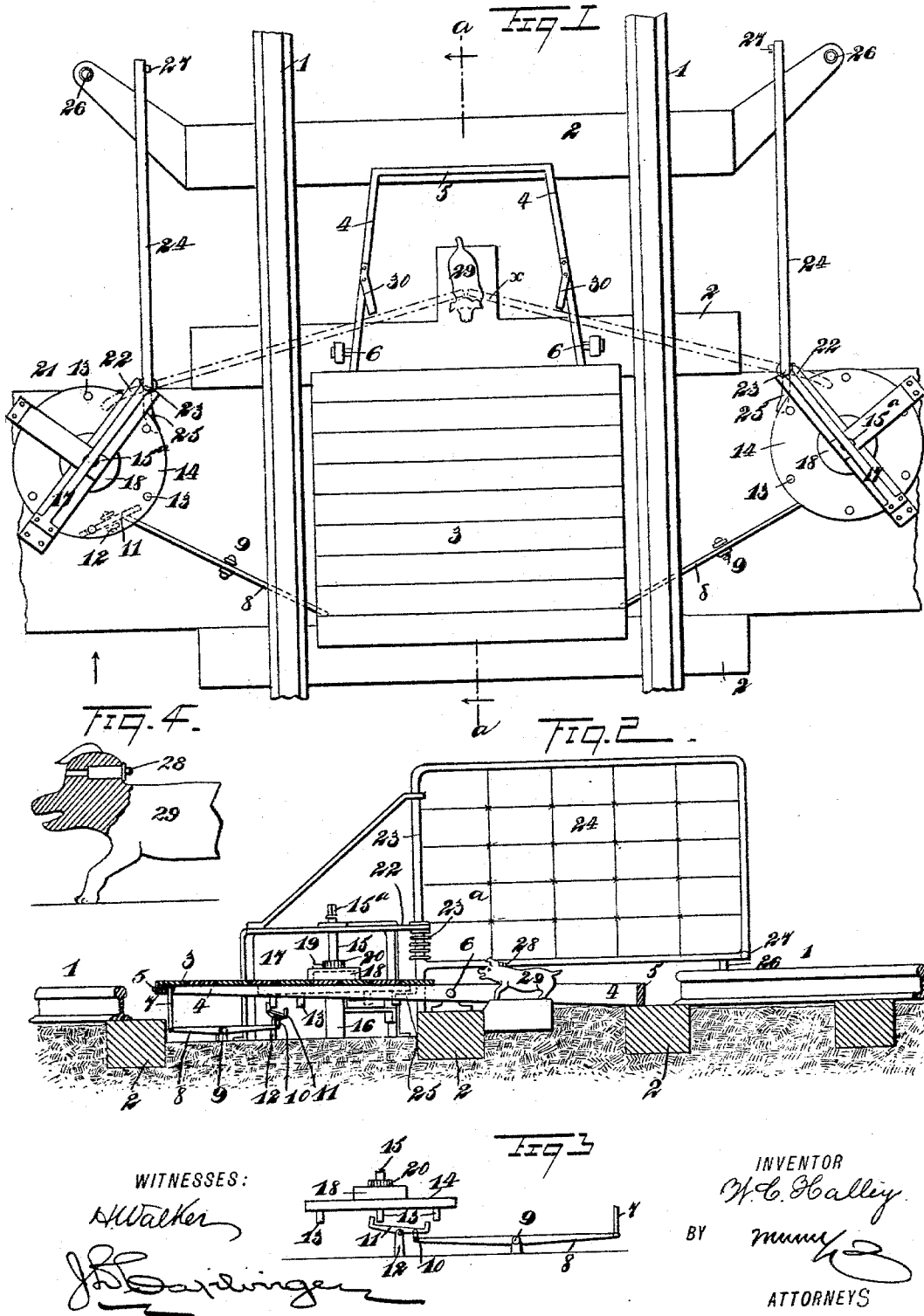


(No Model.)

W. C. HALLEY.
CATTLE GUARD.

No. 571,616.

Patented Nov. 17, 1896.



WITNESSES:

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WALTER COLQUETT HALLEY, OF HALLEY, ARKANSAS.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 571,616, dated November 17, 1896.

Application filed April 2, 1896. Serial No. 585,889. (No model.)

To all whom it may concern:

Be it known that I, WALTER COLQUETT HALLEY, of Halley, in the county of Desha and State of Arkansas, have invented a new and Improved Cattle-Guard, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in cattle-guards, such as are adapted for use on railways and in similar locations, for preventing the passage of cattle along the railway-track from one field or pasture into another, and the object of the invention is to provide a device of this character of a simple and inexpensive nature, which shall be adapted to prevent the passage of the cattle along the track, whereby the derailment of trains passing over the railway and the killing of the cattle will be prevented.

The invention will be fully described hereinafter and defined 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 views.

Figure 1 is a plan view showing a portion of a line of railway provided with a cattle-guard constructed in accordance with my invention. Fig. 2 is a sectional view taken in the plane indicated by the line *a a* in Fig. 1, and Fig. 3 is a fragmentary view showing the escapement device employed for releasing and stopping the spring-actuated disk. Fig. 4 is a detail view of the cartridge-holder to be hereinafter described.

In the views, 1 1 indicate the railway-rails, mounted in the usual way upon ties 2, and 3 indicates a platform made up of wooden slats extending transversely across an open frame formed of side bars 4, connected at their ends by a cross-piece 5, said side bars being mounted pivotally at their central portions, as indicated at 6 on one of the ties 2. The platform 3 extends only over the forward end of the pivoted frame, and the forward end of said frame is pivotally connected by means of links 7 at its opposite sides with the ends of levers 8, pivoted, as shown at 9, adjacent to the track and extending laterally away from the same. These levers 8, when tilted or moved pivotally, serve to release and stop the gates, as will be hereinafter explained, so as to permit the gates to be opened and closed,

one of the gates being mounted on each side of the track and adapted to swing transversely across the same, as indicated in dotted lines at *x* in Fig. 1. The gates and the devices connected thereto for operating them are, as herein shown, exactly similar, and for this reason I will only describe the detailed construction of one gate and its actuating devices.

The outer end of each lever 8 is connected by means of a link 10, as clearly shown in Fig. 3, with one end of a pallet-lever 11, pivoted at 12 and having laterally-extending arms arranged to engage pins 13, arranged in a circular series on the under side of a wheel or disk 14, mounted on a shaft 15, stepped at its lower end in a bearing 16, carried in a frame 17, the upper end of the shaft 15 being also journaled in said frame and provided with a squared end 15^a, adapted to receive a key or the like, whereby the shaft may be turned.

On the wheel 14 is mounted a spring-barrel 18, containing a spring, and the wheel or disk 14 and the barrel 18 are loose on the shaft, the spring contained in said spring-barrel being fixed to the shaft and adapted to be placed under tension when said shaft is turned; and in order to hold the shaft against back rotation when the spring is wound up I provide said shaft with a ratchet-wheel 20, fixed thereon and engaged by a pawl or dog 19, carried on the spring-barrel 18. By this construction it will be seen that when the pallet-lever 11 is rocked so as to cause the arms at opposite ends thereof to be alternately raised and lowered the wheel or disk 14 will be intermittently actuated from the spring contained in the barrel 18.

The upper portion of the frame 17 whereon the shaft 15 is journaled is provided with a projecting bearing-piece 22, whereon is mounted to turn or swing pivotally the spring-post 23 of a gate 24, said spring-post being provided with a spring 23^a, tending to hold the gate normally in a closed position, as indicated in dotted lines in Fig. 1, and on the spring-post is formed a rearwardly-projecting ear or finger 25, adapted to be engaged by the pins 13, carried on the lower side of the disk or wheel 14. When swung to its open position, the gate 24 is adapted to engage a stop 26, whereby its movement is limited,

and on the end of the gate is mounted a projecting pin or striker 27, adapted when the gate is swung to its closed position, as indicated in dotted lines at *x* in Fig. 1, to contact with a firing-pin 28, arranged in the head of a dog-like figure 29, mounted between the tracks and in the rear of the platform 3, said dog-like figure being adapted to receive a cartridge or the like to be exploded by the firing-pin when the gates are closed. This construction is shown in Fig. 4.

In operation when an animal steps upon the platform 3 in passing along the track said platform will be depressed so as to swing the levers 8 to disengage one arm of each pallet-lever 11 and engage the other arm thereof with the pins or projections 13 on the disk or wheel 14, whereby each wheel or disk is permitted to be driven by its spring a distance corresponding to the space between the pins thereon. In this way it will be seen that the gates 24 will be released and permitted to be swung pivotally by means of their springs 23^a, so as to stand transversely across the track, as indicated at *x* in Fig. 1, and when in this position, the rear ends of the side bars 4 of the frame whereon the platform 3 is carried being raised, said gates will be caused to engage and ride over spring stops or detents 30, carried on said side bars 4, whereby the gates will be held closed until the animal steps off the platform 3 and permits said platform to rise, so as to lower the rear ends of the side bars 4 and disengage said detents 30 from the gates. When the gate closes, the cartridge is exploded so as to frighten the animal away from the platform. When the animal steps off the platform 3 and the same rises, the pallet-lever 11 is again rocked so as to cause one of the pins 13 thereon to engage the ear or finger 25 on the spring-post 23 of the gate, whereby said gate will be swung pivotally to its open position, as shown in Fig. 1, and when thus swung the gate will be held open by means of the pin 13, the disk or wheel 14 being stopped against rotation by the arm of the pallet-lever 11, while the pin 13 is still in engagement with said finger 25, as clearly shown in Fig. 1.

From the above description it will be seen that the device is of an extremely simple and inexpensive nature and is especially adapted for the purposes for which it is designed, and it will also be obvious that the invention is susceptible of some modification without material departure from its principles and spirit, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the parts herein set forth.

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

1. In a cattle-guard, the combination of a pivoted gate adapted to be mounted at the side of a railway-track or the like, means

tending to swing the gate transversely across the track, a spring, a wheel actuated from the spring and provided with means to open the gate, and a tilting device to be actuated by an animal passing along the track, and arranged to control the said wheel, substantially as set forth.

2. In a cattle-guard, the combination of a pivoted gate adapted to be mounted at the side of a railway-track or the like, means tending to swing the gate transversely across the track, a wheel having driving mechanism and provided with means to open the gate, and a tilting device to be actuated by an animal passing along the track, to control the movement of said wheel, substantially as set forth.

3. In a cattle-guard, the combination of a pivoted gate adapted to be mounted at the side of a railway-track or the like, means tending to swing the gate transversely across the track, means to hold the gate open, a tilting device to be actuated by an animal passing along the track, and arranged to release the gate, and a figure arranged adjacent to the tilting device and provided with a cartridge-chamber and a firing-pin to be engaged by the gate when swung transversely across the track, substantially as set forth.

4. In a cattle-guard, the combination of a pivoted gate adapted to be mounted at the side of a railway-track or the like, means tending to swing the gate transversely across the track, a rotative spring-actuated wheel, pins on the wheel, an ear on the gate to be engaged by the pins, said pins being arranged to engage the ear on the gate when the wheel is turned to open the gate, and a tilting device adapted to be actuated by an animal passing along the track, and arranged to control said wheel, substantially as set forth.

5. In a cattle-guard, the combination of a pivoted gate adapted to be mounted at the side of a railway-track or the like, means tending to swing the gate transversely across the track, a rotative spring-actuated wheel having a series of pins to be engaged by the stop to hold the wheel against turning, an ear on the gate to be engaged by said pins when the wheel is turned, whereby the gate is opened, and a tilting device arranged to be actuated by an animal passing along the track, and arranged to control the said wheel, substantially as set forth.

6. In a cattle-guard for railways, a gate movable over and from the railway, a spring tending to throw the gate over the railway, a pivoted disk normally restraining the gate, a pallet-lever controlling the disk, and means for tripping the pallet-lever, substantially as described.

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Witnesses:

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