

J. T. HALL.
RAILWAY CATTLE GUARD.

Patented Sept. 29, 1891.

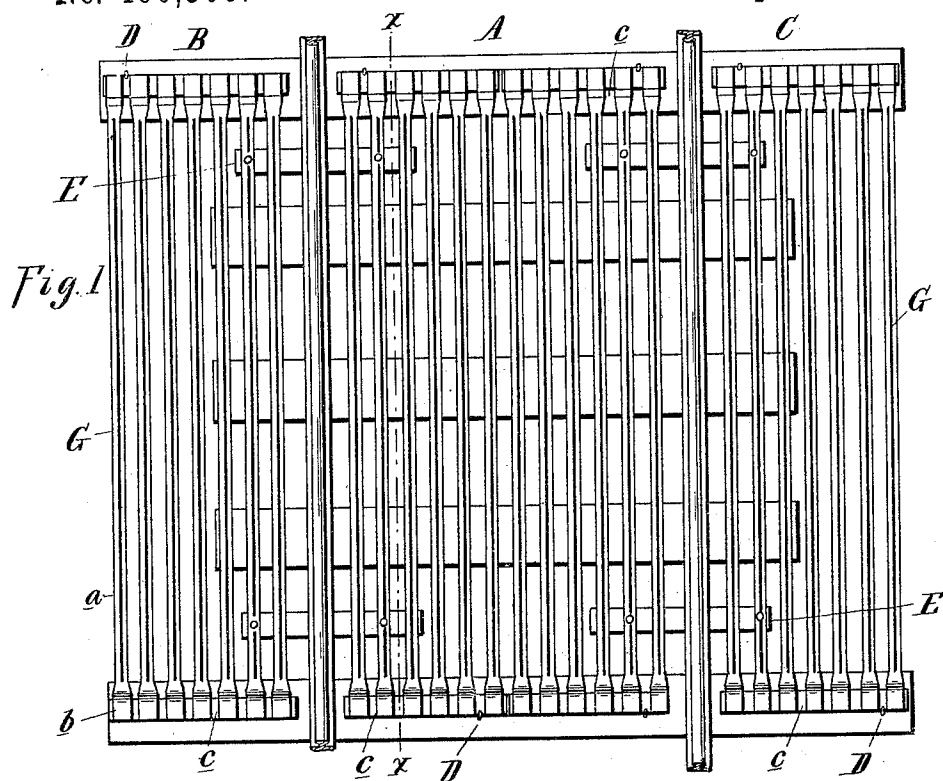


Fig. 2

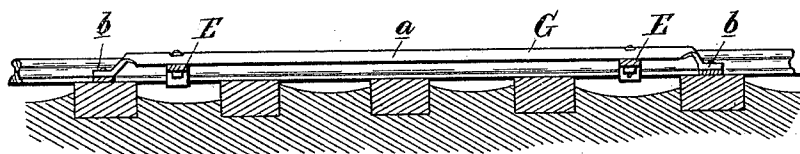
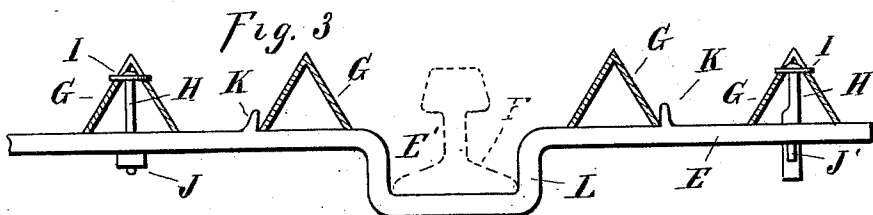


Fig. 3



Witnesses:

P. M. Hulbert
J. M. Hughes.

Inventor:

James T. Hall.

By Mort Magnien Atty.

UNITED STATES PATENT OFFICE.

JAMES T. HALL, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE NATIONAL SURFACE GUARD COMPANY, OF SAME PLACE.

RAILWAY CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 460,306, dated September 29, 1891.

Application filed May 20, 1890. Serial No. 352,546. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. HALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway Cattle-Guards, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in railway surface cattle-guards; and the invention consists in the peculiar construction of the gratings and of a connecting-bar designed to connect the sections between the rails to the sections outside of the rail, all as more fully hereinafter described and claimed.

In the drawings which accompany this specification, Figure 1 is a plan view of my improved cattle-guard. Fig. 2 is a cross-section thereof on line *xx*. Fig. 3 is an enlarged elevation of the connecting-bar as in use.

My cattle-guard is of that class formed of gratings and laid upon the tracks at railroad-crossings. These gratings are formed in sections A, B, and C, the section A between the rails, while the sections B and C are outside of the rail. The section A, I preferably make of two parts, as described and shown in my concurrent application, Serial No. 325,709, filed October 1, 1889, patented June 9, 1891, as No. 453,807. Instead of hinging the two central sections together, I may secure these central sections to the track by spikes applied to the inner edges thereof, as shown at D. Gratings thus constructed in sections and laid upon a track have usually been secured in position by spiking them to the ties or by means of brackets supporting them upon the rails.

My present invention enables me to secure the sections to the track with the least possible material and labor and to remove them when the track is to be repaired in the least possible time. To this end I form a connecting-bar E, which has a central recess E' to receive the foot of the rail F and extends out each side a sufficient distance to pass beneath

two or three of the bars or strips G, composing the grating. At or near the ends these connecting-bars are provided with suitable apertures to receive bolts H H', which at their upper ends are provided with suitable heads I, adapted to engage upon the top of the strips G. The bolt H is provided at its lower end with suitable screw-threads to receive a clamping-nut J, while the bolt H' is provided with a suitable aperture to receive the key J'.

K are flanges formed on the upper face of the bar E at suitable points to form a side bearing for the inner strip of grating and provide against any lateral displacement thereof. The strips G consist of the central raised portion *a* and the legs *b*, the whole being formed from V-shaped bars of metal, the foot being formed by bending down the ends of the bars. By using bars of this shape, securing them together by the cross-bars *c*, I am enabled to get a strong guard with the least possible material. The slanting top of the guard-rails not only adds an element of insecurity to the footing, but serves as a watershed. It is evident that with this connecting-bar in position, securely clamped to the inner and outer sections by means of the bolts H and H', it will be impossible to remove the grating from the track without breaking the bar E, while if the section-men desire to remove the grating it can be accomplished by removing the key J' and tipping down the bar E, so that the shoulder L will be disengaged from the foot of the rail. The inner section may be then withdrawn, the outer section being likewise free to be moved.

It will be seen that by securing the bolts H' to one of the interior strips of the guard the grating cannot be tilted up, as would be the case if the bolts H H' were secured to the outside strip, as these bars are placed beneath the rails between the ties and bear with their upper faces against the under side of the rail when the bolts H are clamped tightly upon the strip.

It is evident that the grating will be clamped firmly upon the ties. No further means are required for securing them in position, al-

though to prevent tampering with the guards I preferably use the spikes, two for each grating.

What I claim as my invention is—

5 1. In a cattle-guard, the combination, with independent stationary sections of grating arranged between and outside the rails and composed of series of parallel strips, of connecting-bars having recesses to fit the lower
10 portion of the rail, and means for securing the bars to the strips of the sections on opposite sides of the rail, substantially as described.

2. In a cattle-guard, the combination of four
15 sections of grating stationarily secured to the cross-ties arranged, respectively, on opposite

sides of the rail, and connecting-bars extending around the base of the rails for uniting adjacent inside and outside sections, substantially as described. 20

3. In a railway surface cattle-guard, the combination of the inner and outer sections, the bar E, having bolts H H', means of clamping the bolts to an inner rail of the gratings, and the flanges K, substantially as described. 25

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

JAMES T. HALL.

Witnesses:

JAMES WHITTEMORE,
T. M. FISH.