

(No Model.)

2 Sheets—Sheet 1.

G. A. CHRIST.
CATTLE GUARD.

No. 470,662.

Patented Mar. 15, 1892.

Fig. 1

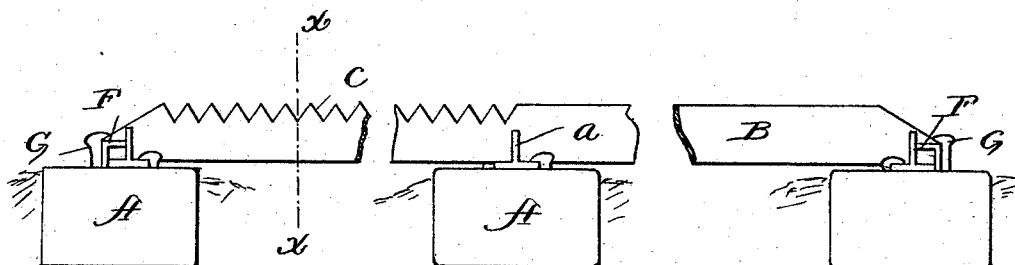


Fig. 2.

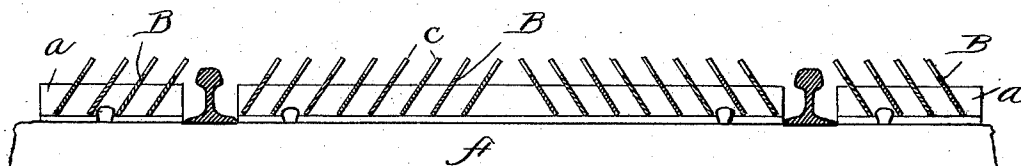
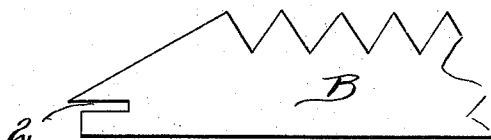


Fig. 3



Witnesses
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(No Model.)

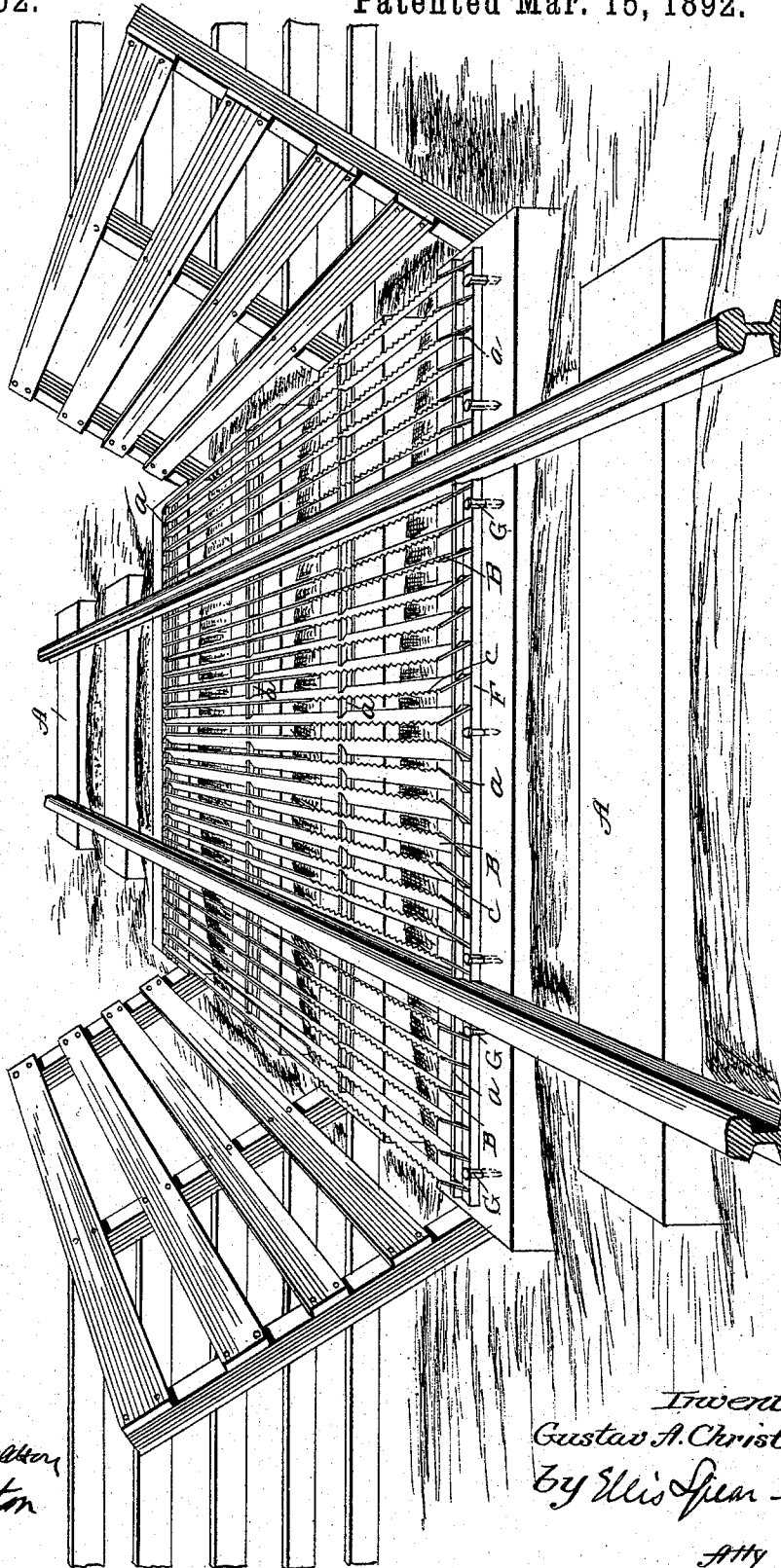
2 Sheets—Sheet 2.

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Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAVE A. CHRIST, OF GRAND RAPIDS, MICHIGAN.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 470,662, dated March 15, 1892.

Application filed September 9, 1890. Serial No. 364,400. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE A. CHRIST, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in Cattle-Guards; and I do hereby declare that the following is a full, clear, and exact description of the same.

My said invention relates to that class of guards in which bars or plates having teeth are laid parallel to each other with intervening spaces, the bars occupying the space between the rails and that outside of the rails and within the adjacent fences.

My object is twofold, it being, first, to reduce the cost of such guards, and, second, to provide more effectually for the exclusion of animals from the railway.

The invention consists of details of construction, all as hereinafter fully set forth, and illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of the guard. Fig. 2 is a transverse section on line *x x* of Fig. 1. Fig. 3 is a detail view of one of the toothed bars. Fig. 4 is a perspective view of the entire device in place.

In the drawings, A indicates the ties of the road. Upon these ties are laid angle or T irons *a*, (the latter being shown,) which form the supporting-bars of the toothed bars B. These T-irons are formed with inclined kerfs or slots, as shown in Fig. 2. The longitudinal bars are thin blades of sheet metal, having teeth on their upper edges, as shown at *c*, extending half-way across the bar. Such bars have been heretofore known made with teeth on the upper edges to annoy and so exclude animals attempting to walk upon them; but such bars were arranged in vertical planes and had the teeth staggered or bent like those of a crosscut-saw after they have been set. To avoid the expense of this and at the same time more certainly annoy animals attempting to walk upon them, I set the blades or bars at an angle, as shown in Fig. 2. In this position the foot of an animal, if placed, as most likely to occur, on the sloping side of the bar, will tend to slide at once toward the teeth on the edge of the adjacent bar, which will be inclined toward the foot thus sliding. Thus the foot will be brought against the sharp points, of what-

ever size the foot may be, whether of sheep or cattle, the object being to exclude small as well as large animals. The bars B are supported firmly in the slots, which are cut in the vertical flange of the iron. The iron, whether an angle or T iron, has firm support on the horizontal flange or flanges and may be securely spiked to the ties, as shown in Fig. 1. Across the ends of the toothed bars I place an angle-iron F, which is fitted to slots in the said ends, as at 2, Fig. 3. These angle-irons are held down by spikes G.

The bars may be easily made and may be placed farther apart by reason of their inclined position, as above explained, and their construction also simplifies the shipping of the bars, as they may lie close together.

Instead of the teeth, the bars may be formed with a sharp edge or corner, which will serve to cut or pinch the foot of the animal when the foot slips against it, as above explained.

I claim as my invention—

1. In combination with the angle or T irons having inclined slots, the guard-bars set therein, and the angle-irons F, set in the slotted ends of the guard-bars, substantially as described.

2. A cattle-guard composed of parallel guard-bars arranged longitudinally of the railway and laterally inclined, said guard-bars having overhanging upper edges, substantially as described.

3. A cattle-guard having guard-rails arranged longitudinally of the railway, means for supporting said rails laterally, consisting of angle or T irons having inclined slots for the reception of said rails, through which the ends thereof project, and fastening devices engaging said projecting ends.

4. In combination with the rails and ties, the guard-bars arranged longitudinally of the rails and having teeth on their upper edges for a portion of their length, the remainder of the edges being plain, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAVE A. CHRIST.

Witnesses:

F. A. GORHAM,

F. L. MIDDLETON.