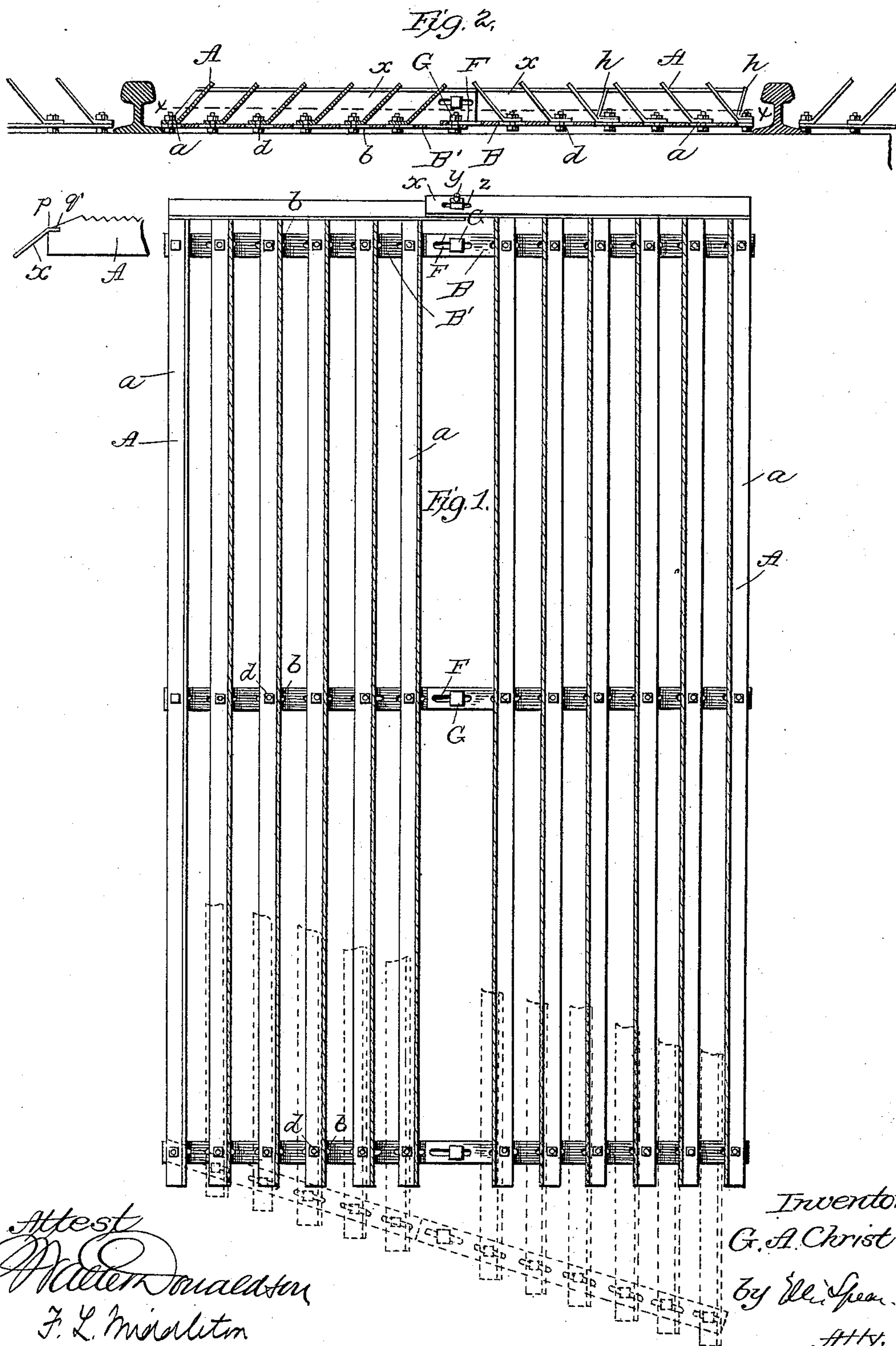


(No Model.)

G. A. CHRIST.
CATTLE GUARD.

No. 467,001.

Patented Jan. 12, 1892.



UNITED STATES PATENT OFFICE.

GUSTAVE A. CHRIST, OF GRAND RAPIDS, MICHIGAN.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 467,001, dated January 12, 1892.

Application filed February 19, 1891. Serial No. 382,080. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE A. CHRIST, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Cattle-Guards, of which the following is a specification.

My invention relates, particularly, to that class of cattle-guards in which longitudinal bars are set on edge to present an insecure footing to animals attempting to pass the guard or to cause them pain and thus repel them. Such bars are often supported upon transverse bars to avoid spiking each one down to the ties, and it is desirable to make them complete in the shop, so that they can be laid down and taken up readily and easily. Where they are thus made in the shop complete, one difficulty arises in transportation on account of the bulk of the construction; and the object of my invention is to provide a construction by means of which this guard may be made in the form of gratings secured together and ready to be laid down when being put in place, but at the same time capable of being reduced in bulk without taking them apart.

I have shown my invention in connection with inclined bars of a particular construction; but I do not limit myself to this particular form.

The main feature of my invention consists in longitudinal bars supported upon transverse bars and connected to each other at their intersections by bolts, so that the structure may be folded.

The invention consists, also, in details of construction applicable to this main idea.

In the accompanying drawings my invention is illustrated.

In the drawings, Figure 1 shows a sectional plan view of the guard extended on line $x x$ of Fig. 2. Fig. 2 shows a transverse section of Fig. 1.

In the drawings, A A are the guard-bars. They consist of thin bars formed out of plate or sheet metal of sufficient thickness, the lower ends of the bars having inclined flanges a , the flanges being set at an angle suitable to give proper inclination to the bars. These flanges are punched at the points where the transverse bars B intersect them. The transverse

bars are also punched, but preferably with elongated holes b at the intersections, and the bars are held together by the bolts d . I have shown these bolts as being provided with nuts; but they may be headed, if it be preferred; but the bolts must be sufficiently loose to permit the bars to turn upon them, so that the guard may be folded from the rectangular open shape shown in Fig. 1 to the closed or partially-closed shape shown in dotted lines, in which the guard occupies very much less space and is more easily handled and packed. The slotted cross-bars allow the adjustment of the guard-bars to a greater or less width between them, as may be required for the exclusion of cattle, and this permits the arrangement of the cross-bars diagonally across the road, as is sometimes preferable where the crossing of the highway is not at right angles. In connection with this I have also provided extensible cross-bars. The part B' of the cross-bar is connected to the part B by a lap at the ends, in which are slots, as shown at F F. Through these slots passes a bolt G, provided with a nut, by means of which the length of the cross-bar may be varied. In addition to the bars A, I may secure, also, by the same bolts a subordinate flanged intermediate bar between the main bars, as shown at h , the bar h having a flanged lower edge through which the connecting-bolts pass, which hold the main guard-bars to the cross-bars. These subordinate bars may be used in the intermediate spaces between the main guard-bars, if desired. The flanges of the guard-bars serve, also, to prevent the foot of the animal from going through to the ground and being thereby caught and held. They permit, also, the bars to be placed farther apart, it being necessary only where these flanges are used to set the guard-bars at such distances apart that the inclined upper side of one will crowd the foot or leg of the animal against the upper edge of the overhanging bar. In order to prevent any danger arising from the chain or brake-beam or other part hanging from the car and dragging so as to catch in the cross-bars, I apply at the ends the inclined holding-down bars shown in my application of even date herewith. Although in this case the flanges fitting into the teeth are not necessary, these bars or plates are shown at x . They are in-

clined so that if anything hanging from the passing train should strike the inclined bars it will be caused to bound upward and so pass over the guard. In order that this inclined cross-bar x may be adapted to the varying widths of the cattle-guard shown herein, I have made it extensible by forming it in two pieces, the inner ends of which overlap and are provided with slots z , the parts being held together by a bolt y . In order to sustain the ends of the inclined guard-bars and prevent them from being bent down, I form the plate or bar xx with a horizontal bent flange p , which enters notches q in the ends of the inclined guard-bars.

I claim as my invention—

1. A railway cattle-guard consisting of guard-bars independently adjustable on cross-bars, and bolts connecting the guard-bars and the cross-bars at the intersections, whereby the bars may be folded substantially as described.

2. In combination with the guard-bars, the extensible cross-bars having slots, the guard-bars being adjustably secured to the said cross-bars, substantially as described.

3. A railway cattle-guard consisting of inclined guard-bars having horizontal bottom flanges, said flanges being secured to the cross-bars, substantially as described.

4. In combination with the guard-bars adjustably secured to the cross-bars, the inclined extensible bar x at the end of the guard-bars, substantially as described.

5. In a railway cattle-guard, in combination with the guard-bars, the extensible cross-bars, the said guard and cross bars being connected together so as to permit folding.

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

GUSTAVE A. CHRIST.

Witnesses:

HENRY E. COOPER,
MARGARET V. COOPER.