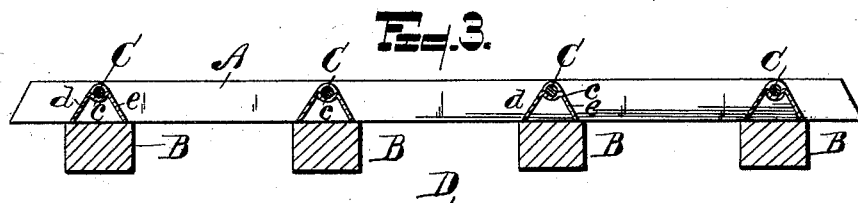
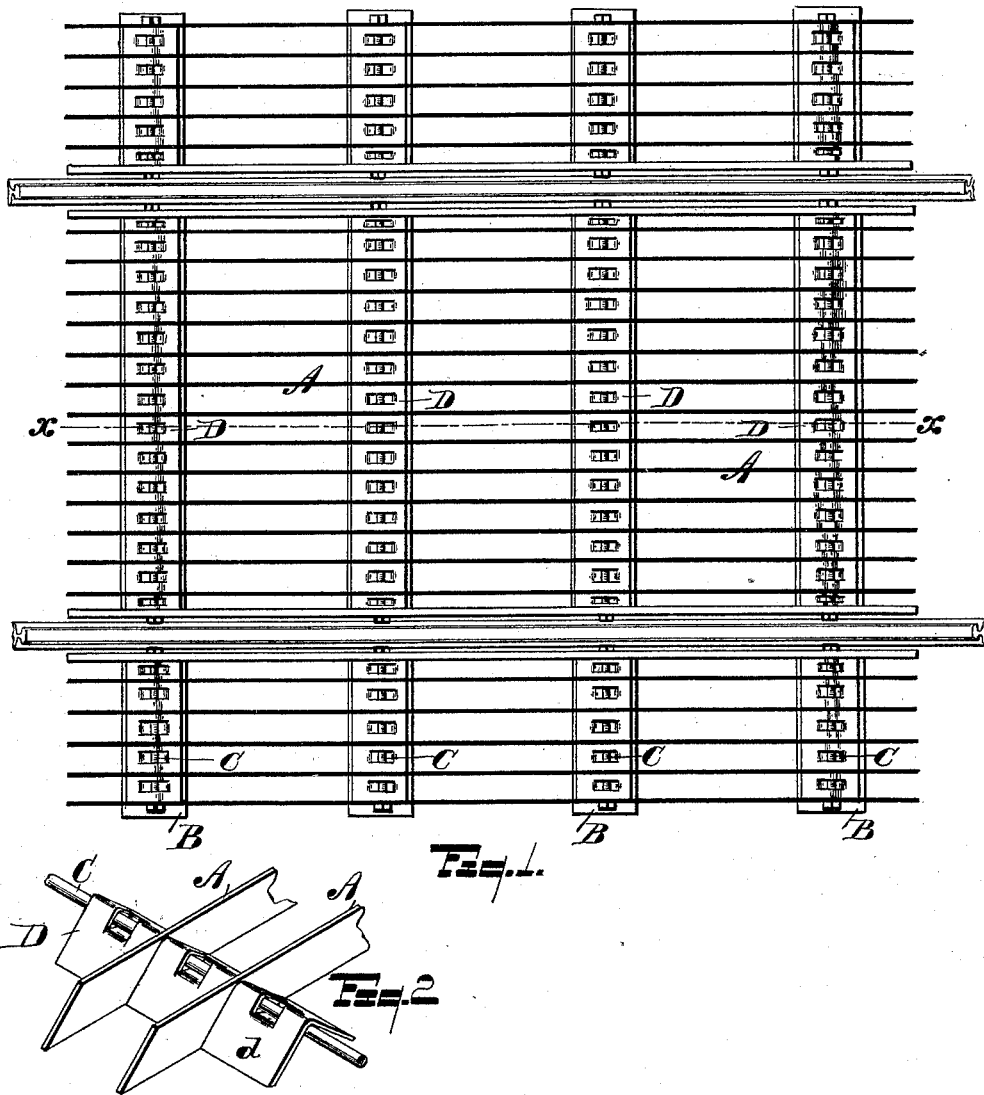


(No Model.)

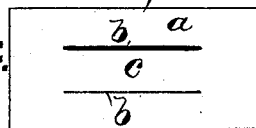
J. T. HALL.
SURFACE CATTLE GUARD.

No. 421,928.

Patented Feb. 25, 1890.



WITNESSES
Samuel E. Thomas
James T. Hall



INVENTOR
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UNITED STATES PATENT OFFICE.

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

SURFACE CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 421,928, dated February 25, 1890.

Application filed May 29, 1889. Serial No. 312,590. (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 Surface 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 surface cattle-guards; and the invention consists in the peculiar construction of a shield or guard-piece designed to overcome the danger in the use of cattle-guards from hanging chains or beams on passing trains, all as more fully hereinafter described and claimed.

In the drawings which accompany this specification, Figure 1 is a plan view of a cattle-guard to which my shield is attached. Fig. 2 is a perspective view of two bars thereof. Fig. 3 is a cross-section on line *xx* in Fig. 1. Fig. 4 is a plan view of a blank from which my shield is formed.

The cattle-guard shown in the accompanying drawings consists of the longitudinal bars or guard-rails A, supported upon the ties B and assembled in the form of gratings by means of cross-bars C.

In the use of such cattle guards it has been found that there was occasionally danger of accident by means of hangings rods or chains from passing trains catching upon the rods C between the longitudinal guard-rails. To overcome this objection I construct a shield D, preferably by taking a sheet-metal blank *a* of suitable strength, cutting therein the longitudinal slits *b*, as shown in Fig. 4, which forms between them the strips *c*. Then by means of dies I depress the strips *c* to form a stirrup, as shown in Fig. 3; or this operation may be accomplished at a single blow by means of suitable dies. At the same time I bend the blank at or near the middle, forming two inclines *d* and *e*.

In constructing my guard the shields D are

sleeved upon the rods C between the guard-rails, thereby supporting them the necessary distance apart and at the same time presenting an inclined surface in both directions from the top of the guard-rail to the tie, upon which it is impossible for any hanging beam or chain to find a hold. This shield may thus be made to act in the double capacity of a thimble and a guard, and with the same expense of manufacture a much more effective and a safer guard may be constructed.

It is evident that the guard-piece or shield may be made independent of the locking-stirrups *c*. For instance, they may be simply laid over the rods and nailed or spiked in position upon the tie, and I include within the spirit of my invention any suitable means of securing the guard-piece or shield in position.

What I claim as my invention is—

1. In a cattle-guard, the combination of the guard-rails and the cross-bars thereof with inclined shields set between the rails, serving the double purpose of spacing-blocks and shields, substantially as described.

2. In a cattle-guard, the combination of the guard-rails, the cross-bars passed through said rails, and the double inclined shields set over said bars and between the guard-rails, substantially as described.

3. In a cattle-guard, the combination of the guard-rails, the shield set between them, and the cross-bars passed through both rails and shields, substantially as described.

4. As a new article of manufacture, a shield for cattle-guards, consisting of an inverted-V-shaped piece of metal having a depressed stirrup *c* near its apex, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 13th day of May, 1889.

JAMES T. HALL.

Witnesses:

A. W. KOHLER,
M. MESSENGER.