

(No Model.)

P. MERRILL.
SURFACE CATTLE GUARD.

No. 412,967.

Patented Oct. 15, 1889.

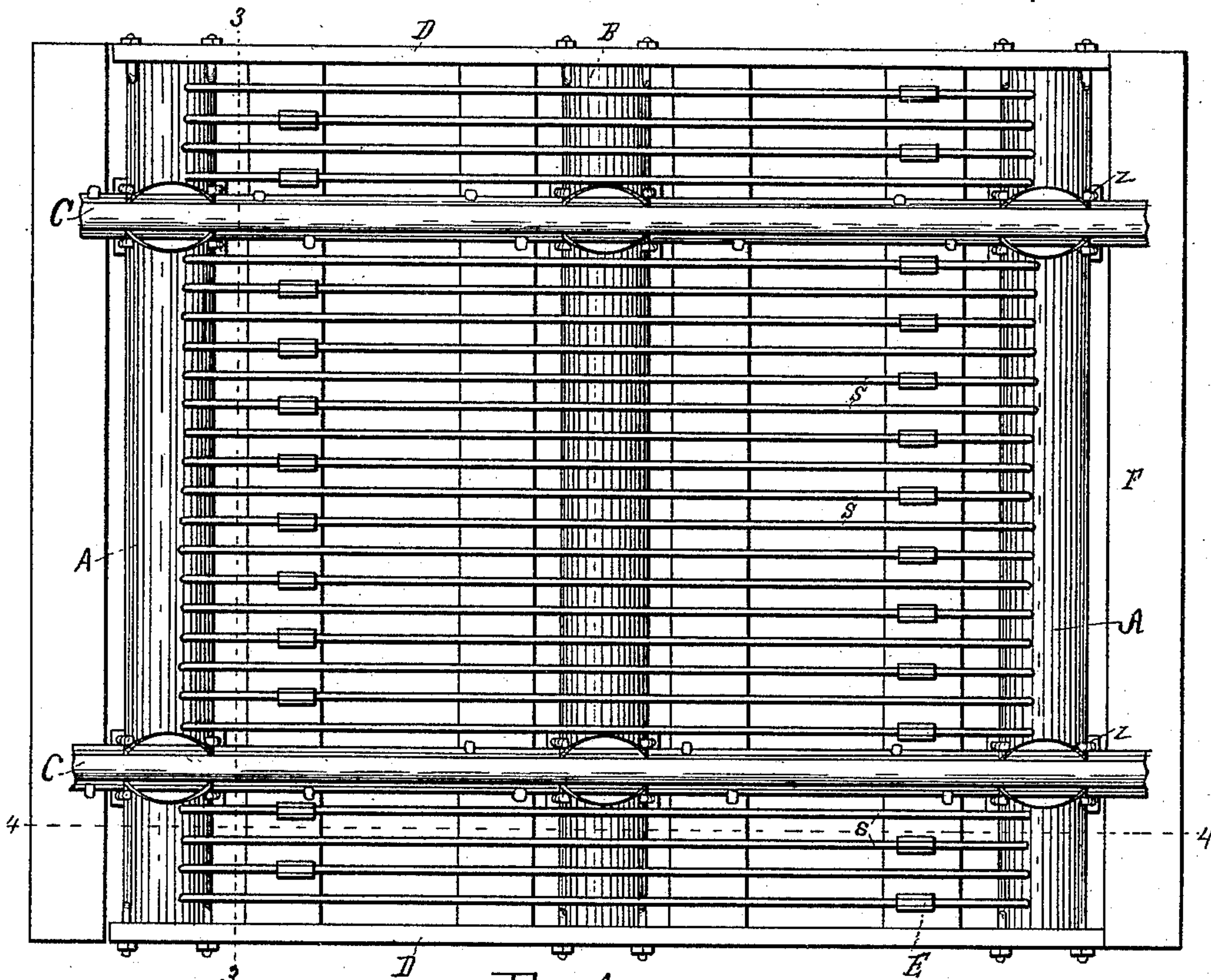


Fig. 1

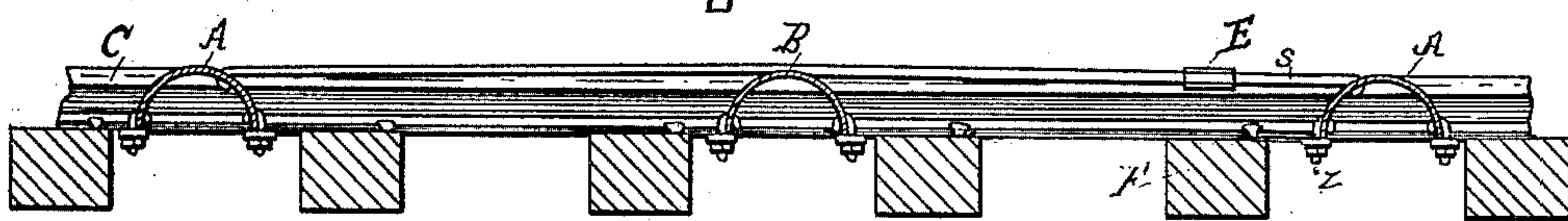


Fig. 2

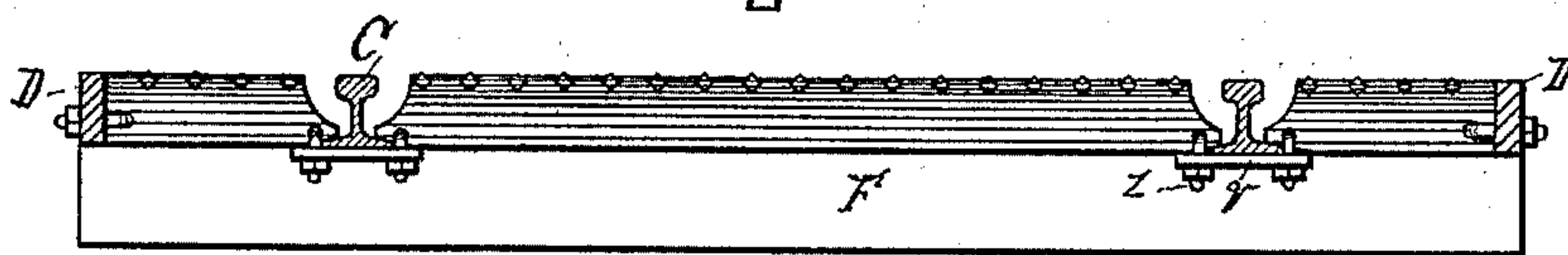


Fig. 3

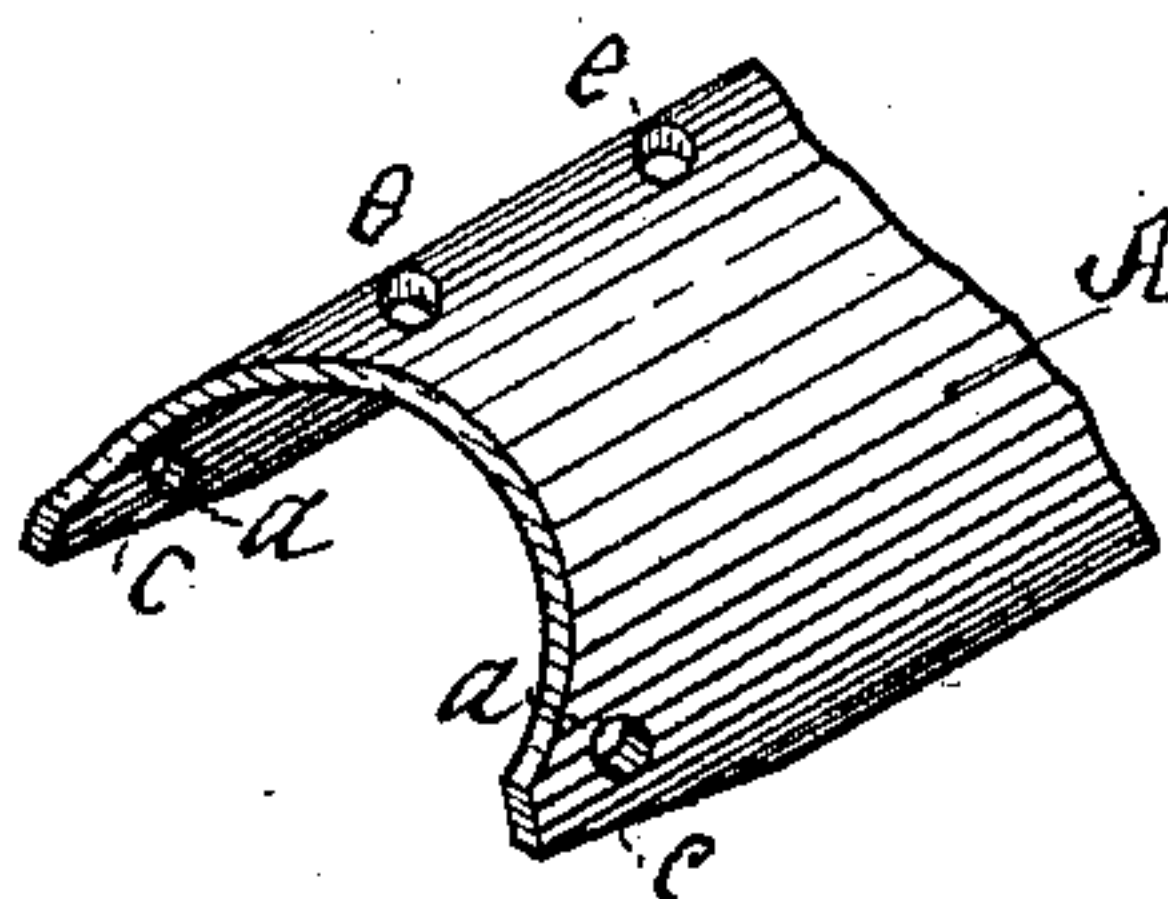


Fig. 4

Witnesses:
Walter S. Hood
Jas A. Sweet

Inventor,
Parker Merrill
By Lucius C. West
Atty

UNITED STATES PATENT OFFICE.

PARKER MERRILL, OF ST. LOUIS, MICHIGAN.

SURFACE CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 412,967, dated October 15, 1889.

Application filed August 12, 1889. Serial No. 320,510. (No model.)

To all whom it may concern:

Be it known that I, PARKER MERRILL, a citizen of the United States, residing at St. Louis, county of Gratiot, State of Michigan, have invented a new and useful Surface Cattle-Guard, of which the following is a specification.

This invention relates to surface cattle-guards disclosed in another pending application of mine dated June 22, 1889, Serial No. 315,218. In said application a series of rods are shown between the rails supported above the ties by transverse bars which are attached to the flanges of the rails, and a like section on the outside of each rail and attached to the flanges of the rails. The construction in general is the same in this application.

The particular object of the present invention is to construct the bars which support the rack so that they will be wide at the lower side or base and the exterior of the sides will converge therefrom to the apex. Strength, with a comparative economy in material and more desirable attachment of parts, may be named among the advantages of thus constructing the transverse bars as compared with what is shown in the above-named application. Other objects will appear in the description and claims.

In the drawings forming a part of this specification, Figure 1 is a plan; Fig. 2, a section on line 4 4 in Fig. 1; Fig. 3, a section on line 3 3 in Fig. 1; and Fig. 4 is a broken perspective of a lettered detail.

Referring to the lettered parts of the drawings, S S are the rods between and outside of the rails C C of the track. These rods are separated from each other and have a space between them and the ties of the track, as in my other application above named. The section between the rails C and the sections outside of the rails have end bars A A, to which the ends of the rods S are attached, as shown in Figs. 2, 3, and 4, the ends of the rods S being hooked into holes e in the bars A A. The rods S are here shown made in two parts and coupled together by turn-buckles E, so that by turning said buckles the rods S can be made properly tense; but rods S may be in one piece and may be attached at the ends in any suitable manner to the bars A A. Each

section of the guards has a central supporting-bar B. I prefer that the rods S should rest loosely upon said bar, as in said other application; but they may pass through holes in said bar B, if desired. The bars A B, as here shown, are bent into shape from strips of boiler-iron; but these bars may be cast solid or otherwise formed so long as they converge from the base to the apex. The surface of the bars, as shown, is convexly curved; but the same result of having the sides converge, as stated, can be accomplished by making them straight inclines, and hence I do not wish to confine the invention to the rounded surface here shown. The upper corners of the bars A B at the sides of the rails C are cut away to clear the wheels of the cars. They are preferably slanted or chamfered off on the under side at their ends, as at c, Fig. 4, the better to fit the upper surface of the flanges of the rails C. The bars are attached to the rails by bolts z, hacked into holes a, Figs. 2, 3, and 4, and a clip-plate v beneath the rail, through which clip-plate the bolts are passed and secured by nuts; but they may be otherwise attached to the rails C, or need not be attached to the rails at all, but may be fastened to the ties F. The outer ends of the bars A B of the outer sections are connected by a bar D, attached to them, said bars resting on the ties, as in the above-named application.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A surface cattle-guard comprising sections between and outside of the rails of the track, said sections being composed of transverse bars bent from strips of metal, so as to have their sides converge from the base to the apex, and separated rods in two parts connected by turn-buckles, the ends of said rods being detachably attached to the transverse bars at the ends of the sections, substantially as set forth.

2. A surface cattle-guard comprising sections between and outside of the rails of the track, said sections being composed of strips of metal bent to form the transverse bars having their sides converging from the base to the apex, the ends of said bars contiguous

to the rails being attached to said rails, said bars at the ends of the sections having a row of holes at or near the apex, and the separated rods made of two parts connected
5 by turn-buckles, the ends of said rods being bent to form hooks which are detachably caught into said holes, substantially as set forth.

3. A surface cattle-guard comprising sections between and outside the rails of the track, said sections being composed of transverse bars having converging sides, the ends of said bars next to the rails being attached

to the flanges of the rails by bolts attached to the sides of the bars at the end, and a clip- 15 plate beneath the rails, through which said bolts pass, and separated rods supported by said bars, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two 20 witnesses.

PARKER MERRILL.

Witnesses:

S. H. BURKE,

W. L. ROOT.