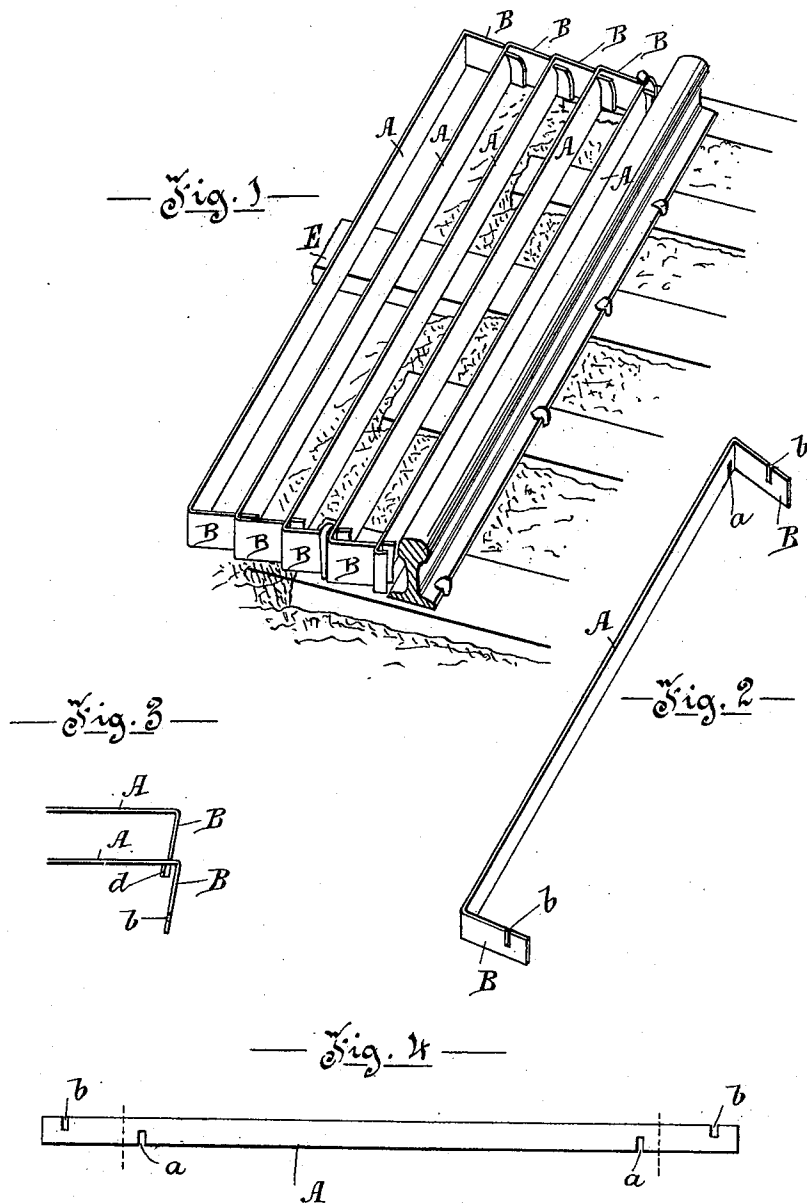


(No Model.)

O. N. EVANS.
CATTLE GUARD.

No. 471,213.

Patented Mar. 22, 1892.



Witnesses

Wm. R. Seal
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UNITED STATES PATENT OFFICE.

OWEN N. EVANS, OF MONTREAL, CANADA.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 471,213, dated March 22, 1892.

Application filed May 23, 1891. Serial No. 393,914. (No model.)

To all whom it may concern:

Be it known that I, OWEN NORTON EVANS, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have
5 invented certain new and useful Improvements in Cattle-Guards; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to surface cattle-
10 guards, and has for its object to simplify, cheapen, and strengthen their construction, besides rendering them more safe to use so far as the trains passing over them are concerned. Heretofore the bars or strips forming
15 the guards have been set up in the necessary quantities to form the sections required and secured together by separate transverse rod or bar connections and the ends of the bars left bare and projecting.

By my invention, which consists in bending the bars themselves at each end so as to form a little more than a right angle and by alternate up and down notches, respectively, in the bent ends and the main lengths inter-
25 locking one bar with another, all necessity for using the separate transverse connections is done away with, and thereby much time saved and trouble avoided, besides economy of material effected in their construction, and,
30 furthermore, this manner of setting the bars together effectually disposes the ends of the bars in such a way that there is no possibility of dragging chains, links, &c., from a passing train catching upon them. For full comprehension, however, of the invention reference
35 must be had to the annexed drawings, in which like symbols indicate corresponding parts, and wherein—

Figure 1 is a perspective view of a section
40 of a surface cattle-guard constructed according to my invention and laid beside a railway-rail; Fig. 2, a perspective view of a detached bar; Fig. 3, a plan view of the ends of two bars locked together, and Fig. 4 a side
45 view of an unbent bar after being notched.

My bars are formed of strips A A of reasonably thin metal with bent ends B B turned

to a little more than a right angle and having notches in their main lengths and bent ends, respectively, at *a a* and *b b* for half the
50 depth of the bar, those of the main lengths being made in the lower edges of the same and those of the bent ends in their upper edges, so that the main length of one bar can be interlocked with the bent ends of another. 55

The length of the bent ends and the location of the notches in the same are such as to secure the proper spacing of the bars and to join the whole firmly together. The extreme
60 portion of each bent end is, as shown at *d* in Fig. 3, kinked or bent in toward the main length interlocked with it, so as to contract its own notch and bind upon the main length, thus effectively preventing any chance of rattling or shaking apart. 65

The guard-sections formed into rigid gratings, as just described, can be secured in place on the ties by a couple of spikes, and where the road-bed falls away abruptly at the ends of the ties a tie of additional length—such as
70 E—situated centrally of the length of the guard can be used to support the extreme outside bars.

What I claim is as follows:

1. A surface cattle-guard formed of a series
75 of metal bars interlocking at their ends only.

2. A surface cattle-guard formed of a series of metal bars, each bar having bent end portions adapted to interlock with the main
80 length of another bar.

3. A surface cattle-guard formed of a series of metal bars, each bar having bent end portions and being notched so that such end portions will interlock with the main length of
85 another bar.

4. A surface cattle-guard formed of a series of bars, each bar having its ends bent at approximately right angles and interlocking with the main length of another bar.

OWEN N. EVANS.

Witnesses:

WILL. P. MCFEAT,
FRED. J. SEARS.