

(No Model.)

J. L. NEFF.
SURFACE GUARD.

No. 561,024.

Patented May 26, 1896.

Fig. 1,

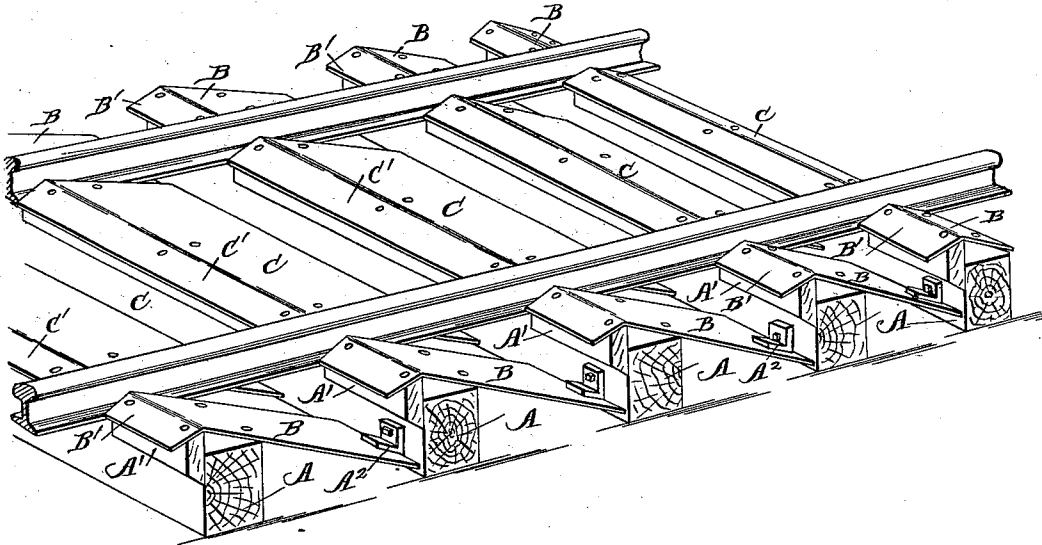


Fig. 2,

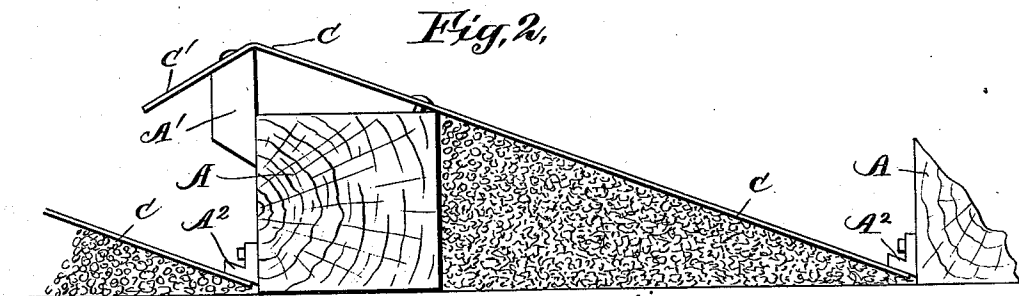
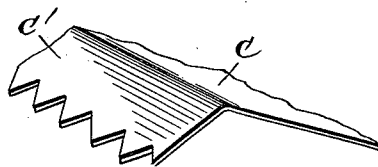


Fig. 3,



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UNITED STATES PATENT OFFICE.

JACOB L. NEFF, OF CHICAGO, ILLINOIS.

SURFACE GUARD.

SPECIFICATION forming part of Letters Patent No. 561,024, dated May 26, 1896.

Application filed October 4, 1895. Serial No. 564,603. (No model.)

To all whom it may concern:

Be it known that I, JACOB L. NEFF, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have
5 invented certain new Improvements in Surface Guards; and I do declare the following to be a full, clear, and concise description of same, reference being had to the accompanying specification and drawings.

10 The purpose of my invention is to produce a cheap and effective surface guard that will permit of repairs to same without disturbing more than the tie which it is desired to replace or repair.

15 Referring to the drawings, Figure 1 is a view in perspective of a section of railroad embodying my invention. Fig. 2 is an end view of a tie and guard-plates, showing the parts in detail. Fig. 3 shows a modified form
20 of plate, one edge of same being provided with teeth.

Similar letters of reference indicate like parts both in the specification and drawings.

A is an ordinary tie, having secured to one
25 side thereof the beveled blocks A' and lugs A². Secured to the blocks A', by nails or other suitable means, are the end guard-plates B and center guard-plate C. These guard-plates are bent to form an obtuse angle, the
30 short portion C' of which corresponds to the bevel B' of the block B. The lugs A² are designed to hold the guard-plates down, so that gravel, &c., may be packed beneath same. This feature is particularly shown in Fig. 2
35 of the drawings. (See below.) The highway is to the left when the guards are placed as shown in Fig. 1, or, in other words, the greater incline of the guard-plates slants away from the highway. The purpose of this is obvious,
40 for it will be seen that if a creature starts to cross the guards its foot will slip on the greater incline and cause the animal to withdraw. If the guards were reversed and a horse should start to cross over and then attempt to retract the advanced foot, the edge
45 of the short incline would catch just below the fetlock and hold the horse or cause him to cut and injure the foot. Spikes might be substituted for the lugs A², the same being

driven into the tie at an angle corresponding 50 to the angle of the longer portions of the guard-plates. It will be seen that the shorter angle of the guard-plate extends over the longer inclined portion of the preceding guard-plate. The purpose of this is obvious, 55 for it will be seen that if an animal should step on the longer incline and its foot should slip beneath the overlapping inclined portion of the succeeding plate it would be impossible for the animal to advance, as the foot 60 would be cramped or locked against motion in that direction yet be free to retract or withdraw same.

In practice gravel or earth will be filled beneath the guard-plates, thereby forming a 65 support for same and allowing the use of a very light gage of plate.

It will be seen that each tie of guard is provided with three separate and distinct guard-plates, the narrow ones being placed outside 70 the rails and the wide plate between same.

In Fig. 3 I have shown the upper edge of the guard-plates as having teeth extending along same. These are intended to prick the 75 animals and cause them to turn back. All or one or more sections of the plates might be provided with the above-described teeth or spurs, as might be desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters 80 Patent of the United States, is—

A surface guard consisting of separate metallic plates, each bent at an obtuse angle so as to form two unequal plane portions; correspondingly-beveled strips secured to the 85 ties and projecting above them, to one of which strips the narrower portion of each plate is fastened, its wider portion extending to the foot of the adjacent tie, and lugs upon the ties, beneath which their edges are con- 90 fined.

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

JACOB L. NEFF.

Witnesses:

CHARLES D. WRIGHT,
S. W. BRAINARD.