No. 629,305. Patented July 18, 1899.

J. W. ROSS.

CATTLE GUARD.

(Application filed Dec. 29, 1898.)

(No Model.)

Fig. 1.

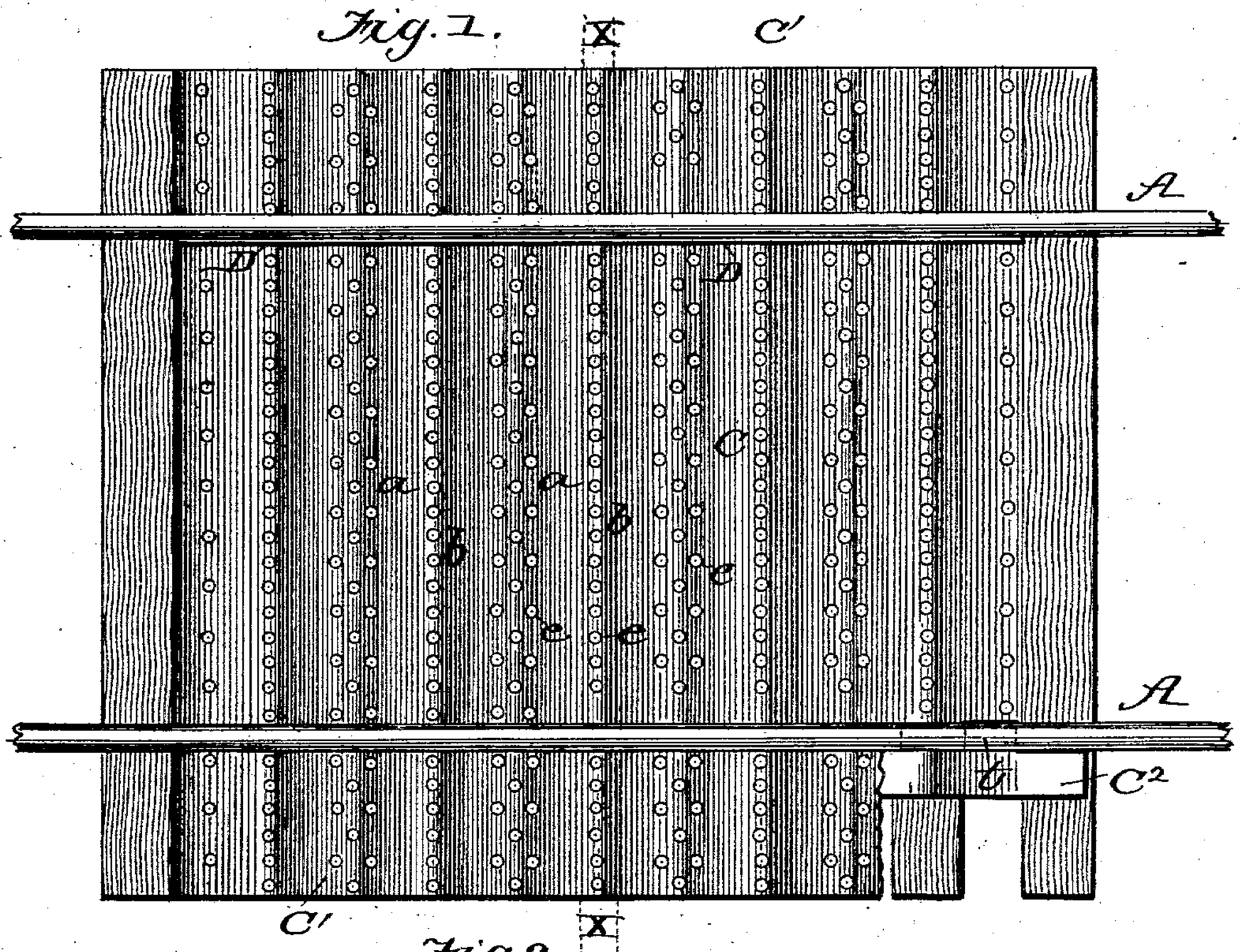


Fig. 2.

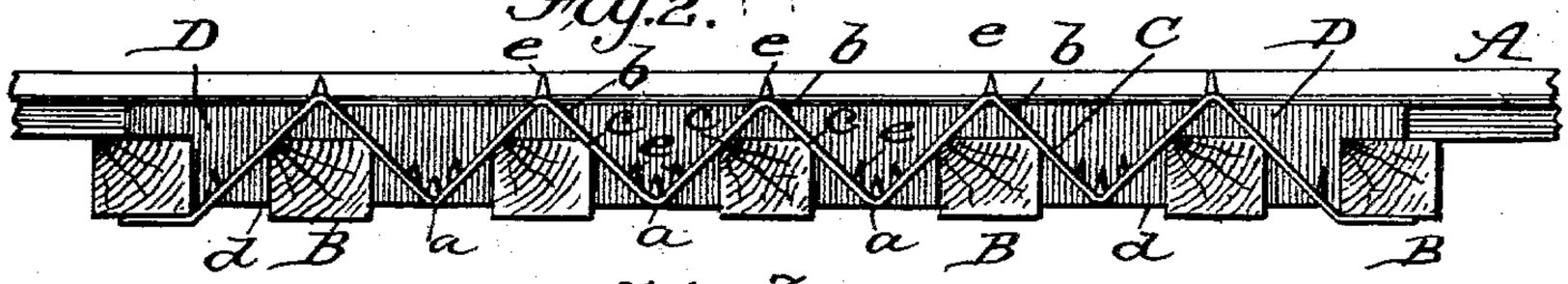


Fig. 3.

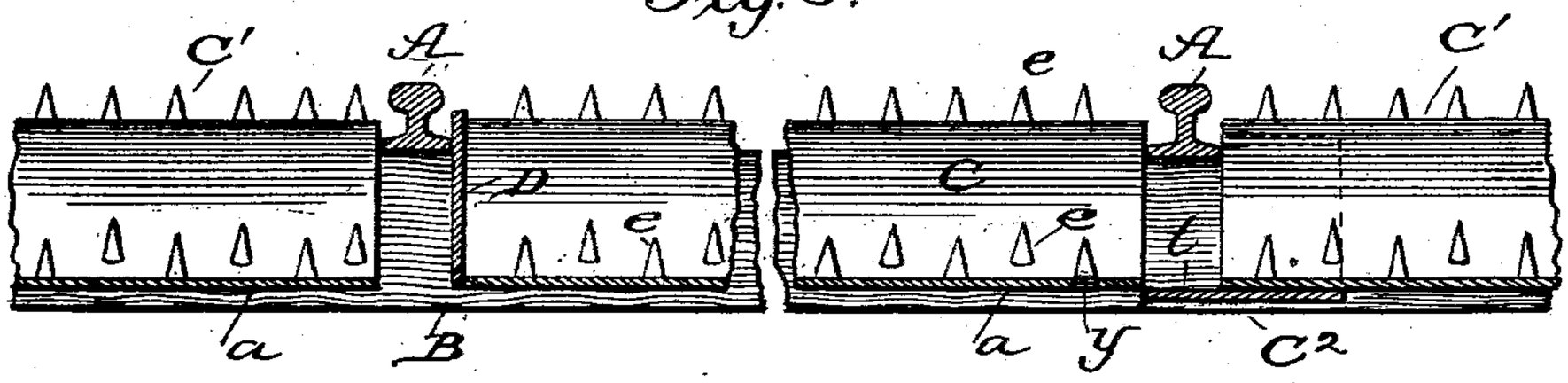
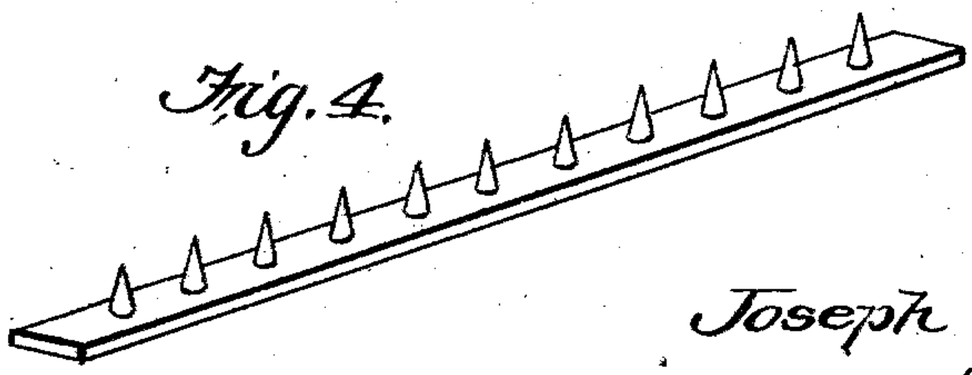


Fig. 4.



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CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 629,305, dated July 18, 1899.

Application filed December 29, 1898. Serial No. 700,681. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WILLIAM ROSS, of South Carrollton, in the county of Muhlenberg and State of Kentucky, have invented a new and useful Improvement in Cattle-Guards, of which the following is a specification.

My invention relates to cattle-guards of that form in which a railroad crosses a fence-line and is provided for some distance along its track with an impassable road-bed armed with spikes to prevent cattle from passing down the track in their effort to get through the gap in the fence-line.

My invention consists in the peculiar construction and arrangement of such impassable road-bed, as will be hereinafter more fully shown and described, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view. Fig. 2 is a vertical longitudinal section. Fig. 3 is a vertical transverse section, and Fig. 4 a detail view.

In the drawings, A A represent the two rails of a line of railroad-track which crosses a fence-line, as shown at X X.

B are the railroad-ties, upon which the railroad-rails are secured in the usual way.

C is the impassable road-bed or barrier. This is composed of heavy sheet metal bent in zigzag shape, forming trough-like or V-shaped depressions *a* at the bottom, extending down into the spaces between the ties and extending up into angular ridges *b* some little distance above the ties and parallel with them, the sides of the metal sheet between the troughs and alternating ridges being of equal length and arranged at an equal inclination of forty-five degrees and being secured by spikes or otherwise to the top edges of the ties, whose angles are beveled or cut off at *c* to form a flat bearing for said sheet. Along the ridges *b* and in the trough *a* there are fixed rows of spikes *e*, projecting upwardly and from one to four inches long. These spikes may be applied to the sheet metal separately or they may be stamped out of the sheet metal and turned up, as seen at *y*, Fig. 3, or they may be cast on strips, as seen in Fig. 4, and the strips applied to the sheet metal. This spiked barrier-bed is placed between the rails and also for some distance outside the rails, as seen at C′.

At the joint between the rails and the V-shaped angles of the plates C there are vertical strips D, having tongues *d*, that extend downwardly between the ties and close the bottom of the V-shaped openings left by the zigzag plate C under the rails. This prevents the feet of cattle from being caught in the holes in case they attempt to cross, so that if they get upon the barrier they will not be hung there by getting their feet caught, and if a train passes the engine can easily clear them off the track instead of being itself thrown from the rails, which might be the case if the cattle were down with their legs entangled in these openings. Instead of using these vertical guard-plates D the zigzag strips may have horizontal tongues *l* extending under the rails, as shown at C^2.

I am aware that an impassable barrier has heretofore been formed of spikes and also that zigzag plates armed with spikes have also been separately used, and I do not claim these features broadly. My invention is distinctive in the fact that the spiked and zigzag plates have a bearing on the ties at a point midway between their upper and lower angles. This secures a number of very important results, viz: First, it gives a nailing for the plates into the ties to hold them together at a convenient position and a convenient angle for driving the spikes; second, the ties afford a stiff backing for the plates at a point midway between their top and bottom angles where they are specially weak and liable to be indented by the hoofs of animals, and, third, the tie has an air-space both on its top and its sides, which permits a circulation of air and keeps the tie from holding moisture, which would rapidly rot it away.

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

1. A cattle-guard consisting of the combination of the railway-ties having their upper edges beveled or cut off at an incline, and zigzag plates having upwardly-projecting spikes and inclined sides of equal inclination and length resting against the cut-off edges of the ties at a point midway between their upper and lower angles and forming trough-like depressions dipping below the rails and ridges arranged parallel with and above the tie, with

air-spaces both along the top and sides of the ties substantially as and for the purpose described.

2. A cattle-guard consisting of the combination of the railway-ties having their upper edges beveled or cut off at an incline, a zigzag spike-plate having inclined sides of equal inclination and length resting against the cut-off edges of the ties midway between their upper and lower angles and forming trough-like depressions dipping below the rails and ridges arranged parallel with and above the ties and guard-plates arranged parallel to the rails and provided with tongues filling the spaces between the rails and the zigzag plates substantially as and for the purpose described.

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Witnesses:
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