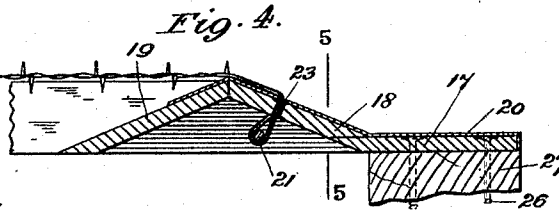
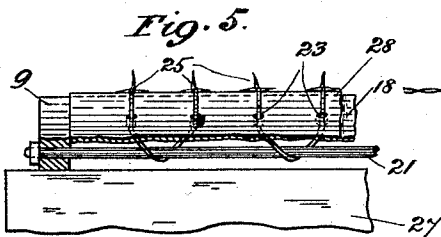
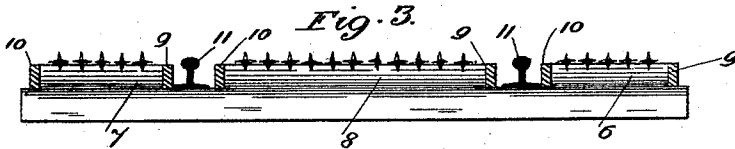
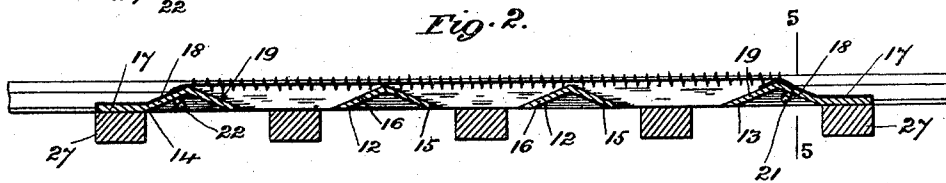
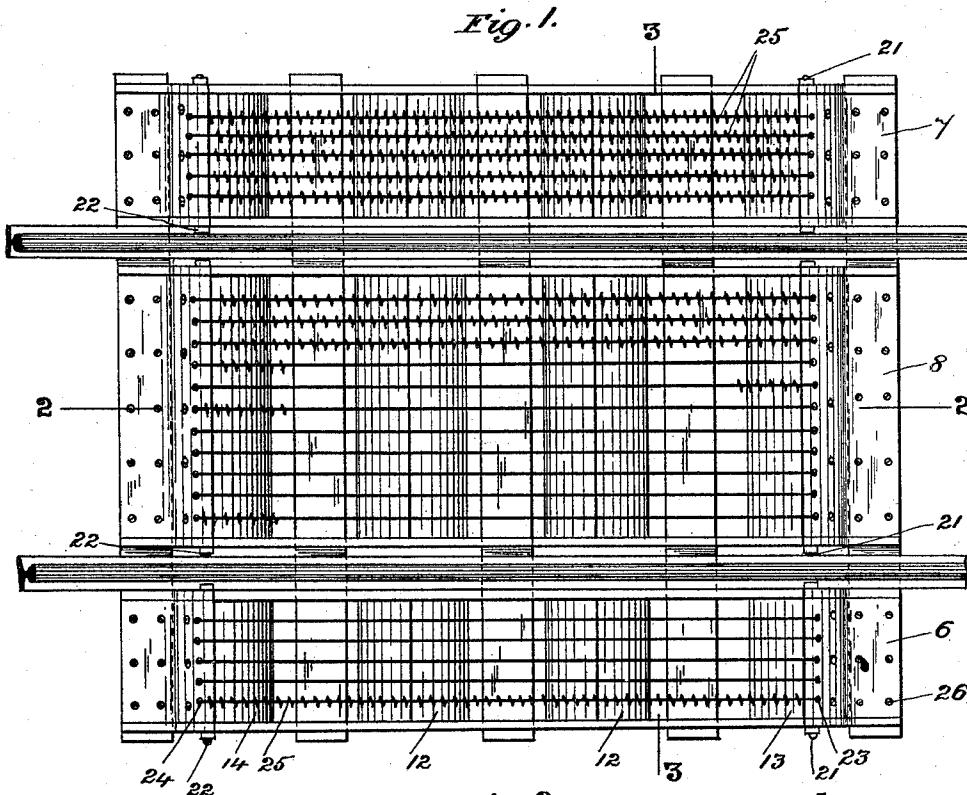


(No Model.)

J. D. SULLIVAN.  
CATTLE GUARD.

No. 582,002.

Patented May 4, 1897.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JOHN D. SULLIVAN, OF HORTON, KANSAS.

## CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 582,002, dated May 4, 1897.

Application filed February 15, 1897. Serial No. 623,559. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. SULLIVAN, of the city of Horton, Brown county, State of Kansas, have invented certain new and useful Improvements in Cattle-Guards, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to cattle-guards; and it consists in the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a top plan view of my improved cattle-guard in position for use upon a railroad-track. Fig. 2 is a vertical sectional view taken longitudinally of the railroad-track and approximately on the line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view taken transversely of the railroad-track and approximately on the line 3 3 of Fig. 1. Fig. 4 is a vertical sectional view in detail analogous to Fig. 2 and upon an enlarged scale, parts being broken away to economize space. Fig. 5 is a vertical sectional view taken on a line transversely of the railroad-track and approximately on the line 5 5 of Figs. 2 and 4.

In the construction of a cattle-guard in accordance with the principles of my invention I employ the side sections 6 and 7 and the center section 8. The side sections are placed one upon each side of the track and the center section is placed between the rails of the track. The three sections are identical in construction, with the exception that the center section is wider than either of the side sections. The side pieces 9 and 10 are placed in position parallel with the rails 11 of the track, and said side pieces are connected by the intermediate cross-pieces 12 and the end cross-pieces 13 and 14. Each of the cross-pieces 12 consists of the sections 15 and 16, said sections being inclined in opposite directions at angles of about thirty degrees relative to a horizontal line and with their upper inner edges joined together. Each of the cross-pieces 13 and 14 consists of the sections 17, 18, and 19. The sections 17 are placed in horizontal positions, and the sections 18 and 19 are placed in inclined positions at angles of about thirty degrees relative to a horizontal line and with their upper inner edges joined together. The outer edges of the sections 18 rest upon and are joined to the inner edges of the sections 17.

Sheet-metal plates 20 cover the upper sur-

faces of the sections 17 and 18 and extend part way down the upper faces of the sections 19. The bolts 21 and 22 are inserted through the side pieces 9 and 10, under the cross-pieces 13 and 14, respectively, and form an additional connection between said side pieces. A row of transversely-alined apertures 23 is formed through the sheet-metal plate 20 and through the section 18 of the cross-piece 13, and a similar row of apertures 24 is formed through the cross-piece 14.

A barbed wire 25 has one of its ends attached to one of the bolts and extends through one of the apertures and is woven back and forth on lines parallel with the rails of the track, passing through the apertures and around the bolts and finally having its opposite end attached to one of the bolts. The ends of the barbed-wire strands are supported by the cross-pieces 13 and 14, while the intermediate portions of said strands are supported by the cross-pieces 12.

The sections of the cattle-guard thus constructed are secured in position relative to the rails of the track by means of the nails or screws 26, passing through the sections 17 of the cross-pieces 13 and 14 and into the ties 27.

The cattle-guard is constructed with a view of having the barbed wire substantially on a level with the upper faces of the rails. The sections 6, 7, and 8 may be constructed of any desired length and the sections 6 and 7 of any desired width and when properly constructed will prove a very effective cattle-guard.

The frames of the sections 6, 7, and 8 may be of iron, or they may be modified in various ways without departing from the spirit of my invention, and sections of wire-netting may be substituted for the strands of barbed wire. When wire-netting is used, barbs should be applied to the netting.

I claim—

In a cattle-guard, suitable supports having sharp upper edges, said edges extending in lines transversely of the rails of the track and substantially on a level with the upper faces of said rails, and barbed wire covering and resting upon said supports, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN D. SULLIVAN.

Witnesses:

GEORGE HEGGENBERGER,  
HAYES HINCHMAN.