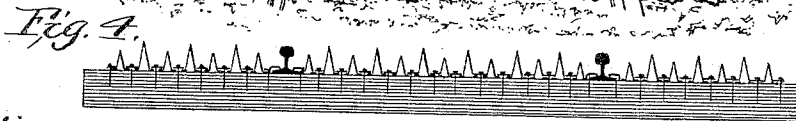
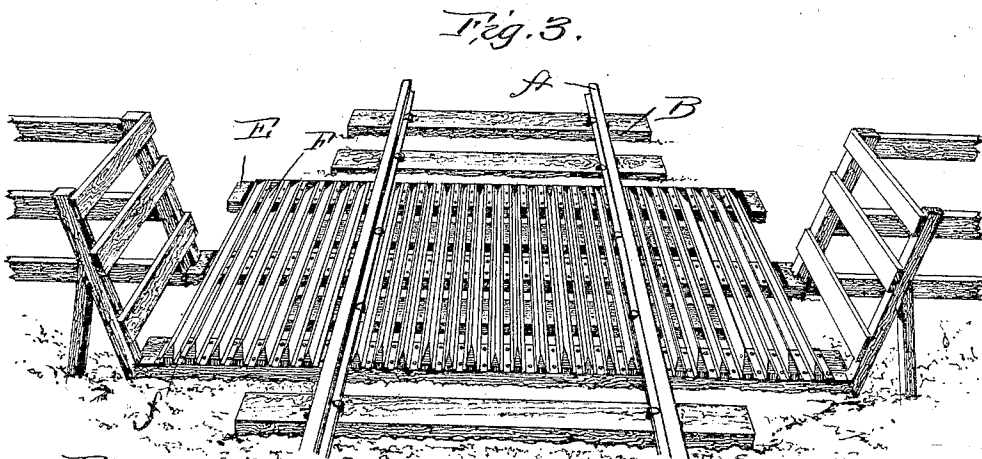
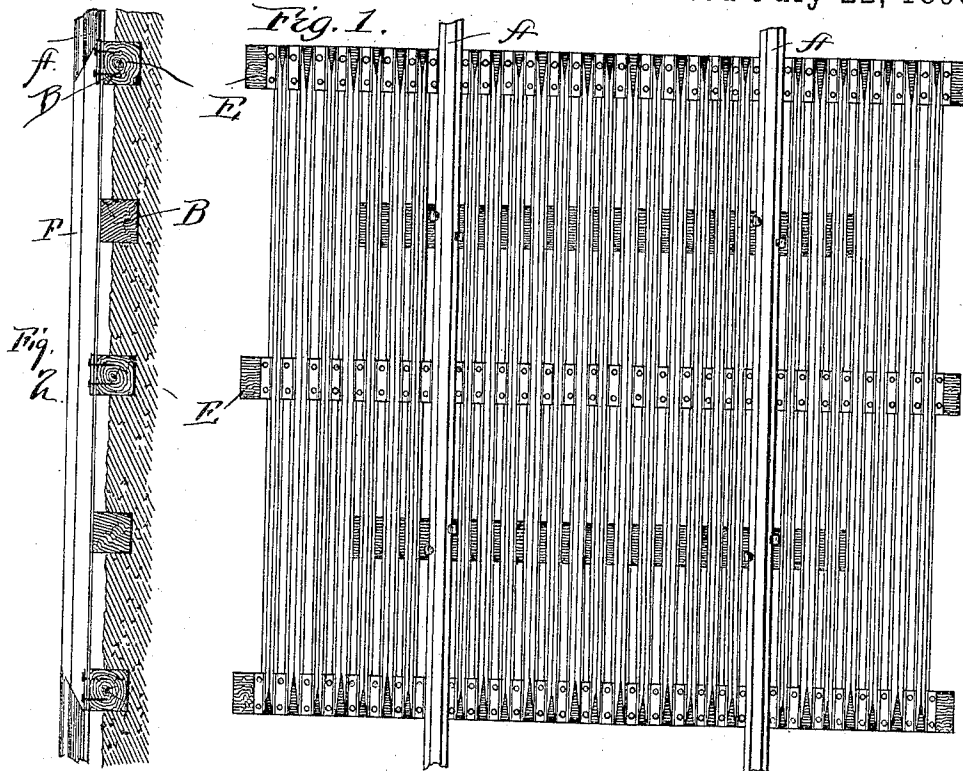


(No Model.)

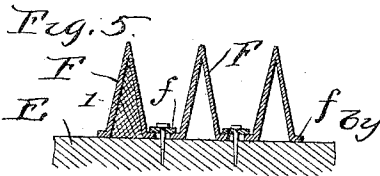
J. C. GOULD.
RAILWAY CATTLE GUARD.

No. 432,827.

Patented July 22, 1890.



Witnesses
W. P. Keene.
J. L. Middleton



James C. Gould,
INVENTOR.
Elias Spear,
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UNITED STATES PATENT OFFICE.

JAMES C. GOULD, OF SAN JOSÉ, CALIFORNIA.

RAILWAY CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 432,827, dated July 22, 1890.

Application filed December 20, 1889. Serial No. 334,362. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. GOULD, of San José, in the county of Santa Clara and State of California, have invented a new and useful Improvement in Railway Cattle-Guards; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improved cattle-guard for railway-crossings. It is of that class in which rails or bars are laid upon the ties between and by the sides of the rails at a point where it is desirable to prevent animals from walking upon the road—as, for example, where the railway intersects the line of fence.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a plan view; Fig. 2, a side elevation; Fig. 3, a perspective view; Fig. 4, a cross-section; Fig. 5, an enlarged section of the guard-rail.

In the drawings, A represents the rails of an ordinary railway, and B the ties. At the intersection of the fence D cross-ties E are made longer than the ordinary ties, and are fitted to support longitudinal guard-bars. These are shown at F. They are made of a length sufficient to prevent animals from overleaping the structure, of which these rails form a part, and they are arranged longitudinally of the road. They are V shape in cross-section, and are placed in an inverted position with their edges uppermost. The bases are provided on each side with a horizontal flange *f*, and preferably the rails are rolled hollow, as represented, with a V-shaped interior space, as shown in cross-section. These bars may be all of the same height, or they may be of greater and lesser height placed alternately, as shown in Fig. 4. They are placed so near each other that space is not left between them sufficient to admit the passage of the foot, and the sloping sides will allow the foot to be withdrawn with ease and prevent it under any circumstance from becoming wedged in. The bars, when laid, are slightly elevated by their supports above the surface of the road-bed, and they are held in place by means of short plates inserted between the bars and resting upon the flanges of the bars. These plates are wide enough to bear upon the flanges upon both sides, and where the bar is next to a rail of the track they are of a width sufficient to fill the entire

space between the foot of the rail and the bottom of the sloping side of the bar next to the rail. These plates extend longitudinally a distance sufficient for their purpose, and they are secured to the ties and other supports by lag-screws, spikes, or any other suitable means. The bars being so placed and fastened form, with their supports, a firm and durable structure capable of resisting the vibrations to which they are subjected. The ends of the bars, as shown in Fig. 2, are cut at an obtuse angle, and the triangular interior spaces are filled with blocks of wood 1 or other suitable material held in place by means of nails, screws, or bolts passing through holes made in the sides of the bars and into or through the blocks. When the bars are made of thin material, such blocks may be placed within the bars at any desired point between their ends for the purpose of strengthening them. The construction of these rails is such that the inverted-V bars may be made of thin material and the ends cut, turned over, and fastened, so as to cover the open ends instead of using the blocks. The construction of the bars is also such that they are readily interchangeable, and one may be taken out and replaced with another, or the fastenings may be removed and replaced without affecting the structure as a whole or requiring the displacement of any other part. If greater rigidity or strength is desired, the entire interior space within the angle formed by the sides of the inverted-V bar may be filled with cement or other plastic material, which may be held in place by nails or rivets running through the sides of the bar and into or through the filling.

I claim as my invention—

In combination with the rails and cross-ties, the bars of sheet metal bent to form an inverted-V-shaped body portion, with a flange on each side and a hollow interior, the short plates *f* between the bars resting upon the adjacent flanges and the securing-spikes, the interior of said V-shaped bars having filling-blocks, substantially as described.

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

JAMES C. GOULD.

Witnesses:

JOHN C. WHITE,
W. H. CAMPBELL.