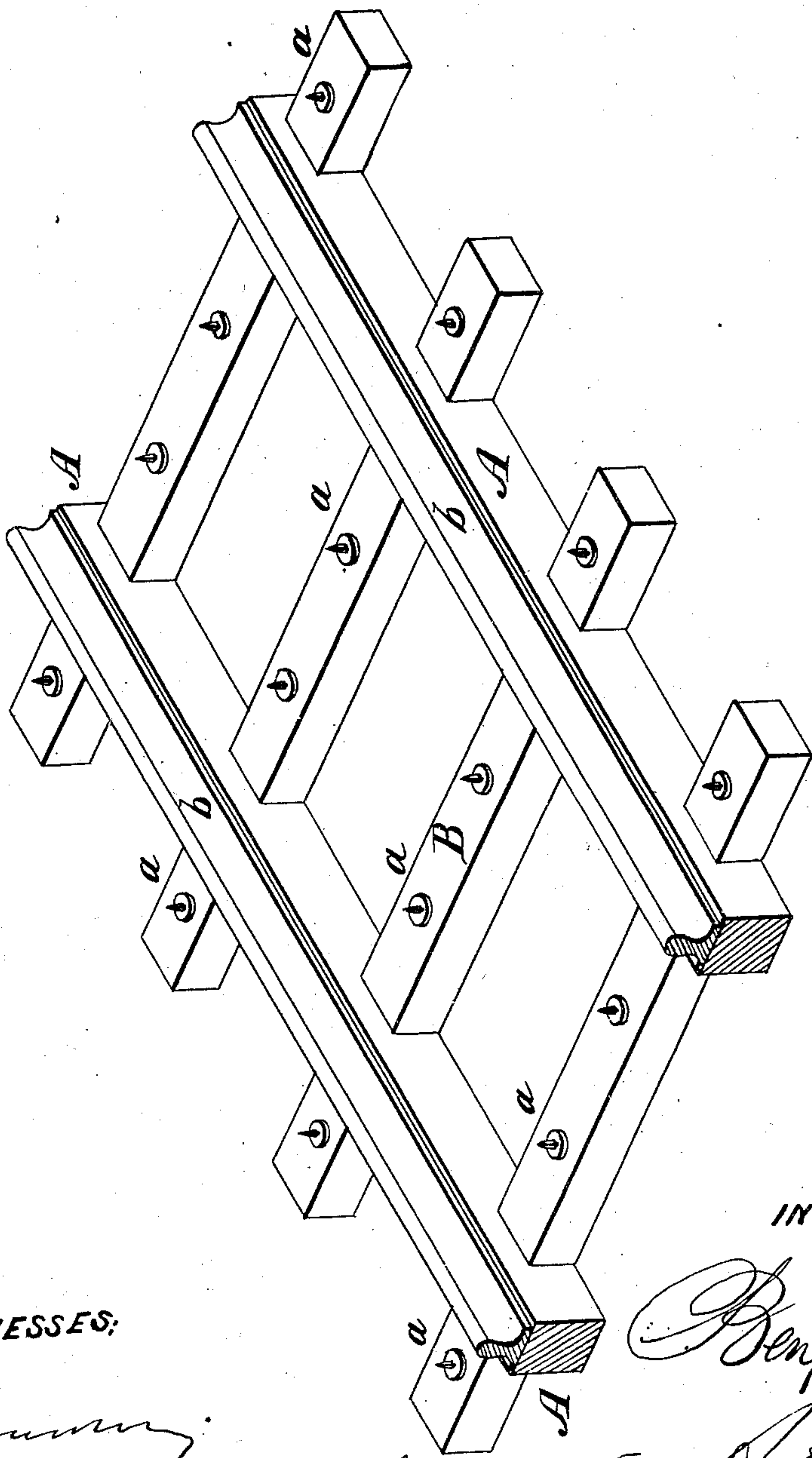


No. 29,978.

PATENTED SEPT. 11, 1860.

B. F. LEE.

CONSTRUCTION OF RAILROADS TO PREVENT CATTLE FROM  
OBSTRUCTING THEM.



WITNESSES:

*Ernest*  
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# UNITED STATES PATENT OFFICE.

BENJN. F. LEE, OF NEW YORK, N. Y.

## RAILROAD.

Specification of Letters Patent No. 29,978, dated September 11, 1860.

*To all whom it may concern:*

Be it known that I, BENJAMIN F. LEE, of New York, in the county of New York and State of New York, have made or discovered a certain new and useful Invention for Preventing the Obstruction of Railroad-Tracks by Cattle; and I do hereby declare that the following, taken in connection with the accompanying drawing, which forms part of this specification, is such a full and clear description as to enable others acquainted with the building and working of railroads to make and use this my invention.

The figure, in the drawing represents a view in perspective of a portion of a railroad track of ordinary construction, with my invention applied to it.

One of the most frequent and serious risks to which a railroad train, in rapid motion, or even in slow movement, when rounding a curve or traveling in the dark, is subjected, arises not simply from the presence of cattle on the track, but from cattle lying down thereon. Cattle, when standing up, are not only easily discernible by the engineer, from a distance, but should not the sounding of the whistle and the noise of the approaching train cause them to move off the track in time to prevent injury or accident, the usual cow-catcher or similar contrivance attached to the locomotive in front will either readily pick them up, or kill and push them to one side so as to free the track and insure the safe passage of the train over it. The case, however, is different with cattle lying down on the track. They are not so easily discernible from a distance, and, if frightened by whistle or noise of an approaching train, may not be able to pick themselves up and move off the track in time to avoid being caught by the train. But, the greatest danger arising from cattle lying on the track is the fact that the cow-catcher in a majority of instances, fails to catch them or to push them to one side out of the way, as when standing up, and, as a consequence, the certainty of the engine either to be thrown off the track or coming in contact with such obstruction, or if by its superior weight it cuts and rides over the carcass or carcasses, the probability or certainty there is of the cars in the train being thrown from the track by the greasy or slimy obstruction which the cut carcass leaves upon the rails of the track, occurring too perhaps at a curve in the road, and which, added to the

shock experienced on the first meeting of the train with the obstruction and the mass of after obstructing matter left by the cut carcass or carcasses, is almost sure to make the cars slip or work off the track. It is needless here to comment upon the terrible consequences which may and do ensue from such casualties. Their frequency and the great loss of human life or the number wounded and maimed for life by accidents from such a cause, unfortunately is too well known by all. Nor can an engineer, however cautious, avoid such casualties. He may slacken the speed of his train and run slowly and watchfully over the more exposed portions of the track, to the great hindrance of commerce and dissatisfaction of the traveling public generally, but then is not safe, especially in the dark or on a line of frequent curves, from accident by cattle lying on the track.

From these remarks, the value and importance of my invention will readily be perceived when it is stated to have for its object more particularly, the prevention of cattle lying on the track, though it also serves to make the track an uncomfortable resort for cattle to stand or run upon. It has not for its object the prevention of cattle getting on the track as that is an impossibility even, where the road is fenced in exposed districts, to say nothing of districts such as prairies and other lands where fencing is impracticable or altogether wholly neglected and where cattle are found in almost countless herds and the danger from them lying on the track is ever imminent.

A few words, in connection with the accompanying drawing, will suffice to explain my invention. Thus I stud the track of a line of railroad, or exposed portions of it, with projecting spikes (*a*) or their equivalents, by (say) driving them into the cross ties (*B*) that connect the longitudinal sills (*A*) which carry the rails (*b*) in such positions or at such distances apart between the lines of rail, and preferably outside of them as well, as that they, the said spikes, shall form a barrier or hindrance to cattle lying on the track by forming a prickly or hurtful surface which the cattle, as a matter of instinct, will avoid lying down upon, or, if lying down upon, will speedily, from the discomfort or pain experienced stand up or retire from. It is not absolutely necessary that these spikes (*a*) should be pointed and



sharp at their upper projecting extremities, as blunt pins or projections will answer, but I prefer to make them sharp at their tops.

Not only cattle, in the strict sense of that term, will, by this means or method of protecting the track, be restrained from lying down thereon, but also those accidents which so frequently occur to men in a state of intoxication lying on the track will likewise be avoided. As men, however, in such condition may with every propriety be included in the term "cattle," the necessity for this remark is not imperative.

What is claimed as new and useful is:

Studding the track of a line of railroad, or exposed portions of it, with upper projecting spikes or their equivalents substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

BENJN. F. LEE.

Witnesses:

FRANCIS E. OLIVER,  
JOHN MACKENZIE.