UNITED STATES PATENT OFFICE.

HENRY W. JACOBS, OF TOPEKA, KANSAS.

METHOD OF LAYING RAILWAY-TRACKS.

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To all whom it may concern:

Be it known that I, HENRY W. JACOBS, of Topeka, in the county of Shawnee, and in the State of Kansas, have invented a certain new and useful Improvement in Methods of Laying Railway-Tracks, and do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to an improvement in methods of laying railway tracks.

The object of my invention is to construct railway tracks with a minimum of size and weight and a maximum of strength for the parts.

More particularly, the object of my invention is to insert spikes in railway ties in such a manner that a rail will always exert exactly the same lateral and vertical pressure upon each spike driven adjacent thereto.

Under the present methods of driving railway spikes, no special care is taken to drive each spike exactly the same distance into the tie as any other spike, nor is any particular care taken to place each spike exactly the same distance from the rail. As a result, the rail exerts a greater pressure either laterally or vertically against a few of the spikes which hold it in position. Consequently, when an excessive pressure is placed upon the rail in either of the two directions mentioned some particular spike is bent, broken or loosened. In some instances the head becomes partially or entirely sheared off. At times these particular spikes, when subjected to an excessive vertical pressure, are loosened in their sockets to such an extent that they do not operate to hold the rail in position at all in a vertical direction. In the case where screw spikes are used, the fibers of the tie holding such a spike in position will become torn, thereby destroying entirely the efficacy of the screw-threads in holding the spikes in position. When a few such spikes have become loosened, it is only a matter of time when the entire rail will become freed from its proper position, resulting ofttimes in the wrecking of trains.

By my method I obviate these difficulties and disadvantages. Preferably I carry out my method by using screw-spikes which are screwed into the tie either at a central plant, or when in position upon the road bed, a measured distance from the center of the rail, or a measured distance from the spike on the other side of the rail. Furthermore, I insert the screw-spikes in such a manner that they are all driven a given and unvarying distance into the tie. One method of accomplishing the latter result is to screw the spikes into the tie by means of a friction screw driver. The friction screw driver to which I refer may be of any type, except that it should operate under the principle that when a spike which is being screwed into a tie has been driven with a given pressure, the holding member of the friction screw driver will cease to be turned by the driving means, thereby permitting the screw-spike to come to rest. A rail when laid in this manner will exert exactly the same pressure upon each and every spike adjacent thereto. In case an unusual lateral pressure is exerted upon the rail, the edge of the rail is retained in position by the simultaneous holding effect of each and every spike. The same is true in the case of vertical pressures.

It will be seen that by this method much larger rails and heavier loads can be used than in the case where spikes of the same size are not driven with the uniformity referred to. It follows, furthermore, that trains can be operated with higher speeds upon such rails than would be the case with rails held by spikes of the same size, although not driven in exactly the same relative positions in the ties. Again, where spikes of the present size are being driven irregularly, as is customary, to hold a rail of a given weight in place to carry a load of a given weight and at a certain speed, the same spikes when driven uniformly by my method will be capable of holding in position a much heavier rail carrying heavier loads and at higher speeds.

While I have described my invention above in detail, I wish it to be understood that many changes may be made therein without departing from the spirit of my invention.

I claim:—

The process which comprises placing a rail upon a series of ties, and then securing the same in position by a plurality of screw spikes, each of which is driven with the same pressure by means of a friction screw-driver.

In testimony that I claim the foregoing I have hereunto set my hand.

HENRY W. JACOBS.

Witnesses:
FRANK MITCHELL,
WM. J. LEIGHTY.