J. NEWMAN.

RAILROAD SPIKES.

No. 184,890. Patented Nov. 28, 1876.

Fig. 1

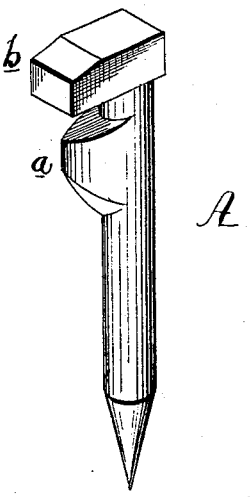


Fig. 2.

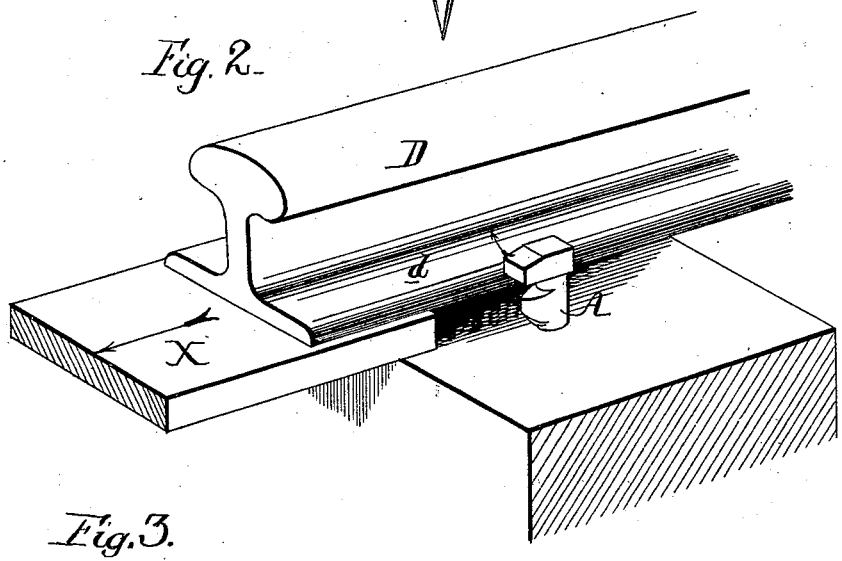
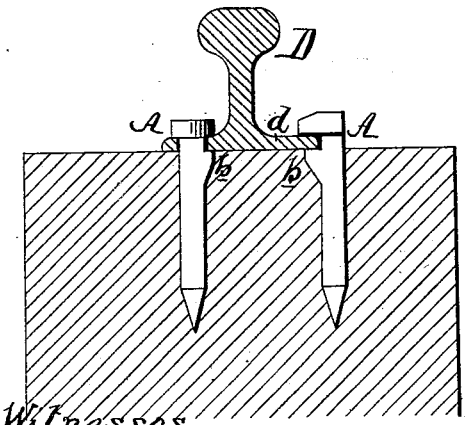


Fig. 3.



Witnesses
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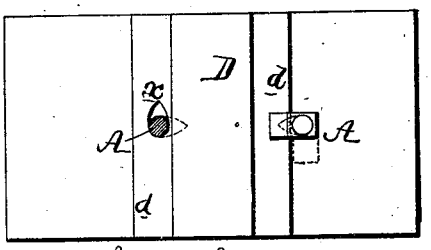
Fig. 4.



John Newman
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UNITED STATES PATENT OFFICE.

JOHN NEWMAN, OF 3 ARUNDEL PLACE, ISLINGTON, LONDON, ENGLAND.

IMPROVEMENT IN RAILROAD-SPIKES.

Specification forming part of Letters Patent No. **184,890**, dated November 28, 1876; application filed November 30, 1875.

To all whom it may concern:

Be it known that I, JOHN NEWMAN, of 3 Arundel Place, Islington, London, England, late of Ballymena, Ireland, engineer, have invented Improvements in Spikes, of which the following is a specification:

The object of my invention is to so construct a spike for railroad-rails and other purposes that the spike will not have a tendency to work loose; and this object I attain by forming on the round shank of a spike a lip or projection at such a point that the flange of the rail will be embraced between the said lip and the head of the spike, as described hereafter.

In the accompanying drawing, Figure 1 is a perspective view of my improved spike; Fig. 2, a view showing the mode of applying the spike to a railroad-rail on driving it into the sleeper; Fig. 3, a sectional view of the rail and sleeper, and Fig. 4 a plan view of the same.

It should be understood that the principal use of a railroad-spike is to prevent the lateral displacement of the rail, and not to prevent vertical motion of the rail, as there is little or no tendency on the part of the latter to rise from its seat. Owing to the constant passage of heavy traffic over the rails, the latter gradually form depressions in the sleepers, and at the same time the spikes, if of the ordinary construction, are caused to work loose and rise up to such an extent as to destroy their power of holding the rail laterally in position.

With the view of overcoming these objections, I construct the spike as shown in the drawing.

A is the spike, the stem of which is round or circular in section, the spike having the usual head *b*, of any desired form. A short distance below the head of the spike, on one side of the round stem, is formed a lip or projection, *a*, leaving a space between the head *b* and the projection about equal to the thickness of the flange of the rail.

In laying the rail D, Fig. 2, a piece of wood or metal, X, is temporarily inserted between the rail and the sleeper, so as to leave a space between the two equal to the depth of the lip on the stem of the spike. The spike is driven into the sleeper close to the edge of the rail, in the position shown in Fig. 2, until the lip *a* comes in contact with the sleeper. The spike is then turned in the direction of the arrow (the round stem of the spike not disturbing the fibers of the wood) until the flange *d* of the rail is embraced by the head and lip of the spike, as shown in Fig. 3. The piece X is then withdrawn and the spike driven home.

As the spike is thus in effect attached to the rail, the usual depressing action of the rail on the sleeper, which causes the spikes of the ordinary character to rise and work loose, will in the present case, on the other hand, tend to drive the spike farther into the wood and make its hold more secure.

Instead of adapting the spike to the edge of the rail, as above described, it may be inserted through an opening, *x*, in the flange of the rail, as shown in the left-hand side of Figs. 3 and 4, such opening *x* being of the elongated character shown in Fig. 4, in order to permit the passage of the lip on the spike before the latter is turned to the position shown by dotted lines.

My invention has no relation to that class of spikes which have projections formed on their stems with a view to strengthening their hold on the wood into which they are driven, for it has been found by practical tests that barbed spikes do not have as firm a hold on the wood as do the smooth ones.

I claim as my invention—

The within described spike, having a round stem, a head, *b*, and a lip or projection, *a*, to be adapted to the flange of a railroad-rail or other object, as and for the purpose described.

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

JOHN NEWMAN.

Witnesses:

JAMES ROSE,
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WILLIAM EDWARDS,
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