M. Foster.

Railroad Spikes.

No 72276 Patented Dec. 17, 1867.

Fig. 1.

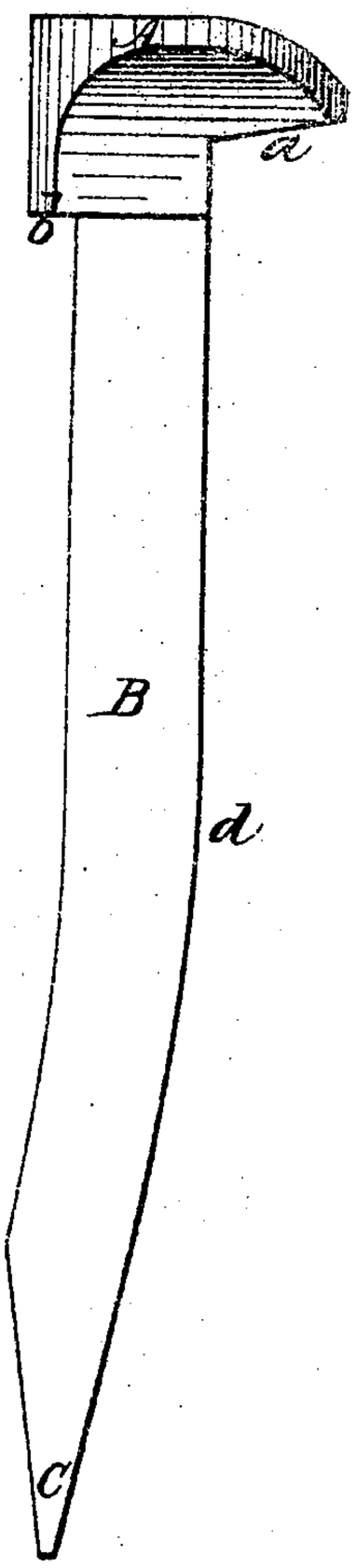
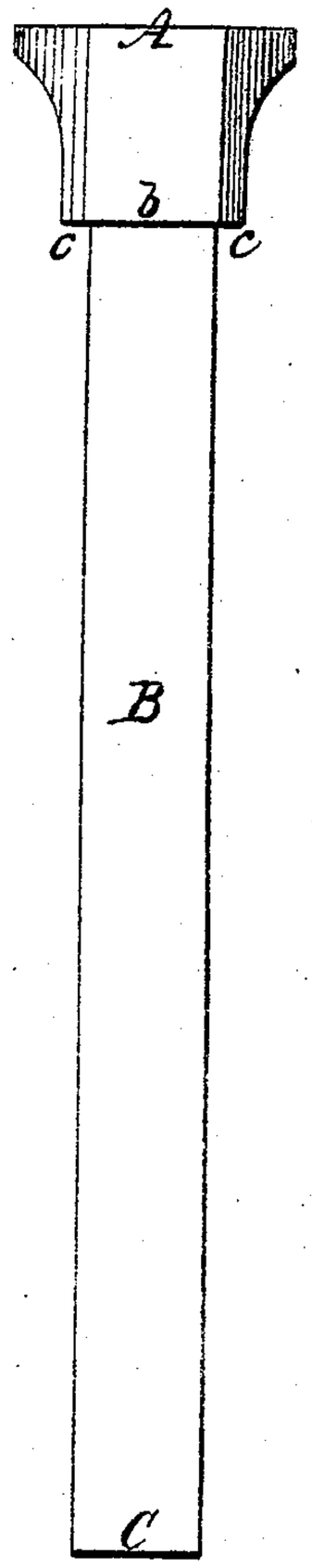


Fig. 2.



Witnesses.

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MORRISON FOSTER, OF CLEVELAND, OHIO.

Letters Patent No. 72,276, *dated December* 17, 1867.

IMPROVEMENT IN RAILROAD-SPIKES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, MORRISON FOSTER, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Railroad-Spikes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a side view, and

Figure 2 a rear view of one of the spikes in question.

In the use of railroad-spikes as at present constructed, the workman cannot tell exactly when to stop driving, and the last one or two blows are apt to bring the under side of the head in sudden contact with the unyielding iron rail, and cause an immediate fracture in the corner of the head, or so weaken or strain the spike at that point, as that a very little additional jar or strain will bend the head upward and backward and break it off. The rain also settles in the hole made by the spike around its upper portion, and causes the cross-tie to rot and loosen the spike.

My invention consists in making a projection or shoulder behind the head of the spike, but as a continuation of said head, and at a point slightly below the level of the under side of the flange of the rail when the spike is in its place, so that in driving the spike, this shoulder comes in contact with the cross-tie, a little before the under side of the hook of the head reaches the top of the flange of the rail, admonishing the workman to strike lightly, and cushioning off the stroke of the final blows, and thus obviating the liability of fracture at or under the hook or head of the spike. The shoulder also prevents the head from bending upward and outward from the rail, and thus strengthens the head and neck of the spike, so that they cannot as easily be broken off, as in the present spike in use. I have also as auxiliary to the shoulder, behind the head of the spike, added shoulders at the sides thereof, which latter, together with the shoulder at the rear, shed off the rain or other water, and prevent it from settling into the hole around the spike, and rotting the cross-tie.

My invention further consists in curving the shank of the spike backward from a point about midway of its length, down to the point of the spike, for the purpose of causing the spike to hug the rail closely when driven into the cross-tie.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents the head of the spike, B its shank, and C the point thereof. At a distance below the under side *a* of the hook of the spike, and equal to or a little greater than the thickness of the flange of the rail with which it is to be used, and on the rear side of the head (calling that the rear side which is most remote from the flange of the rail) of the spike, I make a shoulder, *b*, which when the spike is driven into the cross-tie shall come in contact with the wood, a little before the hook has its full hold or strain upon the flange of the rail. The shoulder thus coming in contact with the wood or cross-tie, is a guide for the workman to ease off his blows upon the head of the spike, and the wood cushions the blow when the spike and rail come together metal to metal. This shoulder *b* serves also as a brace or support against the upward and backward rising of the spike-head, and performs another function that will be referred to hereafter. On the sides of the spike, and on a line with the shoulder *b* at its rear, I form shoulders *c c*, which are auxiliary to the shoulder *b*, for its special purpose, and moreover, in connection with the shoulder *b*, cover the hole in the cross-tie made by driving the spike, and shed off the rain or water, and thus prevent the wood from saturation and decay around the spike, which would loosen it. The shank B of the spike from a point about midway of its length, (say the point *d*,) is curved backward, and the opposite side sloped off from the point *c* or thereabouts, to form the point *e* of the spike. The curving of the shank of the spike causes its upper portion to hug the flange of the rail, or rather its edge, as the spike is driven into the cross-tie.

These spikes may be made in a machine constructed for the purpose, as there is nothing in their shape or form that would prevent them from being headed, shouldered, curved, and pointed, and then delivered from the dies or jaws in which they are so wrought.

The shoulders described may (with great advantage over the old spike) be located simply on a line with the bottom of the iron rail, (when the spike is in place,) without extending below that level, and will, even made

in that manner, strengthen the head and neck of the spike, and save the head from being bent backward, upward, or outward by the contortions of the rail and cross-tie, caused by trains passing over them, or from other causes. Or for shedding off the rain or other water, the shoulders may be made to extend just down to the sill or cross-tie, or barely so far.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

In combination with hook-headed railroad-spikes, the so enlarging of the head, and continuing it, as that there will be formed, in conjunction with the head, a shoulder at the rear of the spike, on a line below the under side of the hook of the spike, so that said shoulder shall come in contact with the wood into which the spike is driven a little before the hook comes in metal contact with the flange of the rail it is to hold, and thus prevent any liability to fracture or over-strain the head of the spike, substantially as described.

I also claim, in combination with the shoulder at the rear of the spike, when formed with a continuation of the head, and located with regard to the under side of the hook, as above described, the shoulders at the sides of the spike and on a line with the shoulder *b*, and auxiliary thereto, for the purpose of shedding the rain or other water from the hole made by driving in the spike, and thus preventing the rotting of the cross-tie, and consequent loosening of the spike, substantially as described.

I also claim curving the lower portion of the shank of the spike backward, in combination with the rear inclination, to form the point, for the purpose of causing it to hug the edge of the flange of the rail as it is driven in alongside of it, substantially as described.

MORRISON FOSTER.

Witnesses:
J. D. CLARY,
DANIEL STEPHAN.