(No Model.)

G. G. RHODERICK.

RAILROAD SPIKE.

No. 534,230. Patented Feb. 12, 1895.

Fig. 1.

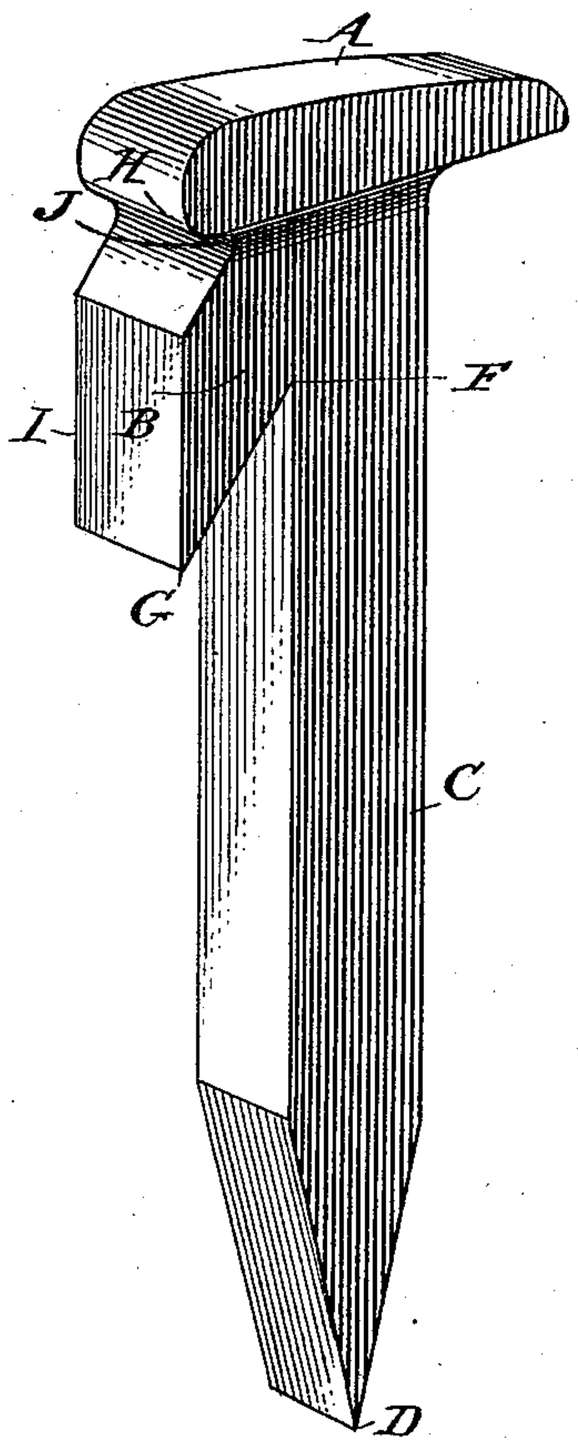
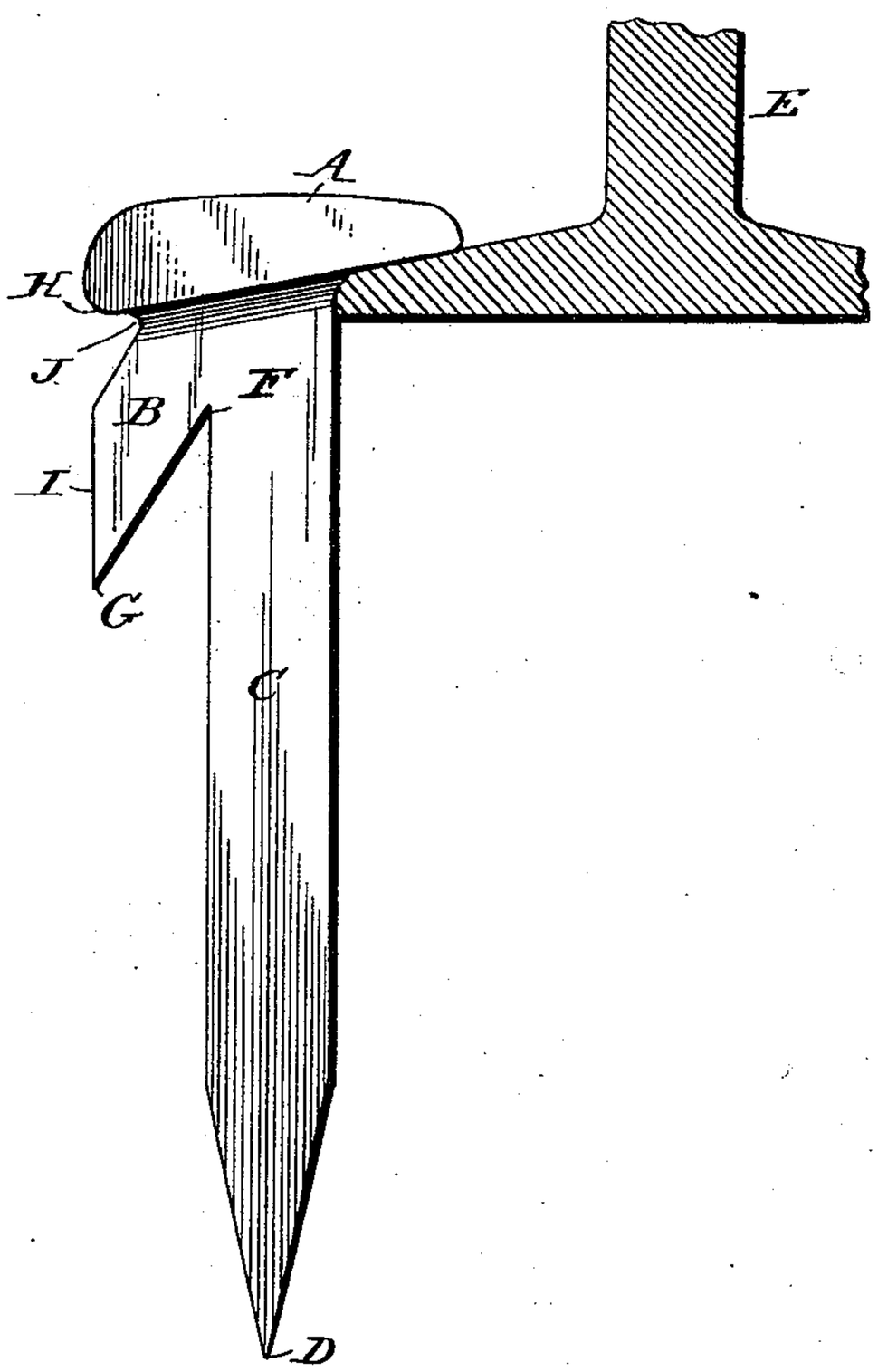


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE GRAY RHODERICK, OF BAYONNE, NEW JERSEY, ASSIGNOR OF ONE-HALF TO ALLAN BENNY, OF SAME PLACE.

RAILROAD-SPIKE.

SPECIFICATION forming part of Letters Patent No. 534,230, dated February 12, 1895.

Application filed February 24, 1894. Serial No. 501,417. (No model.)

To all whom it may concern:

Be it known that I, GEORGE GRAY RHODERICK, a citizen of the United States, residing in the city of Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Railroad-Spikes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of spikes used in fastening down and holding in place the rails of a rail road track, or the holding down of any object by means of a projecting head on the spike, lapping over and resting upon a flange, as shown in the drawings accompanying this specification.

Heretofore rail road companies have found it impossible to get a spike, which, when driven straight down into the tie would retain its exact position for any length of time, and, which could also be driven tightly into the tie and afterward withdrawn, without having the head, neck, or that portion of the shank of the spike just below the surface of the tie either bent, split or broken, or fractured in some way, so that the pressure of the rail against the spike afterward causes the same to become broken.

The spike in common use by the rail road companies generally becomes loosened in the tie by direct pressure of the rail against it, or by reason of the vibration and jolting of the rail caused by the passage of trains over it, causing the spike to work upward, or to turn around; the rail, then spreading, either by pushing the spikes outward or loosening them; or jumping over the head of the spike when the same turns around, so that the projecting head no longer rests upon the flange, but is turned away from it. In a great many cases the spike is fractured or weakened, either in its head or in the neck, or in that part of the shank just below the surface of the tie, by the force used in driving it, and this fractured or weakened portion afterward gives away by pressure of the rail against it. One of the usual causes of the working loose of the spike in the tie is, that in driving the spike downward, and tightly up against the flange of the rail, a hole is left at the rear of the spike, allowing water to collect around the head of the spike and into this hole, causing the wood to become soft and rotten, and thus allowing the spike to be forced out of place. It is also very difficult to draw the ordinary spike by means of a claw-bar from the tie, without either breaking the head or bending the spike. Great difficulty has also been experienced with that class of spikes having an extension at the top and in the rear of the spike, designed to act as a brace, because of the difficulty of driving the same; and of its weakness through the head and neck, on a line drawn parallel with the rear line of the shank of the spike, or of a weakness through the spike itself on a line drawn through the same, at the surface line of the tie, and for a short distance below the same.

The object of my invention is to make it impossible, or, at least much more difficult for the spike after being driven into place to work upward or backward; or to turn around, or to break off, or to become bent, or to change in any way from the position into which it had been driven; and also to prevent the breaking or injuring of the head, or other portion of said spike in driving it; and also to so close up and fill the entire hole made in driving the spike, so that it will be impossible for water to collect and enter the wood of the tie around the spike. This I accomplish by making the spike the usual length and thickness of the common rail road spike, and adding at the top and upon the rear of the shank of the spike, a piece of iron, which I hereby designate as the "hold fast" to run from a point just under the head of the spike, downward and outward from the shank of the spike at an angle of about thirty degrees, and to be about one fourth the length of the shank; the rear line of said hold fast to be parallel with the rear line of the shank, and to come to a point, as shown in the accompanying drawings; the head of the spike to be continued across the top of the hold fast to a point just beyond a perpendicular line drawn upward along the rear line of the hold fast; and said head to be thick enough at the rear so that when the spike is driven into place the head will rest securely in the tie, and close

up completely any hole or abrasion made by the spike when driven.

This spike which I have described, and which is shown in the drawings, can be driven without any fear of its splitting or bending; or of the breaking or injuring of the head, or any portion of it, because of its great strength, and of the great strength of the shank and hold fast, for a distance of an inch below the head, the spike there being of about double the thickness of the ordinary spike.

This spike can be very easily driven with the hold fast, because of the sharp angle between the shank and the hold fast, and the sharp point of the hold fast; and it is bound to be driven perfectly straight, because of this sharp angle, and of the extra strength of the spike at the junction of the shank and the hold fast.

When driven into the tie it will be impossible to move this spike from its position in any way, because the force used in driving the spike would press the wood of the tie so tightly into the angle between the hold fast and the shank that no vibration of the rails can shake it loose, and the hold fast itself will act as a brace against the shank of the spike, so that it can not be moved backward or changed in any way from its position. It will also be impossible when this spike is driven home, for any water to get into the tie through the hole made by the spike, because such hole will be completely filled and covered up by the head of the spike. In withdrawing this spike from the tie by the claw-bar the head can not be broken off, nor the spike bent or injured in any way because of the strength at the upper portion above recited.

In the accompanying drawings wherein a spike embodying my invention is illustrated, Figure 1 is a perspective view of a spike embodying my improvements, and Fig. 2 is a side elevation thereof showing it in engagement with the flange of a rail-road rail.

In the accompanying diagram A. is the head. B. is the rear of the holdfast. C. is the shank. D. is the point of the spike. E. is the rail. F. is the apex of the angle between the shank and the hold fast. G. is the point of the holdfast. H. is the back of the head. I is the rear face of the hold-fast which is parallel with the rear face of the body or shank of the spike, and J is the recess which is between the overhanging portion H of the head of the spike, and the hold-fast.

Having described my invention as above, I claim the following to be new, and desire Letters Patent to be issued thereon, viz:

1. A spike consisting of the head and shank, and a holdfast or brace secured to the rear side of the shank, entirely below the head and extending downward along the rear face of the shank, whereby the shank is reinforced or strengthened for a distance below the surface line of the tie when the spike is driven thereinto, the rear face of the holdfast being parallel with the line of the shank, and there being an angle between the rear face of the shank, and the lower inner face of the hold-fast, whereby the lower end of the latter is pointed substantially as set forth.

2. A spike consisting of a shank C, having a recess J and a hold-fast or brace secured to the upper rear face or side of the shank entirely below the head, and extending downward and backward therefrom at an angle approximating thirty degrees, the hold-fast being sharpened at its lower end, and having its rear face in line with the shank, and a head A which extends across the top of the shank, and of the hold-fast, and beyond or in rear of the rear face of the hold-fast, substantially as set forth.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, this 19th day of February, 1894.

GEORGE GRAY RHODERICK.

In presence of—

ROBT. BENNY,

JOHN C. HUNTER,

ALLAN BENNY.