

(No Model.)

H. GREER.
RAILWAY SPIKE.

No. 455,900.

Patented July 14, 1891.

FIG.1.

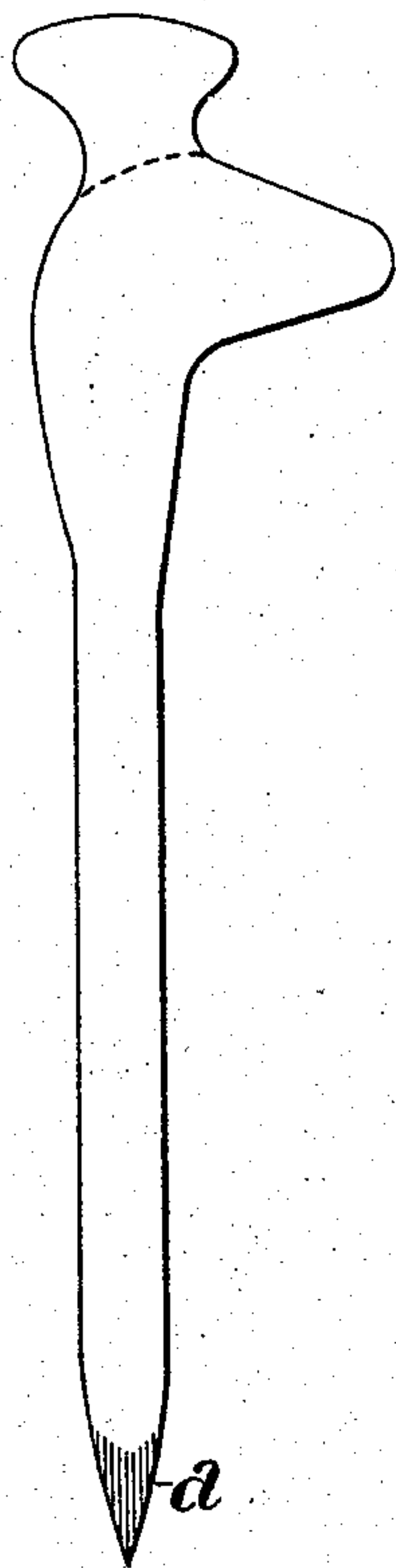
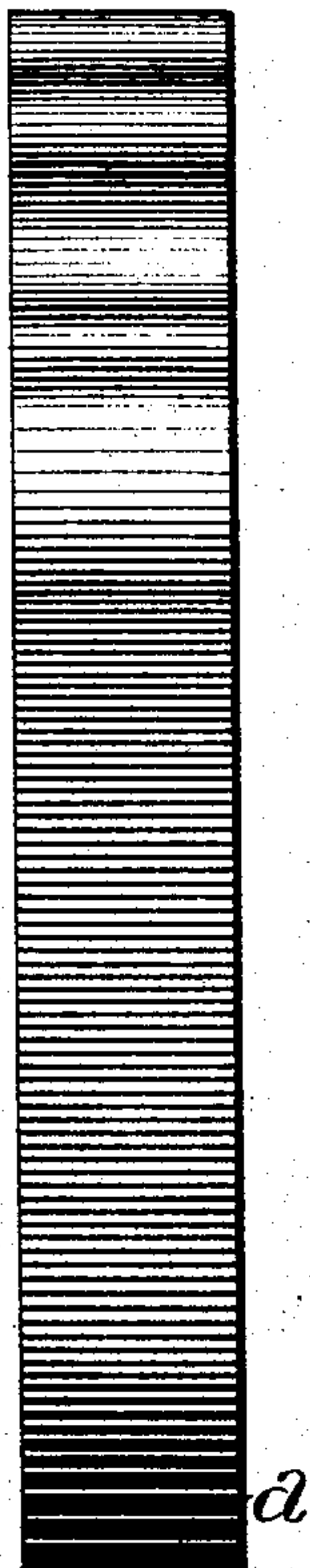


FIG.2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HOWARD GREER, OF LAKE VIEW, ILLINOIS.

RAILWAY-SPIKE.

SPECIFICATION forming part of Letters Patent No. 455,900, dated July 14, 1891.

Application filed January 17, 1889. Serial No. 296,689. (No model.)

To all whom it may concern:

Be it known that I, HOWARD GREER, a citizen of the United States, residing at Lake View, in the county of Cook and State of Illinois, have invented or discovered a certain new and useful Improvement in Railway-Spikes, of which improvement the following is a specification.

In the accompanying drawings, forming a part of this specification, Figure 1 is an edge and Fig. 2 is a side view of a spike embodying my invention.

In the use of railway-spikes serious difficulties occur from defective or imperfect points. Sometimes the bevel of the point is too abrupt, and the result is that the wood fiber is broken not only in the immediate path of the spike, but also for some distance around it. This is especially true of soft-wood ties, and such ties are the ones most commonly in use in this country, as hard wood for such purposes is becoming somewhat scarce; also, the ordinary machine-made spike frequently has a defective point, or one in which the cutting-edge does not extend in a straight line across the point or is more or less ragged, and in such cases the evil already spoken of is aggravated; also, it is true that the machine-made article frequently has fins formed along the corners or ends of the bevels, and these still further interfere with the making of a smoothly-cut or well-defined hole; and a still further difficulty arises from the fact that many of the soft woods now employed for railway-tie purposes, and particularly cedar, cyprus, and similar woods, are full of little knots, and the ordinary spike point when striking them is apt to give way instead of cutting through, with the result of twisting or deflecting the spike-shank, and so lessening its holding-power. These evils may be remedied in part by giving to the point *a* of the spike a sharp cutting-edge and an edge which extends entirely across the point and at right angles with the line in which it is to be driven; but spikes thus pointed are subject to the still further difficulty that they are roughly handled in packing and necessarily bang against each other endwise as well as in all other directions while inclosed in kegs and being transported from place to place, and the sharpened cutting-edges or points are liable to be thus

injured or perhaps spoiled. In order to overcome this difficulty and insure the delivery of the spike to the user out on the track uninjured and in good condition for driving, I temper or harden the point *a* of the spike before it leaves the shop or before it is packed. This may be done in different ways—as, for example, by the ordinary tempering or hardening processes applied to each spike-point after being ground or otherwise finished, and by this I mean the manner commonly used in the tempering or hardening of edged or pointed tools.

Another method which may be practiced is this: The spikes as they come hot from the machine may be subjected to the action at their points of any suitable tempering or hardening fluid or liquid, such as water or steam, applied by jets or by the spike-point being dipped therein or in any suitable known way. Then after the spikes have become cold the points may be ground by the process known as “wet grinding,” so as to receive the desired sharp cutting-edge.

A third method of tempering or hardening, which forms the subject-matter of another application, may be adopted. In this method I take the machine-made spike and grind the desired bevel on one or both sides, according as the wedge-shaped or chisel-shaped point is desired, and then do this grinding in such way as to raise the temperature of the spike-point to what may be termed a “tempering heat” or a heat at which steel will take a temper—say cherry-red, or thereabout. While the point thus heated still retains a tempering-heat I subject it to the action of water or steam or of any other suitable fluid or liquid which is adapted to produce a tempering or hardening effect. Such water or other fluid may be applied in the form of a jet or small stream, or the hot point of the spike may be dipped into the water or other liquid, or other suitable mode of application may be adopted.

The present improvement is claimed in its application to spikes generally, without regard to form or construction of head, neck, or shank, since many such are known, and to all of which a tempered point or cutting-edge would be exceedingly advantageous. At the same time, while it is true that the cutting-edge is a great advantage in a spike of this

kind, it is also true that the tempering or
hardening operation applied even to an un-
ground point will considerably enhance its
value, especially as regards its ability to re-
sist injury from other spikes in packing and
transportation, and also as regards its ability
to be driven in a straight line, even through
a hard knot.

I claim herein as my invention—
A railway-spike having a soft or untempered

body portion and a tempered or artificially-
hardened point or cutting-edge, substantially
as set forth.

In testimony whereof I have hereunto set
my hand.

HOWARD GREER.

Witnesses:

CHARLES F. LOESCH,
CHARLES A. ALLEN.