

(No Model.)

J. L. GAGE.
RAILWAY SPIKE.

No. 508,877.

Patented Nov. 14, 1893.

Fig 1.

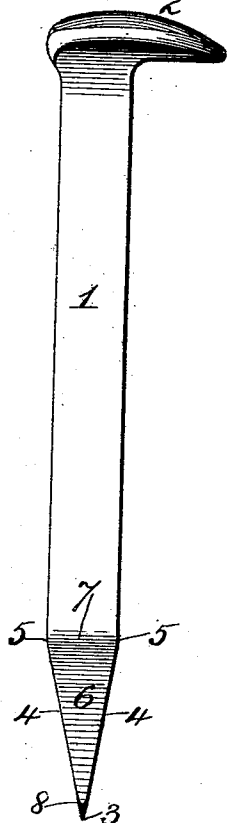


Fig 2.

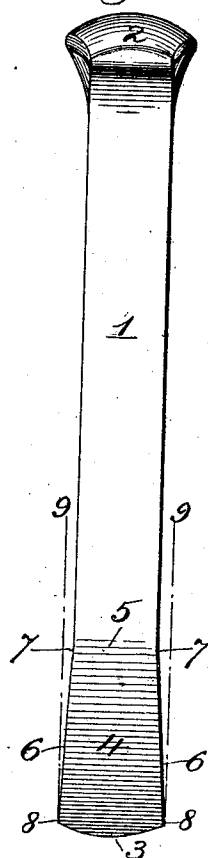


Fig 3.



Fig 4.



Witnesses
Wm. L. Fleming
Jno. L. Condon

Inventor
James L. Gage.
by Raymond & Quinlan Attys

UNITED STATES PATENT OFFICE.

JAMES LORENZO GAGE, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS
TO STUART F. MARCHANT AND JAMES R. PIGMAN, OF SAME PLACE.

RAILWAY-SPIKE.

SPECIFICATION forming part of Letters Patent No. 508,877, dated November 14, 1893.

Application filed July 28, 1893. Serial No. 481,728. (No model.)

To all whom it may concern:

Be it known that I, JAMES LORENZO GAGE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Spikes, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to appliances for securing railway-rails to their ties or sleepers, and for various other analogous purposes, and the primary objects of my invention are to produce a railway spike which shall be so formed as to be easily driven into a tie or sleeper, and which shall securely retain its embedded position therein, and which, furthermore, shall enter the tie or sleeper cleanly and clearly without mutilating the fibers of the tie adjacent to the spike.

To the above purposes, my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

The more precise nature of my invention will be better understood when described with reference to the accompanying drawings, in which—

Figure 1 is an edge view of a spike embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a view of a fragment of a tie and a spike of usual form driven therein; the view showing the mutilation of the fibers of the tie by such spike. Fig. 4 is a view of a similar fragment of a tie and a spike embodying my invention driven therein; the view showing the absence of mutilated fibers.

In the said drawings, 1 designates the body-portion or stem of the spike and 2 the head of the same; the stem being preferably rectangular in cross-section and such head being either of the precise form shown or of any other desired form.

8 designates the cutting edge or point of the spike which is of course formed at the opposite end of the body or stem 1 from that occupied by the head 2. This edge or point 3 may be either outwardly segmental, as shown, or straight, as preferred. In either event this

end of the stem is tapered inwardly and downwardly, as at 4, at its two opposite sides; such tapered portions 4 beginning at a suitable distance, as 5, above the point or edge 3 and terminating at said point or edge. At this end of the spike, the two alternate or intermediate narrower sides or edges of the spike are flared outwardly and downwardly, as at 6; such flared portions each beginning at a point 7 preferably coincident with the points (5) of commencement of the inclined sides 4 and terminating at the ends of the edge 3, so as to form a sharp outwardly extending spur or point 8 at each of said ends.

The spike may, of course, be produced in the usual way, by die-forging, swaging, or in other suitable manner, and the result of the peculiar flaring at the points 6, 6, is that, when the spike is driven into a tie, the sharp points 8 cleanly cut away the fibers of the wood in advance of the entrance of the tapered surfaces 4, as indicated by the dotted lines 9 in Fig. 2, so that there is no mutilation of the fibers of the tie adjacent to the spike. This is clearly illustrated by comparison of Figs. 3 and 4 which are pictorial reproductions of actual specimens. In Fig. 3, T designates a fragment of a tie and S a spike of the usual form driven therein. At *t, t*, are shown the inwardly distorted or mutilated fibers of the tie adjacent to the spike. In Fig. 4 the tie T is seen to be devoid of such mutilated or distorted fibers, and such is actually the case when a spike embodying my invention is used. These distorted fibers weaken the hold of the spike, and also admit water around the spike, which water speedily rots the fibers and causes the spike to work loose. A further advantage of my invention is that, after the spike has been driven home, the points 8 act as barbs to retain the spike in position.

My invention is peculiarly applicable to railway spikes, but it is also equally applicable to nails and all similar devices which are to be driven permanently into wood. It is to be further understood that while I have shown the flared portions 6 of the spike as extending from the points 7 downward to the ends of the entering edge 3, I may make said flared portions of less proportionate length than that

shown, but the flared portions should, in any event, always terminate immediately at the ends of the entering wedge.

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

1. A spike or similar device, having its entering end-portion flared outwardly from opposite points along its length to its entering extremity, and forming at the side termini of said extremity outwardly extending cutting and retaining points or spurs, substantially as set forth.

2. A spike or similar device, having its body portion or shank rectangular in cross-section, and having its entering end portion flared outwardly from opposite points along its length to its entering extremity, forming at the side

termini of said extremity outwardly extending cutting and retaining points or spurs, substantially as set forth.

3. A spike or similar device, having its body portion or shank rectangular in cross-section, and having its entering end tapered inwardly at opposite points and also flared outwardly at alternate opposite points from above its entering extremity to said extremity; said entering extremity being edged and terminating at its sides in outwardly extending cutting and retaining points or spurs, substantially as set forth.

JAMES LORENZO GAGE.

Witnesses:

TODD MASON,
JNO. L. CONDRON.