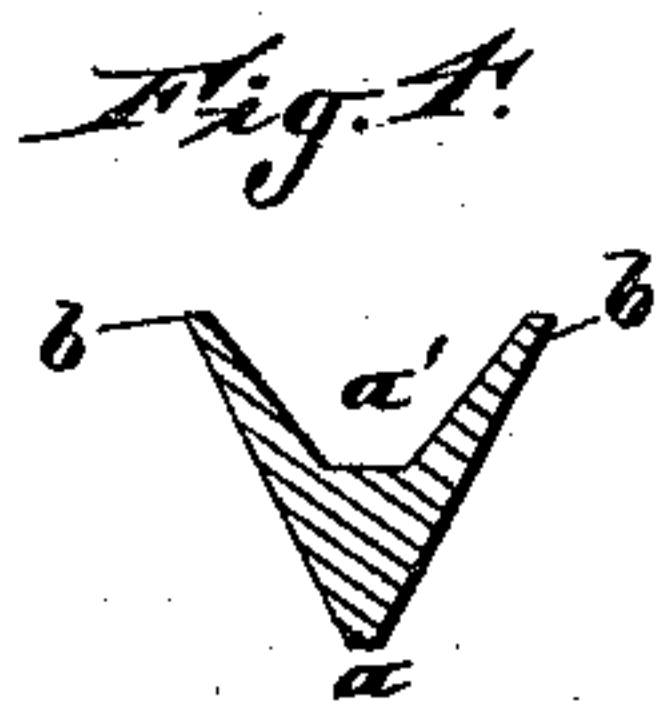
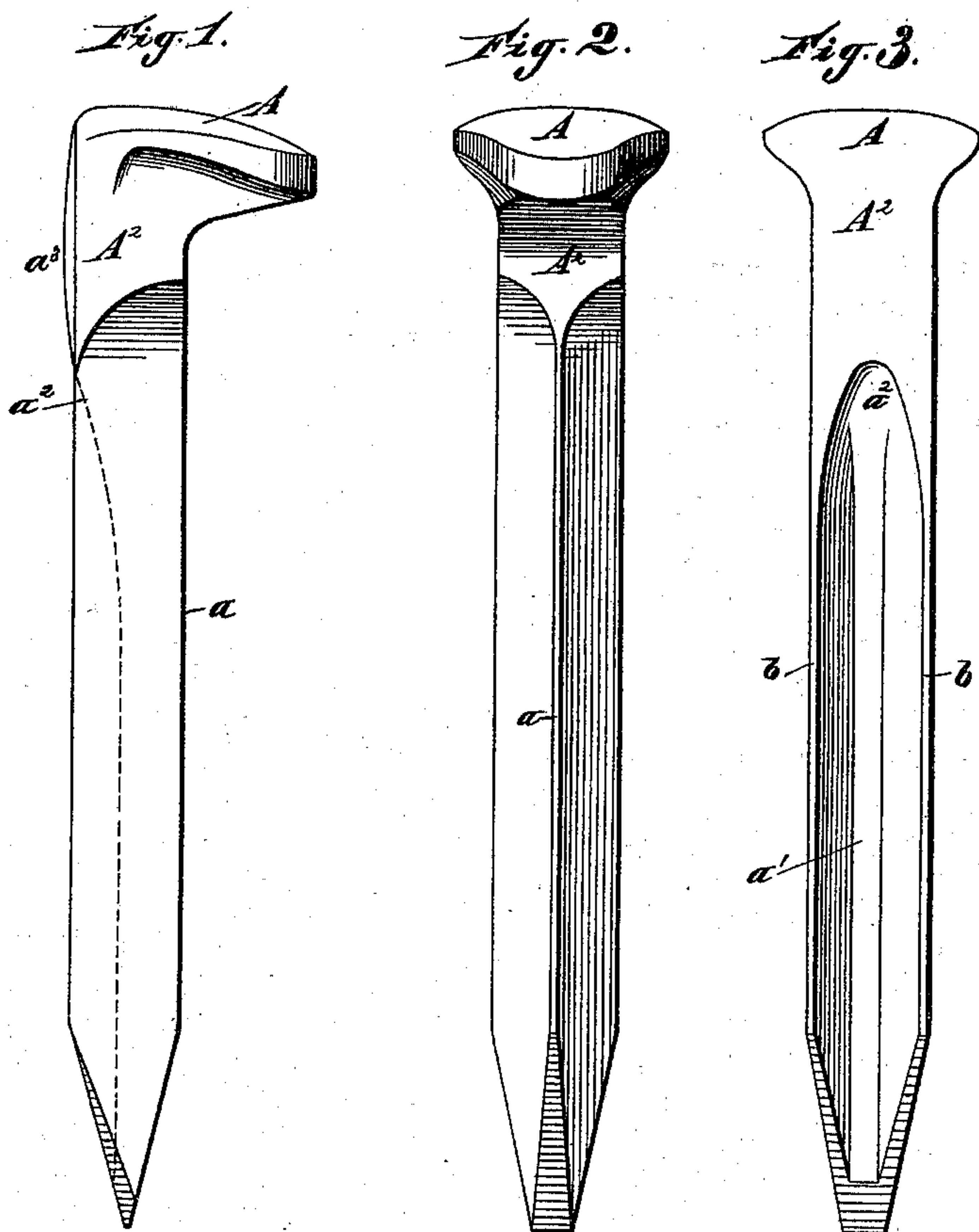


(No Model.)

J. S. FOX.
RAILWAY SPIKE.

No. 385,107.

Patented June 26, 1888.



WITNESSES.

John E. Wiles.
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UNITED STATES PATENT OFFICE.

JAMES S. FOX, OF DETROIT, MICHIGAN.

RAILWAY-SPIKE.

SPECIFICATION forming part of Letters Patent No. 385,107, dated June 26, 1888.

Application filed November 16, 1887. Serial No. 255,318. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. FOX, a subject of the Queen of Great Britain, residing at Detroit, county of Wayne, State of Michigan, have
5 invented a certain new and useful Improvement in Railway-Spikes; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to
10 make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists of the device hereinafter specified, and more particularly pointed
15 out in the claims.

In the drawings, Figure 1 is a side elevation, Fig. 2 a front elevation, and Fig. 3 a rear elevation, of a spike embodying my invention. Fig. 4 is a cross-sectional view of the same.

20 This invention has for its object the production of a railway-spike which shall be at once stiff and strong and shall present a large surface against which the fibers of the wood may react to prevent loosening or withdrawal of
25 the spike and with the minimum of material.

To this end the spike is made with any ordinary head, A—as, for instance, the head usually found upon railway-spikes. The shaft of the spike is made triangular in cross section,
30 as shown in Fig. 4, and hollowed only along the back at a' . The apex a presents forward—*i. e.*, in a direction toward the rail when in use. The point is tapered substantially as shown, so as to readily enter the tie. The cavity a' at the back of the spike is tapered out
35 and swelled or bulged beyond the general surface of the back of the spike, as shown at a^2 and a^3 in Figs. 1 and 3, so that when the spike has entered to this point the further driving
40 of it will tend to crowd it toward the rail. The neck A^2 , just below the head, I prefer to make square in cross-section, so that when the spike is driven home this will make it a little more rigid beneath the head and give to it
45 metal at the point, where the strain upon the spike when in use is greatest.

As shown in Fig. 4, the edges of this spike are such that they enable the spike to readily enter the wooden tie and produce the smallest

amount of displacement of the fibers and also 50 the least bunching of the wood and least danger of splitting the tie. So, also, the edges b b are comparatively sharp, which assist in the spike being easily driven.

It is apparent that when this spike is driven 55 the fibers which set into the cavity a' back of the spike will effectually prevent any tendency of the spike to be twisted in the wood, and will materially aid in preventing any lateral movement of the spike. So, also, this cavity 60 assists to increase largely the surface of the spike against which the fibers may exert their resistance. It is also apparent that when the spike is grasped by a claw from its rear side, in order to draw it out of a tie, the tendency is 65 always to bend the spike at a point about midway down. The construction of spike here shown, however, avoids this liability to bend, because the sharp edges b will at such time cut into the wood by any strain which would otherwise bend the spike. Again, the form of 70 the spike is such that great strength is afforded with a minimum of material.

What I claim is—

1. A railway-spike triangular in cross-section 75 and hollowed out at the back, and having a portion swelled or bulged beyond the general surface of its back immediately below the head, substantially as described.

2. A railway-spike triangular in cross-section 80 said spike hollowed out at the back only, said hollow terminating a short distance below the neck in a gradually-inclined surface, a^2 , whereby the top of the spike is crowded toward the rail, substantially as described. 85

3. The herein-described railway-spike, constructed with a shaft triangular in cross-section and hollowed out at the back, a sloping surface, a^2 , at the upper extremity of said hollow, and a portion swelled or bulged beyond 90 the general surface of the back of the spike, as at a^3 , substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

JAMES S. FOX.

Witnesses:

M. B. O'DOUGHERTY,
SAMUEL E. THOMAS.