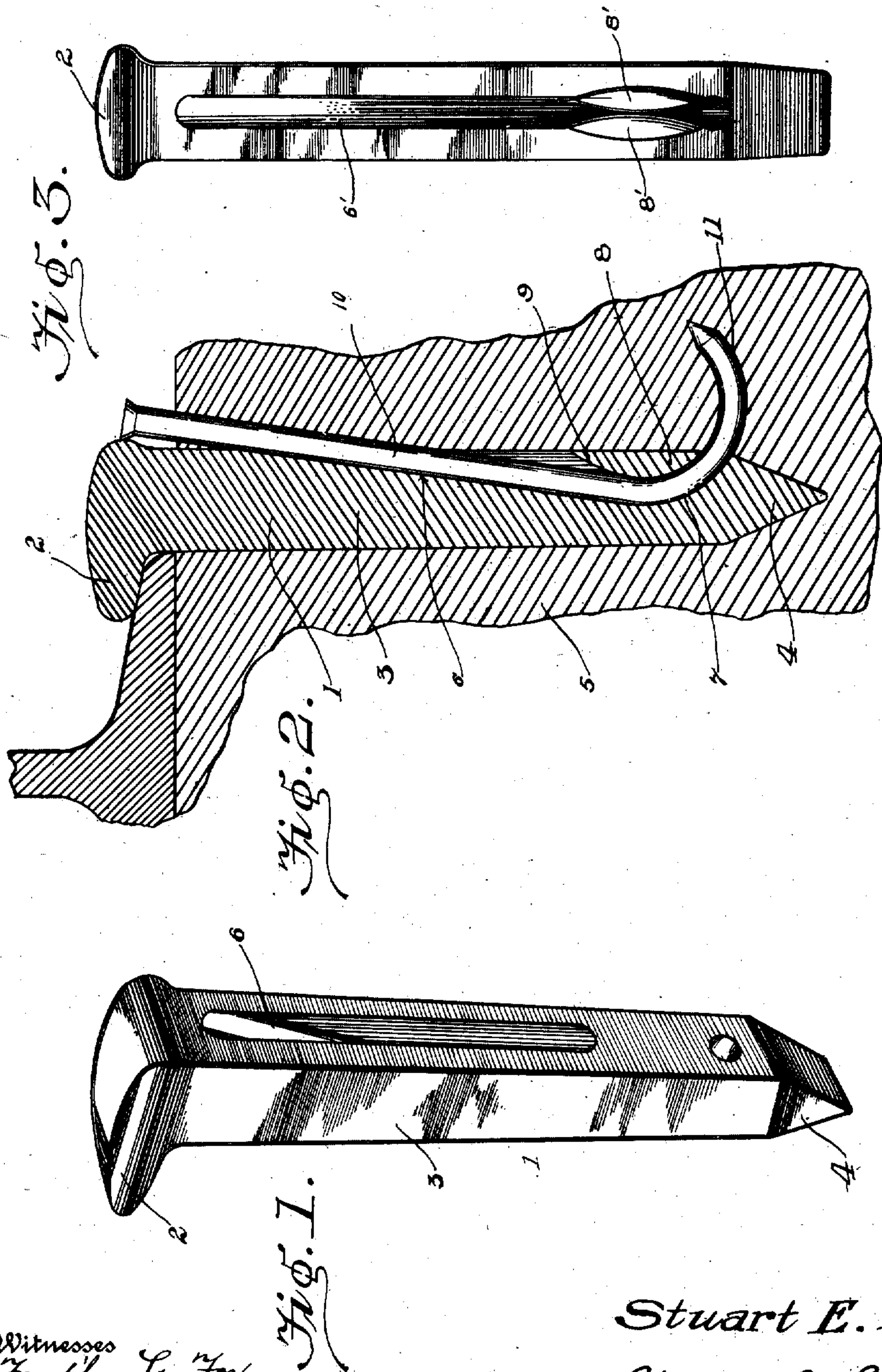


S. E. BELL.
RAILROAD SPIKE.
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990,217.

Patented Apr. 25, 1911.



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RAILROAD-SPIKE.

990,217.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, STUART E. BELL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Railroad-Spikes, of which the following is a specification.

This invention relates to new and useful improvements in spikes, more particularly to a spike embodying such characteristic features of construction as adapted for use in connection with railway rails.

In its general conception, the invention comprises a spike body having a groove or passage starting adjacent the head of the spike, and being extended inwardly within the body of the spike and having its lower extremity rounded outwardly toward the face of the spike and terminating at or directly above the entering edge of the spike upon the same face at which the groove was started, the said groove being adapted to receive and guide a bendable retaining member such as a wire nail, and to curve the extremity of the said nail outwardly into engagement with the tie in which the spike is inserted.

A still further object of the invention is to provide an ordinary spike with a groove which has its inner wall inclined from the top or head of the said spike adjacent one of its faces and having its lower extremity inclined outwardly to the said face, the lower portion of the spike adjacent the inclined curve of the groove being provided with a wall which bridges the said groove, the lower portion of said wall corresponding with the groove and the upper portion of the wall flaring away from the groove, so that a malleable nail inserted within the groove will be properly directed to have its lower extremity curved outwardly and into engagement with the tie or other article within which the spike is inserted.

With the above, and other objects in view, which will appear as the description progresses, the invention resides in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings there has been illustrated a simple and preferred embodiment of the improvement, and in which drawings,

Figure 1 is a perspective view of a spike

constructed in accordance with the present invention. Fig. 2 is a vertical sectional view taken through the spike, tie and flange of the rail, and showing the malleable nail in position within the groove of the spike. Fig. 3 is a rear elevation of a slightly modified form of the device.

In the accompanying drawings the numeral 1 designates the spike proper. This spike 1 is constructed in the ordinary manner, being of a rectangular cross sectional formation and having the usual enlarged head 2, extending body portion 3 and tapering end 4. The end 4 of the spike in the present instance, is beveled inwardly upon all of its four faces, as clearly illustrated in the several figures of the drawing, the object being to provide means whereby the spike may be easily and quickly inserted within the tie 5. The spike is provided with an inclined groove 6, which is preferably positioned upon its rear face, but which may, of course, be positioned upon its side faces if desired. This groove 6 starts from the upper portion of the spike at the rear of its head 2 and is inclined upon a straight angular line and extends within the body of the spike, the lower extremity of the said groove being curved outwardly as at 7 and terminating upon the face of the spike from which the groove started at or above the beveled entering end of the spike. The body 3 of the spike is provided with a wall 8, which is positioned directly above the lower wall of the curved portion 7 of the groove 6. This wall 8 has its lower extremity curved to correspond with the curved portion 7 of the groove while its upper extremity is flared outwardly as at 9, the purpose of which will presently be described.

The numeral 10 designates a retaining member, such as a nail, which is constructed of malleable or bendable material, and the said nail is adapted to enter the tie 5 and to follow the inclination of the groove 6. It will be apparent that when the end of the nail 10 contacts with the curved wall 7 of the groove the said end will curve outwardly as designated by the numeral 11 and effectively engage the tie 5, thus securely retaining the spike in position upon the said tie. It will be further apparent that the nail 10 may be readily withdrawn when it is desired to remove the spike from the tie, a suitable tool grasping the extending portion

of the nail accomplishing this result. Should the nail 10, from some unknown cause, chance to change its course, so as not to engage with the walls of the groove 6, the off-set portion 9 of the wall 8 will readily receive the slightly deviated point 11 of the nail and cause the same to travel within the pocket provided by the wall 8 and the curved portion 7 of the groove.

10 In Fig. 3 I have illustrated a slightly modified form of the device. In this figure the groove 6' is arranged at an inclination similar to that of the groove 6 having its lower portion curved outwardly. In forming the groove 6', a portion of the metal adjacent the lower end of the said groove is spread outwardly and this provides a pair of walls 8'. When the routine is completed these walls 8' are bent inwardly so as to form a pocket similar to the pocket formed between the wall 8 and the curved portion 7 of the groove 6, the said walls effectively bridging the groove.

It will be noted by reference to Fig. 2 of the drawings, that the nail 10 does not enter the tie at the exact top of the spike, but that a portion of the tie is retained between the said tie and the outer face of the spike. By this arrangement, it will be noted that should, for any unforeseen cause, a vertical pull be exerted upon the said spike, the same will be retained by the nail 10. Besides this, the nail effectively sustains not only the top but the bottom of the said spike rigidly in its position. It will be further noted, that should it be desired to remove the nail 10, the application of power will be at an angle corresponding to the angular body portion of the said spike, and by the peculiar formation of the spike directly below the head 2 of the said spike 1, accidental lateral or vertical movement of the rail is entirely and effectively prevented.

From the above description, taken in con-

nection with the accompanying drawing, it will be noted that I have provided an extremely simple and thoroughly effective device for the purpose intended, and while I have illustrated and described the preferred embodiment of the improvement, as it now appears to me, minor details of construction within the scope of the following claims, may be resorted to if desired.

Having thus fully described the invention, what I claim as new is:—

1. A spike having an open-sided groove in one of its faces, the inner wall of said groove being inclined downwardly and inwardly and having its lower portion curved outwardly to said face and the portion of the spike above the lower portion of said groove having a wall the inner face of which corresponds to the curve of the groove and its upper face flared outwardly away from the groove, and a retaining element adapted to be inserted within the groove and to engage the curved wall to force the extremity of the said retaining element outward and in a curved line from the spike.

2. A spike having one of its faces provided with a groove, said groove starting below the head of the spike, and extending at a direct angle within the body of the spike, the lower extremity of the groove being curved outwardly toward the face of the spike upon which the groove starts, the lower portion of the spike adjacent the lower portion of the groove being provided with a pair of integrally formed members adapted to serve as a wall directly above the mouth of the groove.

In testimony whereof I affix my signature in presence of two witnesses.

STUART E. BELL.

Witnesses:

HARRY D. HIBBS,
GEO. W. FREY.