J. W. BALFOUR.

SPIKE.

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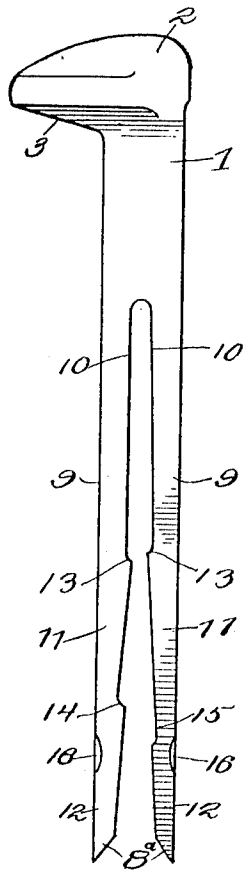
1,001,335. Patented Aug. 22, 1911.



Witnesses

Wm. S. McDowell.

K. Delabar.

Inventor

John W. Balfour

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

JOHN WILLIAM BALFOUR, OF VICTORIA, BRITISH COLUMBIA, CANADA.

SPIKE.

1,001,335. Specification of Letters Patent. **Patented Aug. 22, 1911.**

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To all whom it may concern:

Be it known that I, JOHN W. BALFOUR, a subject of the King of Great Britain, residing at Victoria, British Columbia, Canada, have invented new and useful Improvements in Spikes, of which the following is a specification.

This invention relates to spikes designed particularly for use in railway structures, and one of the principal objects of the same is to provide a spike which will not work loose, which can be withdrawn and redriven, and which will not pull out by the movement of the base flange under its head.

Another object of the invention is the provision of a railroad spike which shall comprise two relatively spaced legs, each having its inner surface provided with a plurality of downwardly and laterally inclined surfaces, the inclination of the surfaces increasing progressively from the inner toward the outer ends of the legs.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawing wherein the figure is a view in side elevation of a railroad spike constructed in accordance with my invention.

Referring to the figure in the drawing by reference numerals, 1 designates the body and 2 the head of a railroad spike constructed in accordance with my invention. The head 2 is formed on one end of the body 1 and projects laterally in one direction therefrom. The head 2 is provided with an inclined under side 3 adapted to engage the base flange of a rail. Extending longitudinally from the other end of the body 1 and formed integrally therewith is a pair of relatively spaced legs 9. The legs 9 are provided with inclined inner surfaces 10, 11 and 12. The inclinations of these surfaces are downward and outward and the inclinations of the surfaces of each leg 9 increase progressively from the inner toward the outer end thereof. At their junctures the inclined surfaces 10 and 11 provide shoulders 13, and at their junctures the inclined surfaces 11 and 12 provide shoulders 14 and 15. The inclined surfaces 10 are of relatively different lengths to position one of the shoulders 13 above the other, and the inclined surfaces 11 are of relatively different lengths to position the shoulder 14 above the shoulder 15, arranging said shoulders in staggered relation throughout the length of the legs 9. The inclined surfaces 12 are also of relatively different lengths, and the inclined surfaces of the chisel points 8^a extend downwardly and outwardly from the lower ends of the surfaces 12 to the lower outer edges of the legs 9. Owing to the variations in the inclinations and lengths of the surfaces 10, 11 and 12, the legs are gradually separated during the driving of the spike into a tie, such gradual separation preventing the legs from being fractured and the tie from being split during the driving of the spike. The legs 9 are further provided at their corners with notches 16. The shoulders 13, 14, and 15 assist in securing the spike against accidental displacement. The notches 16 slightly weaken the legs 9 of the spike whereby to permit the legs to bend more readily under the bending influence exerted thereon by the inclined surfaces 12 during the driving of the spike.

From the foregoing description, taken in connection with the accompanying drawing, it should be apparent that I provide a spike which will not become accidentally displaced owing to the holding action of its shoulders and the curvature of its legs. It should also be apparent that the spike may be readily and quickly driven into a tie without splitting the tie or fracturing the legs of the spike.

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

1. A spike comprising a body, a head at one end of the body, relatively spaced legs at the other end of the body, and a plurality of downwardly and outwardly inclined surfaces formed on the inner side of each leg, the inclinations of the surfaces of each leg varying in length to prevent the too sudden separation of the legs during the driving of the spike.

2. A spike comprising a body, a head at one end of the body, relatively spaced legs at the other end of the body, inclined surfaces located at the inner side of the legs and extending downwardly and outwardly from the body to a point remote therefrom, and other inclined surfaces on the inner sides of the legs and extending downwardly and outwardly from the lower ends of said first named surfaces to the lower ends of the legs, said last named surfaces having an inclination greater in length than that of the

first named surfaces so as to prevent the too sudden separation of the legs during the driving of the spike.

3. A spike comprising a body, a head formed at one end of the body, relatively spaced legs at the other end of the body, inclined surfaces formed on the inner sides of the legs and extending downwardly and outwardly from the body to a point about centrally between the ends of the legs, other inclined surfaces formed on the inner sides of the legs and extending downwardly and outwardly from the lower ends of said first named surfaces to a point adjacent the lower ends of the legs, said surfaces varying in length in their inclinations so as to prevent the too sudden separation of the legs during the driving of the spike, shoulders formed at the juncture of said surfaces, and inclined surfaces extending downwardly and outwardly from the lower ends of the second named surfaces to the lower outer edges of the legs.

4. A spike comprising a body, a head at one end of the body, relatively spaced legs at the other end of the body, and pairs of inclined surfaces formed on the inner sides of the legs, the surfaces of each pair being of relatively different lengths.

5. A spike comprising a body, a head at one end of the body, relatively spaced legs at the other end of the body, and pairs of inclined surfaces on the inner sides of the legs, the inclination of one pair of surfaces being greater in length than the inclination of the other so as to prevent the too sudden separation of the legs during the driving of the spike.

6. A spike comprising a body, a head at one end of the body, relatively spaced legs at the other end of the body, shoulders formed on the inner sides of the legs and arranged in staggered relation, and inclined surfaces formed on the inner sides of the legs, said surfaces being located on both sides of the shoulders.

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

JOHN WILLIAM BALFOUR.

Witnesses:
W. E. Norris,
R. H. Burnell.