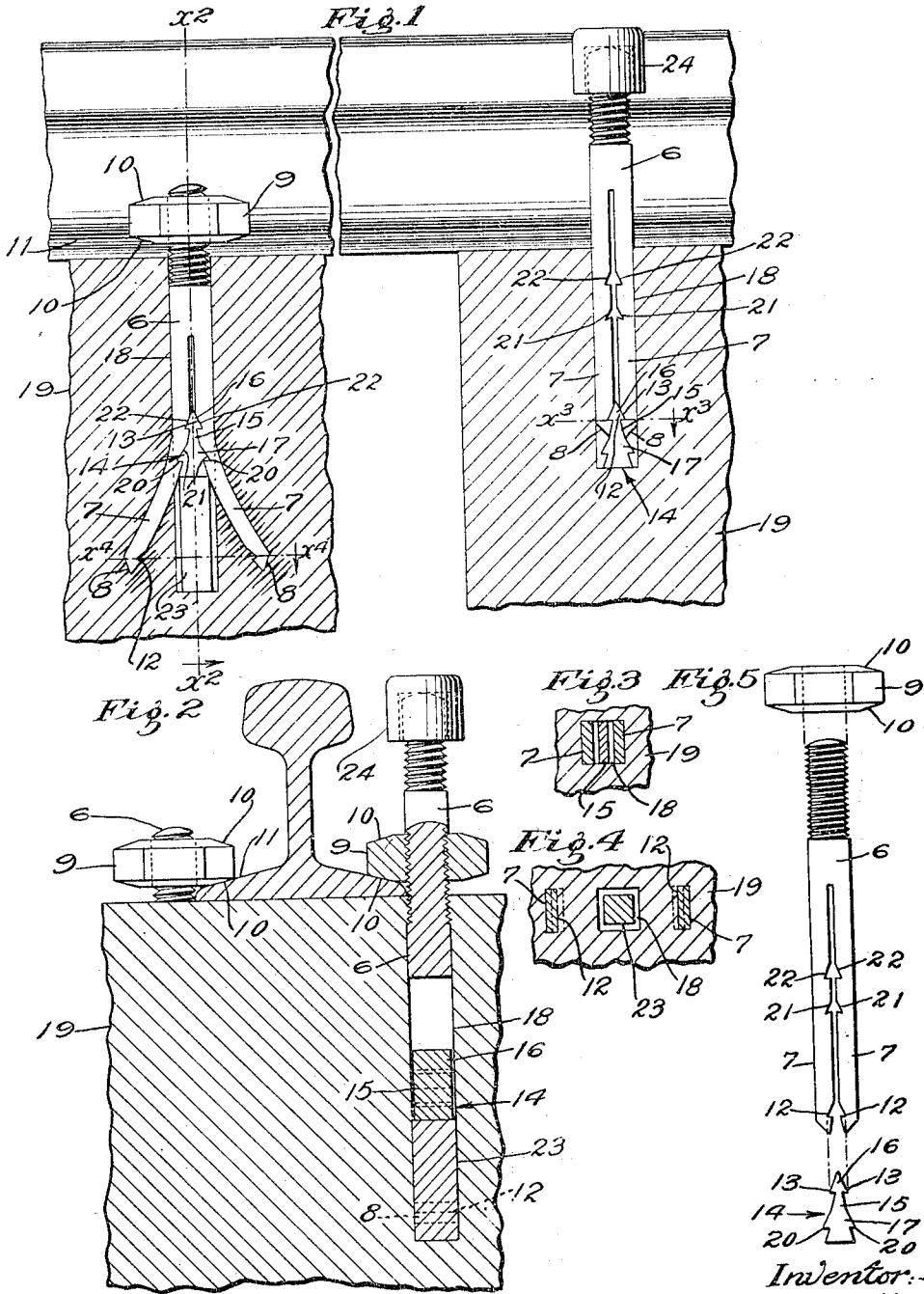


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AUTOMATIC LOCK RAILWAY SPIKE.
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Patented Dec. 15, 1914.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC-LOCK RAILWAY-SPIKE.

1,121,076.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE HORROLD DILLON, a citizen of the United States, residing at Santa Ana, in the county of Orange and State of California, have invented a new and useful Automatic-Lock Railway-Spike, of which the following is a specification.

An object of this invention is to make provision for fastening rails to wooden ties by a device which is as easy to set and as secure after driving as though a through-bolt were employed so as to absolutely prevent loosening of the rails.

In my previous invention for automatic-lock railway spike, filed October 4, 1911, Serial No. 652853 I have shown and described a construction in some respects like this present invention, and this invention mainly differs therefrom by reason of the bases of all the barbs being at right angles to the axis of the wedge when in commission and also by reason of the head being in adjustable relation to the spike notches, so that the spike body can always be driven to the requisite depth to cause the barbs of the wedge to fully seat in said notches, whereupon the head may be screwed down to firmly seat it on the flange of the rail.

Thus an object of this invention is to provide a device of this character in which the body and wedge members are first set in place in such manner that there is absolute certainty of their engagement with one another before the head is tightened down on the flange of the rail. The advantages of this are obvious as will appear upon inspection of the drawings filed herewith and in the subjoined detail description.

An object is to provide a construction whereby perfect interlocking of the spike body and wedge member is effected so as to prevent the body from being displaced excepting by such great force as would tear the fibers of the tie in which the body is seated; and for this purpose I construct barbs having their bases at right angles to the axis of the wedge. This is important for if, after driving the body of the spike into place, the body and wedges were not so constructed as to prevent slippage between them, looseness of the device would quickly result if the body were subject to a succession of heavy strains.

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation of the inven-

tion applied to a rail and ties, fragments of which are shown, the ties being in section. A spike is shown set in commission and another spike is shown out of commission before driving. Fig. 2 is a sectional elevation on line indicated by x^2 , Fig. 1. Fig. 3 is a plan section on line indicated by x^3 , Fig. 1. Fig. 4 is a plan section on line indicated by x^4 , Fig. 1. Fig. 5 is a detached view of the spike in the preceding views with its parts unassembled.

The spike body 6 terminates at its penetrating end in limbs 7 having downwardly converging beveled faces 8 at their ends and is provided at its projecting end with an adjustable head 9 of hexagonal or other suitable shape for a wrench, not shown, of the usual description, said head being screw-threaded onto the body. The head 9 has beveled faces 10 substantially corresponding in angle to the angle of the upper face of the rail flange 11.

The limbs 7 are provided on their adjacent faces at their tips with angular notches 12 to receive angular projections or barbs 13 of a double arrow-shaped wedge 14 having an elongated neck 15 which connects the arrow-shaped head 16 to the arrow-shaped body 17, said barbs being formed by said head. It is thus clear that the wedge 14 may be securely hung in place between the unbent limbs 7 so that the device can be inserted, as at the right in Fig. 1, in a hole 18 which may be bored in the tie 19 or may have been made by a spike of ordinary construction, not shown, that may have been withdrawn from the tie.

The wedge body 17 forms barbs 20 which, together with the barbs 13, are adapted to be brought into engagement with correspondingly spaced notches 21, 22 respectively on the inner adjacent faces of the limbs 7 at or near the middle portion of the spike body when said body has been driven in the tie 19 so as to bring the wedge 14 into action to bend and spread the limbs 7 away from one another, as at the left in Fig. 1.

If the hole 18 is of too great a depth owing, for instance, to it having been made by another spike, not shown, which has been withdrawn from the tie as hereinbefore noted, a plug 23 may first be inserted in the hole, as at the left in Fig. 1, so that the wedge 14 will seat at a proper depth in the tie to allow sufficient projection of the body

6 above the tie for the engagement of the head 9.

It is now clear that when the spike body 6 has been driven to spread the limbs 7 and seat the barbs 13, 20 in the notches 21, 22 the head 9 may then be screwed down upon the body 6 to seat the beveled faces 10 firmly on the upper face of the rail flange 11, thus making an exceedingly firm connection. While the body 6 is being driven it may be temporarily provided with a cap 24 of suitable form designed to protect the screw-threads.

It is particularly noted as very important that the bases of the barbs 13, 20 are at right angles to the axis of the wedge and consequently at right angles to the line of action of any power applied through the body 6 tending to withdraw said body, thus absolutely preventing the device from displacement excepting by such great force as would disrupt the fibers of the tie in which the device is seated.

The application and action of the device are believed to be clear from the foregoing.

I claim:

1. A spike comprising a double arrow-shaped wedge having an arrow-shaped head and having an arrow-shaped body and having an elongated neck connecting said head to said body, said head and body forming barbs; and a spike body provided with limbs embracing the wedge, said limbs being provided on their adjacent faces at their tips with angular notches to receive the

barbs formed by the head of the wedge, and being provided with other notches at a substantial distance from said first notch and spaced to correspond with the barbs and designed to engage said barbs when the spike body has been driven to bring the wedge into action to bend and spread the limbs away from one another, the bases of said barbs and other notches being at right angles to the axis of the wedge when the spike body has been so driven.

2. A spike comprising a wedge having an arrow-shaped head forming barbs; and a spike body provided with limbs embracing the wedge, said limbs being provided on their adjacent faces at their tips with angular notches to receive the barbs formed by the head of the wedge, and being provided with other notches at a substantial distance from said first notches to engage said barbs when the spike body has been driven to bring the wedge into action to bend and spread the limbs away from one another; said adjacent faces of the limbs being long and smooth from the notches at the tips to said other notches so that said faces will slip freely along the barbs of the wedge while the body is being driven.

In testimony whereof, I have hereunto set my hand at Los Angeles, California this 6th day of September 1913.

GEORGE HORROLD DILLON.

In presence of—

JAMES R. TOWNSEND,
GEORGE H. HILES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."