N. NIX.

RAILROAD SPIKE.

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1,356,781. **Patented Oct. 26, 1920.**

Fig. 1.

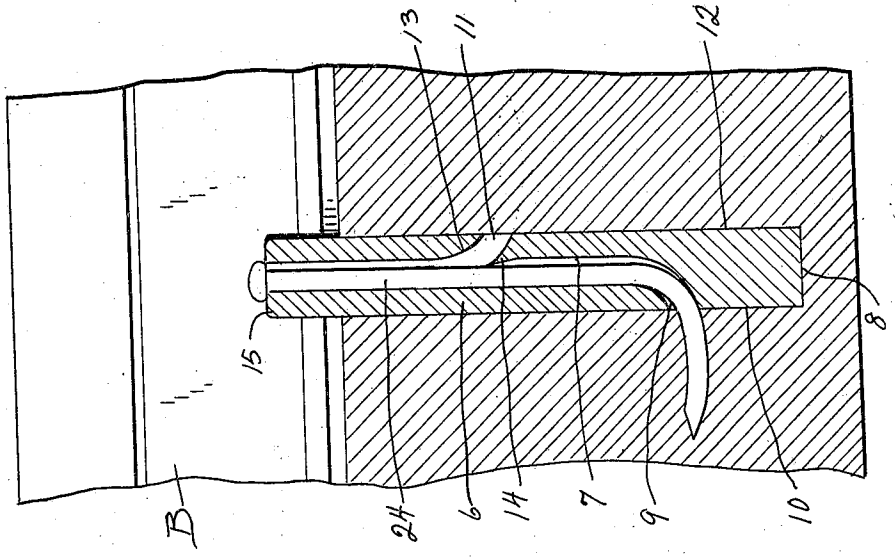
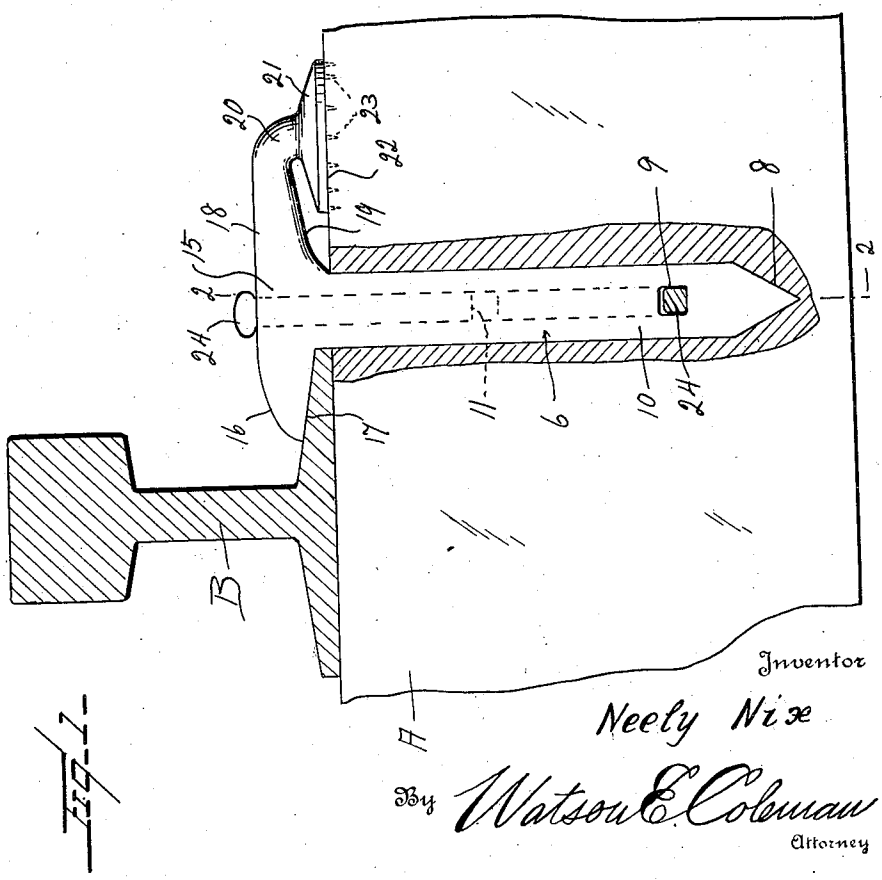


Fig. 2.



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RAILROAD-SPIKE.

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To all whom it may concern:

Be it known that I, NEELY NIX, a citizen of the United States, residing at Velie, in the county of Onachita and State of Arkansas, have invented certain new and useful Improvements in Railroad-Spikes, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to railroad spikes and has for its object to provide a spike which cannot be accidentally removed from the tie.

Another object is to provide a spike having a holding member projecting from the head of the spike to resist the tendency of side pressure from the train to force the spike away from the rail.

Another object is to provide a spike having a holding member adapted to engage the tie in spaced relation to the spike, to properly position the spike within the tie and permit the rail engaging surface of the head of the spike to engage the base of the rail at all points.

Another object is to provide a spike having a holding member which receives pressure from the head of the spike, said pressure being transmitted to the central upper portion of the holding member to prevent the spike from assuming an inclined position in the tie.

Another object is to provide a spike having a passage longitudinally thereof, said passage having opposed outlet, the passage being arranged to receive an auxiliary securing member which may be extended through any one of the outlet openings.

With these and other objects in view the invention consists in the improved construction to be hereinafter more particularly described, fully claimed and illustrated in the accompanying drawings in which:—

Figure 1 is an elevation of my improved spike in applied position, the rail being in section and the tie partly in section;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Referring to drawings, A designates a tie adapted to support a portion of the rail B. The improved spike for holding the rail to the tie consists of a shank 6 having a passage 7 extending longitudinally through the central portion of the spike, said passage terminating adjacent the end 8 of the spike in an outlet opening 9, said opening penetrating the side 10 of the spike. An outlet opening 11 extends through the side 12 of the spike and through the opposite wall of the passage containing the opening 9, and above the opening 9. The wall of the passage 7 immediately above the opening 11 is reduced as at 13 while the wall of the passage 7 immediately below the opening 11 projects slightly inwardly of the passage as at 14 and coöperates with the reduced portion 13 of the wall to form a guide. The purpose of the passage 7 and outlet openings will be hereinafter described.

The head 15 of the spike includes an extension 16, the lower surface 17 of the extension being inclined for engagement with the base of the rail B to secure the same to the tie. Projecting from the head in alinement with the extension 16 but in the opposite direction thereto, is a supporting arm 18 having its lower surface 19 extending slightly upwardly, the end 20 of the arm 18 is extended downwardly in angular relation to the arm and includes a holding plate 21, the end 20 of the arm being disposed centrally of the plate. By the novel arrangement of the arm, any pressure applied to the spike must be transmitted through the medium of the arm 18 to the plate 21, and does not go directly from the spike to the plate 21. By this means great resistance is afforded by the plate as the pressure is applied centrally of the upper surface of the plate. The lower surface 22 of the holding plate 21 is provided with teeth 23 to prevent movement of the plate.

The spike is applied to the rail in the usual manner, namely, that of being driven into the tie in a vertical position so that the surface 17 of the extension 16 will engage the base of the rail B. When the plate 21 comes in contact with the tie, the teeth 23 are embedded therein and hold the spike in its vertical position. To further secure the spike however, a pin 24 is passed through the passage 7 and through the opening 9 if so desired and thereby secures the spike in the tie and eliminates the danger of the spike being withdrawn accidentally. This pin however, does not resist the tipping thrust of the wheels. This is efficiently accomplished by the plate 21. Any tendency of the rail to slide or tilt away from the adjecent rail toward the spike is prevented by

the pressure of the plate 21 on the tie, and in view of the novel position of the arm 18 it is impossible for the plate to slide with the spike as the pressure is applied directly to the central portion of the plate. This is possible in view of the fact that the plate 21 has no direct connection with the adjacent portions of the spike. It is disposed in spaced relation to the spike and is only connected indirectly by means of the arm 18. Should it be necessary to place this spike near the side of the tie adjacent the opening 9, it would of course be impossible to extend the pin 24 through the opening 9. In this case the end of the pin is slightly bent so that when it is driven through the passage 7 the bent portion comes in contact with the guide formed by the reduced and extended portions 13 and 14 of the wall of the passage 7 and thereby guides the pin through the opening 11.

From the foregoing it is readily seen that this invention provides a novel spike which does not depend on the cross tie to hold the spike in engagement with the rail. The tendency of the spike to disengage itself from the tie is overcome by the pin 24 extending through one of the outlet openings. In addition to this any side pressure, or even decay of the lower portion of the tie will not cause the spike to leave the base of the rail and assume an inclined position, as the plate 21 by engagement with the tie retains the spike in its vertical position at all times and forces the same in to engagement with the base of the rail B.

What I claim is:—

1. A spike of the character described comprising a shank including a head, said shank having a passage extending through a portion of its length and terminating in an outlet opening in the side of the spike, the wall of the passage opposite the wall through which the outlet opening extends and above said opening having an outlet opening therein, the portion of the wall above the second mentioned outlet opening being reduced, the portion of said wall below the second mentioned outlet opening extending into said passage, an arm projecting from the head of the spike in angular relation thereto, a holding plate on the end of the arm, said plate being disposed in right angular relation to the spike, and auxiliary securing means extending through said passage and adapted to be directed through one of said outlet openings by the coöperation of the walls of the passage with said openings.

2. A spike of the character described comprising a shank having a head, an arm projecting from said shank in the opposite direction to the head, the lower surface of said arm extending upwardly, the end of said arm being extended in angular relation to the arm, and a plate formed on the end of the arm, said end being disposed centrally of the plate whereby strain from the arm is applied centrally of the plate.

In testimony whereof I hereunto affix my signature.

NEELY NIX.