

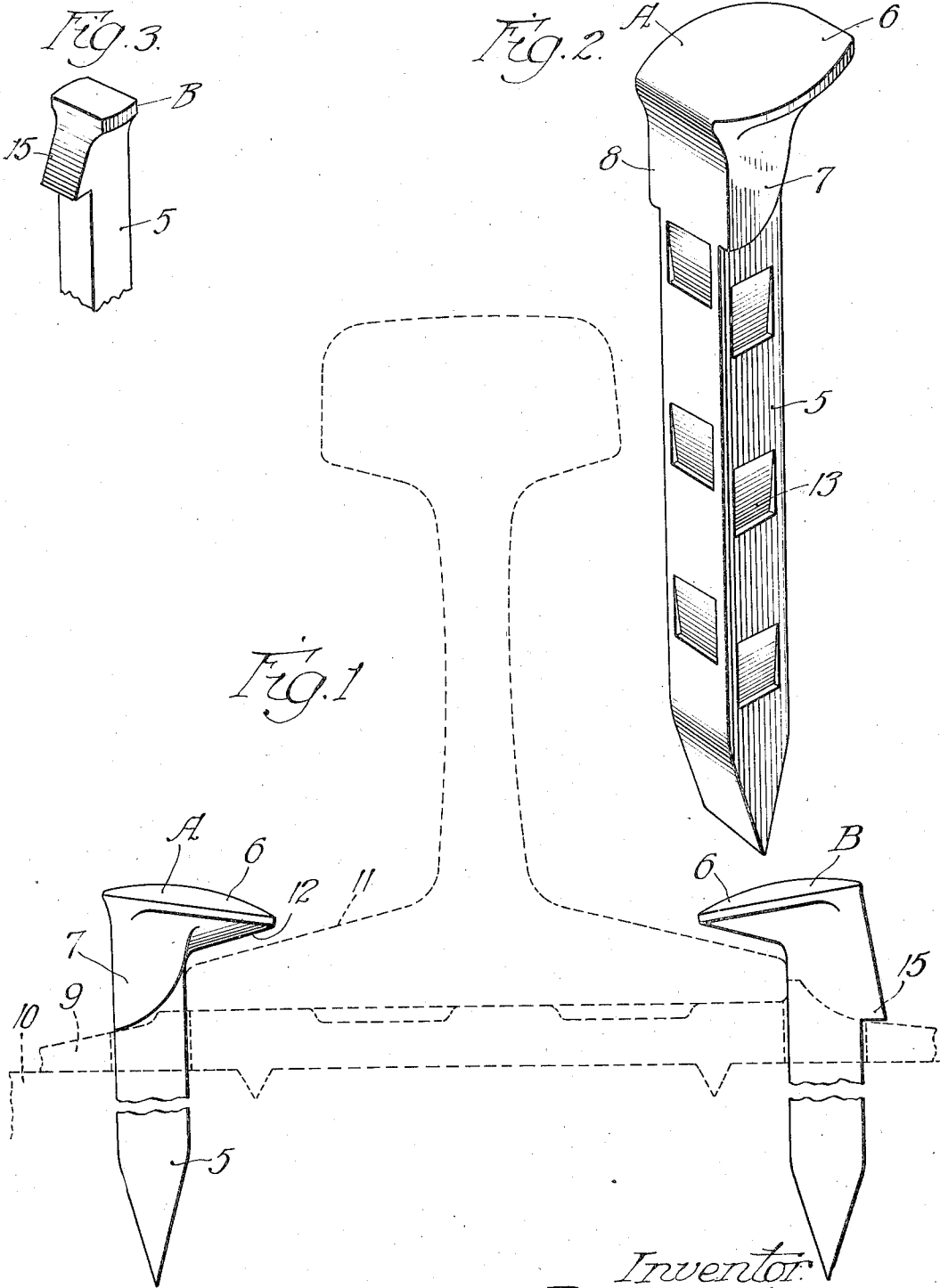
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B. M. CHENEY

METHOD OF APPLYING RAILS AND TRACK SPIKE THEREFOR

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METHOD OF APPLYING RAILS AND TRACK SPIKE THEREFOR.

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My invention relates to track spikes and more particularly to spikes for applying railroad track, an object being to provide an improved spike of the above character having certain features and advantages in construction and use.

In spikes as heretofore used, when driven into the tie the head comes in contact with the top of the rail base. When the spike is driven into the tie the wood fibre on all sides of the spike shank is bent down at an angle acting as a brace to retain or hold the spike down. As traffic moves over the track there is an upward and downward movement and to a greater or less extent a forward movement of the rails. This movement is commonly known as wave motion. The upward movement of the rail either results in the spike being pulled up or if the holding power of the tie is sufficient, in the tie moving up with the rail. When the spike is pulled it is common practice for the men to re-drive them so that the head again has contact with the rail. Due to the wave motion of the rail they are again pulled and again re-driven, the result being that this alternate pulling and re-driving of the spikes breaks, bends or wears off the points of the wood fibre surrounding the shank of the spike to such an extent that finally little, if any holding power is left and many spikes may be pulled with the fingers. In time the spike hole is enlarged to such an extent that moisture readily gets into the heart of the tie and decay quickly follows, thus necessitating the replacement of the decayed tie. Also the enlarging of the spike holes by the constant pulling and re-driving of the spikes permits a spreading of the rails. Also due to the filing action of the rail as it moves up and down throat cut spikes are quite common, that is the wearing away of the spike at the throat or just beneath the head, thus weakening the spike. Also by driving the head down so that it comes in contact with the top of the rail base as heretofore done, the spike heads are frequently broken. This also occurs sometimes by the pulling action of the rail. Also when the spikes are pulled as stated by the wave motion of the rail, the tie plate is not held against the tie when the rail moves upwardly so there is an objectionable rattle of the tie plates under traffic. If on the other hand, the spikes have enough holding power to resist being

pulled, then the tie moves upward and downward with the rail and this condition is objectionable because it results in the mechanical wear of the tie and in wet weather causes "puddling", which in turn causes rough track.

All of these objections are overcome either entirely or to a large degree by my improved spike.

For a better understanding of my invention reference is to be had to the accompanying drawing, in which—

Fig. 1 is a view showing the method of applying my improved spike to the rail, in which spike A is one form and spike B is a modified form;

Fig. 2 is a perspective view of the one form of spike; and

Fig. 3 shows another modified form of spike.

Referring now more in detail to the form of spike A as shown in Figs. 1 and 2, the shank 5 may be of any suitable design, either with some locking means or with smooth flat sides. A suitable head 6 may be provided and laterally extending from the shank of the spike I provide shouldered stops 7—8 which may be suitably shaped and positioned so as to engage either the tie plate 9 or tie 10 and prevent the head 6 from coming in contact with the top surface 11 of the rail base when the spike is driven into the tie.

As shown at spike A in Fig. 1, the spike when driven into the tie contacts with the edge of the rail base thereby properly aligning the rail on the tie and preventing spreading thereof. However, the shouldered stops 7—8 are so positioned beneath the head 6 of the spike that sufficient clearance 12 is provided so that the spike head is kept sufficiently clear of the rail to allow the ordinary wave motion thereof from traffic without causing the rail to pull the spike from the tie. At the same time the ears 7 because of contact with the tie plate when used, hold the tie plate firmly against the tie and thus prevent the otherwise wearing action upon the tie by the movement of the tie plate and also reduces the noise or rattle of the tie plate under traffic.

Also the objectionable pulling and re-driving of the spike is eliminated and the spike firmly maintained in the tie so that the objectionable wear of the spike hole is eliminated, thereby minimizing the spread-

ing of the rails, loose spikes and decay of the ties as hereinbefore described.

Also because of the extra metal added to the throat of the spike, the wear at the throat because of the movement of the rail does not reduce the strength of the spike to a dangerous point as heretofore.

Thus the use of this spike also avoids the trouble and expense of re-driving the spikes. Other advantages will also be apparent with an understanding of the invention.

In spike A of Fig. 2 I have shown holding or retaining means in the shank of the spike in the form of a shouldered recess 13 which is formed in the faces of the spike at suitable places, at the same time leaving the corners of the spike uninterrupted so as to permit driving the spike without making a hole larger than the body of the spike.

These recesses 13 are formed in the otherwise four flat sides of the shank and slanted downwardly and inwardly as indicated in Fig. 2 so as to provide a holding shoulder at the bottom. Thus when the spike is driven into the tie, the wood fibre will spring back into the recess and thereby assist in more positively holding the spike than if plain flat sides were provided.

However, it is to be understood that I contemplate using the spike both with and without such holding means and my invention is by no means limited to this extent.

Referring now to the form of spike B as shown at the right of Fig. 1, in this arrangement the stop shoulder 15 appears at the back of the spike instead of at the sides as shown in the other form. In this form B this stop shoulder is so positioned beneath the head of the spike that it engages either the tie plate 9 when used or the tie 10 when no tie plate is used, but keeps the head 6 sufficiently clear of the rail base so as to permit the normal movement thereof without pulling the spike.

What I claim as new and desire to secure by United States Letters Patent is:—

1. A track spike constructed so that the edge only of the rail base can come into

engagement with the spike when driven into the tie and while remaining there.

2. A track spike constructed so that the edge only of the rail base can come into engagement with the spike when driven into the tie and while remaining there, including a stop shoulder to limit the insertion of the spike in the tie.

3. A track spike constructed so that the edge only of the rail base can be engaged and the spike guarded against being pulled up by the wave motion of the rail.

4. A track spike having a stop shoulder to limit the insertion of the spike in the tie and permit free wave motion of the rail without withdrawing the spike from the tie.

5. A track spike having a tie engaging stop shoulder to positively prevent the head of the spike from engaging the top of the rail base when the spike is driven into the tie and while remaining there.

6. A track spike having a shouldered stop for engaging the tie or tie plate and positioned sufficiently beneath the spike head to positively prevent the head from engaging the top of the rail base when the spike is driven into the tie and to prevent the rail base top from engaging the head.

7. A track spike having a stop shoulder for engaging the tie plate to hold it firmly against the tie independent of the rail and positioned sufficiently beneath the spike head to keep the head from engaging the top of the rail base when the spike is driven into the tie, and provide sufficient clearance whereby the rail is permitted to move vertically under traffic without pulling the spike but the tie plate is firmly held against the tie.

8. A track spike having a stop shoulder to prevent the head of the spike from engaging the top of the rail base, and having shouldered holding recesses formed in the otherwise flat sides of the shank.

In witness whereof, I hereunto subscribe my name this 24 day of May, 1926.

BYRON M. CHENEY.