

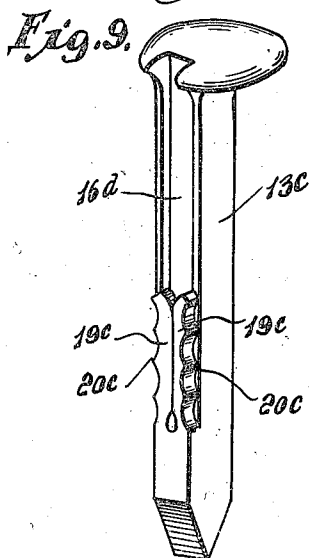
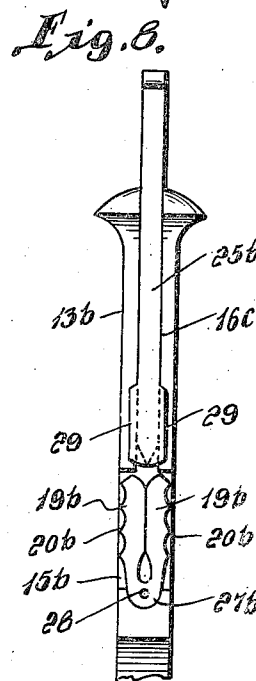
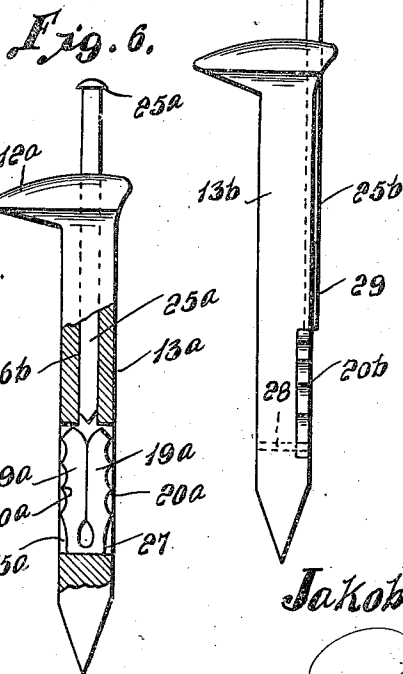
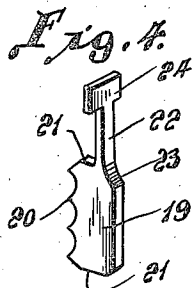
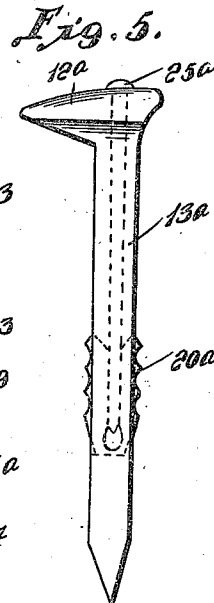
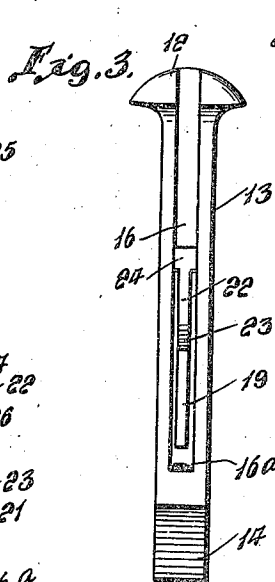
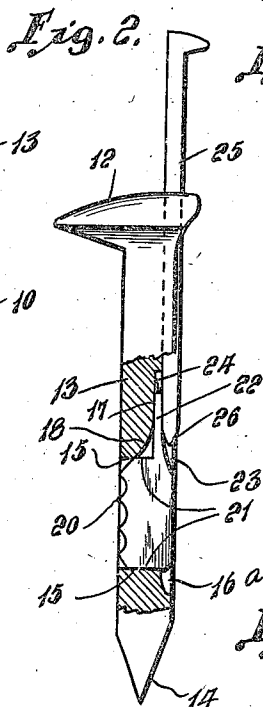
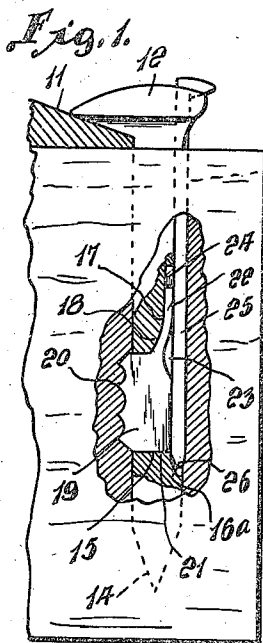
April 19, 1938.

J. HOJNOWSKI

2,114,879

RAILROAD SPIKE

Filed March 6, 1937



Jakob Hojnowski

Dyck & Lowry,
Attorneys

UNITED STATES PATENT OFFICE

2,114,879

RAILROAD SPIKE

Jakob Hojnowski, Nekoosa, Wis.

Application March 6, 1937, Serial No. 129,465

1 Claim. (Cl. 85—23)

This invention relates to certain new and useful improvements in railroad spikes.

The primary object of the invention is to provide a railroad spike having means associated therewith for retaining the spike anchored in a railroad tie against displacement which frequently results due to vibration of rolling stock passing over rails on the ties.

A further object of the invention is to provide a railroad spike with an anchor device carried by the spike adapted to be engaged with the railroad tie after the spike is driven home to form an interlocking connection between the tie and spike with the spike permanently anchored in position against accidental displacement.

With the above and other objects in view that will become apparent as the nature of the invention is better understood, the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing:—

Figure 1 is a fragmentary side elevational view of a railroad tie with a portion of a rail flange resting thereon and partly broken away and shown in section to illustrate a spike engaged with the rail flange and anchored in the tie;

Figure 2 is a side elevational view, partly broken away, and shown in section of a railroad spike constructed in accordance with the present invention, being the spike illustrated in Figure 1 and showing the anchor device for the spike normally lying within the extreme dimensions of the spike;

Figure 3 is an outer edge elevational view of the longitudinal grooved spike with the anchor device carried by the spike;

Figure 4 is a perspective view of the spike anchor device removed from the spike;

Figure 5 is a side elevational view of another form of spike and anchor device with the anchor device projecting from opposite sides of the spike for biting engagement with a railroad tie;

Figure 6 is a side elevational view, partly broken away of the spike shown in Figure 5 and illustrating the form of anchor device comprising a corrugated split member loosely placed within the transverse slot in the spike and the expanding key for the anchor device in its elevated inoperative position;

Figure 7 is a side elevational view of another form of spike wherein a split anchor device is confined within a pocket opening at one side of the spike;

Figure 8 is an outer side elevational view of the spike shown in Figure 7; and

Figure 9 is a perspective view of another form of spike wherein a split anchor device forms an integral part of the shank of the spike.

As shown in Figure 1, the reference character 10 designates a railroad tie upon which the base flange 11 of a railroad rail is mounted and is illustrated as being engaged by the offset head 12 of a spike 13 that is driven into the tie and to be anchored therein against displacement by lock or anchor devices carried by the spike and adapted to be shifted relative to the spike to effect an interlocking engagement of the spike with the tie.

In the form of invention illustrated in Figs. 1 to 4, the shank 13 of the spike having the usual offset head 12 and tapered entering end 14 has a transverse slotted opening 15 while the outer side of the shank 13 opposite the offset head 12 is longitudinally grooved as at 16, the groove extending through the adjacent side of the head 12 and terminating slightly below the transverse slots 15 as shown at 16a in Figs. 1 and 2. A depression 17 is formed in the bottom of the groove 16 adjacent the upper side of the slot 15 and the lower portion of said depression 17 is curved as at 18 in a direction toward the opposite side face of the shank 13 of the spike.

An anchor device 19 of blade-like form is placed in the transverse slot 15 and is of a width to have its opposite side edges lie substantially in the planes of the opposite sides of the spike as shown in Fig. 2, the side edge of the anchor device 19 beneath the offset head 12 being serrated as at 20, the opposite side edge being straight while upper and lower straight parallel edges 21 engage the upper and lower walls of the slot 15. An arm 22 rises from the upper end of the anchor device 19 intermediate the opposite side edges of the anchor device and the side of the arm 22 facing the groove 16 is curved as at 23 to merge into the straight side edge of the anchor device. The arm 22 lies in the depression 17 in the bottom of the groove 16 and carries a cross head 24 at its upper end.

When the spike is driven into the tie 10, the anchor device 19 assumes the position shown in Fig. 2 and lies within the extreme dimensions of the spike. When the spike has been driven home and the offset head 12 thereof is engaged with the base flange of a rail, a key 25 in the form of a rod is driven downwardly through the groove 16 in the spike, the lower end 26 of the key engaging the curved portion 23 of the anchor

device for causing the latter to be shifted transversely of the slotted opening 15 and to be partially moved outwardly of said opening to cause the serrated edge 20 thereof to bite in the railroad tie 10 as shown in Fig. 1, the key when driven home having the lower end 26 thereof received in the lower end 16a of the groove and positioned at the rear side of the anchor device 19 for holding the same engaged with the tie for forming an interlocking connection between the railroad spike and tie. When the anchor device moves partially out of the slot 15 of the spike, the arm 22 of the anchor device moves into engagement with the curved wall portion 18 of the depression as shown in Figure 1, the space resulting from the curving of said portion 18 of the depression permitting movement of the anchor device.

In the form of invention illustrated in Figs. 5 and 6, the shank 13a of the spike has a transversely extending slotted opening 15a therein adjacent its lower end and a longitudinally extending bore 15b extending from the upper end of the slot 15a through the head 12a of the spike. The anchor device comprises a pair of legs 19a connected together at their lower ends as at 27 with the outer sides of the legs corrugated or serrated as at 22a. The key 25a is driven downwardly through the bore 16b and is forced between the legs 19a to separate them for movement outwardly of the slot 15a of the shank for biting engagement into the railroad tie. Another form of the invention is illustrated in Figs. 7 and 8, the spike 13b having a longitudinally extending groove 16c in a side face thereof that communicates at its lower end with a transversely extending pocket 15b adjacent the lower end of the spike 13b. The anchor device is mounted in the pocket 15b at the outer side of the spike 13b and comprises a pair of legs 19b separated at their upper ends and joined together at their lower ends as at 27b with the connection 27b between the legs 19b having a pin 28 passed therethrough and entering the spike 13b for retaining the anchor device in the pocket 15b. A key 25b is adapted to be driven downwardly through the groove 16c for engagement with the legs 19b for separating the same and a flange extension 29 on the outer side of

the lower end of the key 25b moves over the legs 19b for retaining the legs in the pockets 15b, the outer sides of the legs being serrated as at 20b.

Another form of the invention is shown in Figure 9 wherein the rear side face of the spike 13c is cut away to provide a longitudinally extending groove 16d and an anchor device formed integral with the shank 13c and comprising a pair of legs 19c at the lower end of the slot 16d with the outer sides of the legs 19c serrated as at 20c. When a key is driven downwardly through the groove 16d, the same moves into engagement with the legs 19c and separates them for movement laterally of the shank of the spike for biting engagement into a railroad tie.

From the above detailed description of the invention, it is believed that the construction and operation of the several forms of spikes will be readily understood, and while there are herein shown and described the preferred embodiments of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

I claim:—

In a device of the character described, a railroad spike having a shank and an offset head, the shank having an opening extending transversely thereof, adjacent its lower end with a groove extending longitudinally of the shank and a depression in the bottom of the groove above the opening, the top and bottom walls of the opening being parallel and the wall of the depression being of arcuate formation adjacent the upper end of the opening, an anchor blade of substantially rectangular form positioned in the opening with the upper and lower straight edges engaged with the top and bottom walls of the opening to be guided thereby in its movements, an arm rising from the anchor blade and disposed in the depression, and a key adapted to be moved downwardly through the spike groove for engagement with the anchor blade for moving the same laterally of the shank for anchoring engagement with the tie with the arm moved into engagement with the curved wall portion of the depression.

JAKOB HOJNOWSKI.