June 3, 1958 F. J. ROGOWSKI 2,837,313

SAFETY RAILROAD TIE HOLDER

Filed June 20, 1955 2 Sheets-Sheet 1

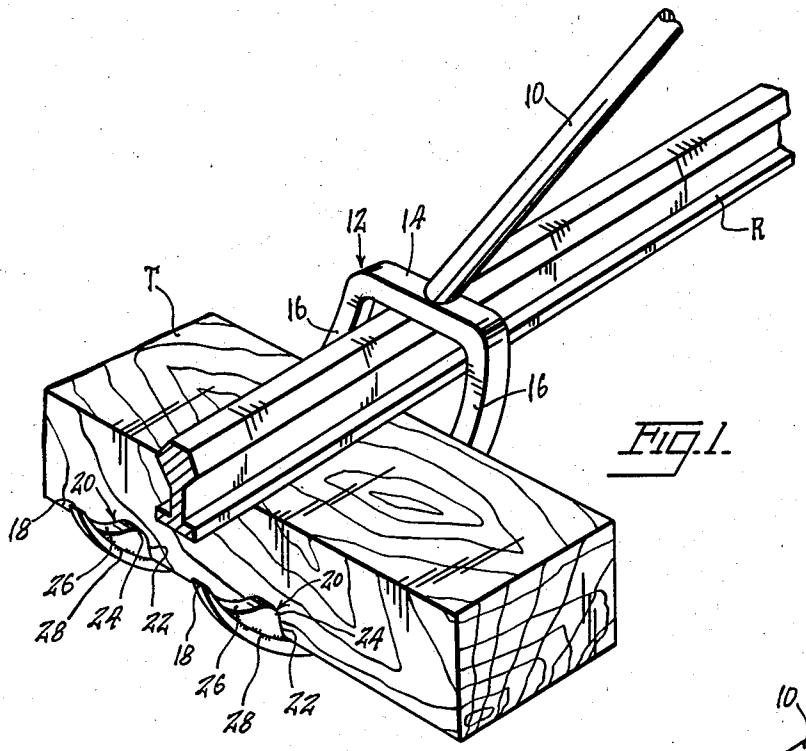

FIG. 1.

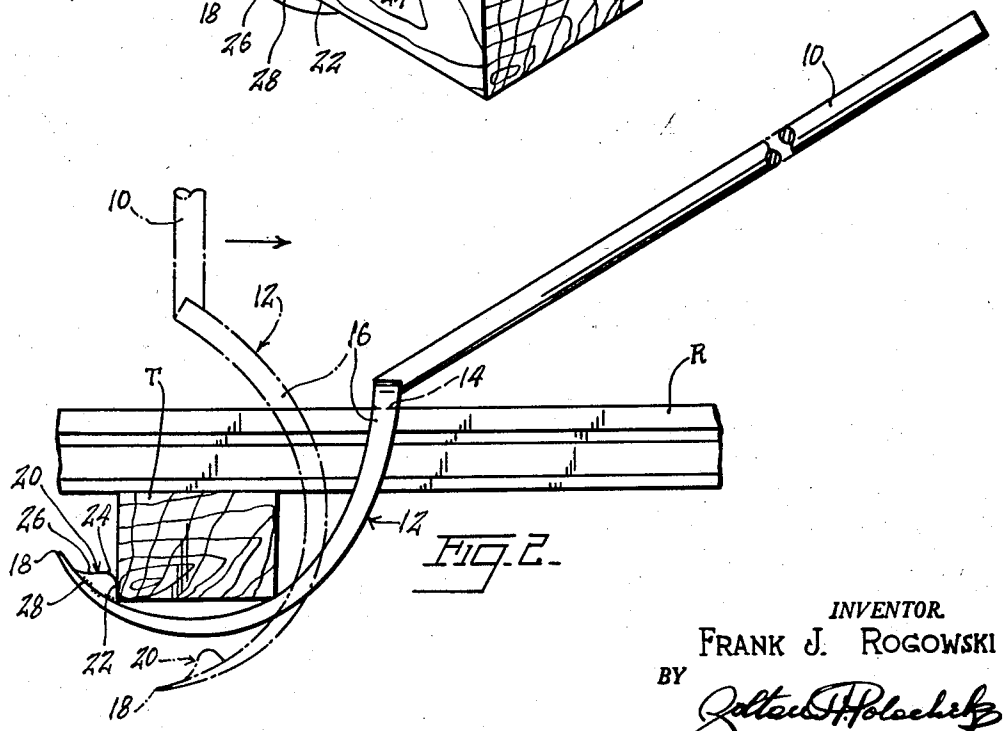

FIG. 2.

INVENTOR.
FRANK J. ROGOWSKI
BY
ATTORNEY

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SAFETY RAILROAD TIE HOLDER

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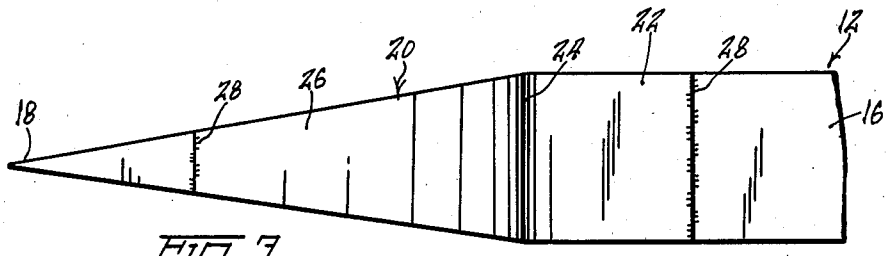

FIG. 3.

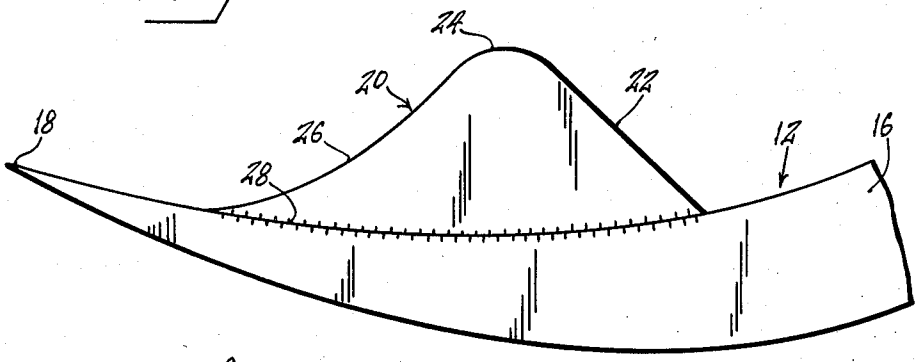

FIG. 4.

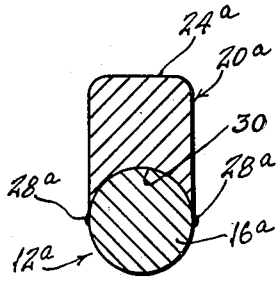

FIG. 6.

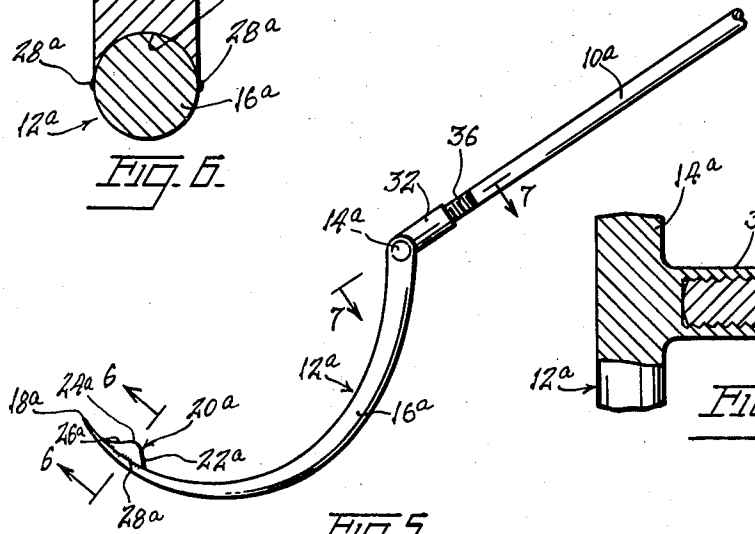

FIG. 5.

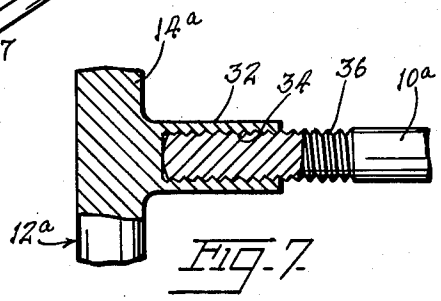

FIG. 7.

INVENTOR.
FRANK J. ROGOWSKI
BY Zoltan Polachek
ATTORNEY

United States Patent Office

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SAFETY RAILROAD TIE HOLDER

Frank J. Rogowski, New York, N. Y.

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1 Claim. (Cl. 254—121)

This invention relates to railroad tie holders, and more particularly has reference to a holder so designed as to insure that the tie will be engaged against accidental slippage, thus to not only promote efficiency in track laying, maintenance, and repair operations being performed with the device, but also, and of equal importance, to promote safety so far as the workers are concerned.

A conventional railroad tie holder includes an elongated handle, and a head or fork rigid with one end thereof, formed to a U-shape so as to include a pair of transversely spaced legs, which are curved longitudinally to engage under the railroad tie while the bight portion of the head or fork straddles an associated rail against which the tie is to be held while being spiked, or tamped. The curved legs of the fork or head, in a conventional tie holder, taper at their free ends to a point, to permit digging into tamping material to be carried out with maximum facility. The pointed, free end portions of the fork legs, in this connection, project beyond the associated side surface of the tie, and when the tool is rocked upon the rail with the fork legs underlying the tie, the curved portions of said legs engage the underside of the tie along the opposite lower longitudinal edges of the tie inwardly from the pointed tips of the legs, so that the tie is forced upwardly into engagement with the underside of the rail during the tamping or spiking operation.

It has been found, during the use of a conventional tool of the type referred to, that the tie tends to slip longitudinally of the associated legs, often slipping completely out of engagement therewith. This may cause injury to adjacent workers, and further, the slippage of the tie obviously prevents the spiking or tamping operation from being carried out.

In view of the above, the main object of the present invention is to provide, on each of the fork legs, adjacent the pointed tip thereof, an upwardly projecting, approximately triangular block, forming an abutment engaging against the adjacent side surface of the tie, which abutment will positively prevent slippage of the tie off the fork legs, and will insure that the tie will be held against any movement relative either to the tool or to the rail, when the tool is rocked upon the rail to force the tie against the rail.

A more specific object is to so form the block as to facilitate its being welded with maximum means and facility to conventional tie holding tools already in use.

Another important object is to form the block in such manner as to cause it, when the tool is rocked upon the rail, to assume a position in which the tie-engaging surface of the block will be, in effect, coplanar with the tie surface abutting thereagainst, to increase the efficiency of the block as an abutment or stop.

Yet another object is to form the block in such a manner as to facilitate disengagement of the tool from the tie when the spiking or tamping operation has been completed.

Another object of importance is to so form and locate

the block relative to the associated fork leg as to permit the tool to be used in tamping operations without interference from the block, the block being so shaped as to permit the tool to dig into the tamping material without inconvenience or difficulty so far as the worker is concerned.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view showing, fragmentarily, a rail and tie with a holding tool in operative association therewith, said tool being equipped with blocks formed in accordance with the present invention.

Fig. 2 is a side elevational view of the tool, rail, and tie, the tool being shown in full lines in its operative, tie-holding position and in dotted lines in the position assumed thereby when being engaged with or disengaged from the tie.

Fig. 3 is an enlarged, fragmentary top plan view of one of the fork legs, showing the associated block in top plan.

Fig. 4 is an enlarged, fragmentary side elevational view of the fork leg and block.

Fig. 5 is a fragmentary side elevational view of a modified form of block used on a different type of tie holder.

Fig. 6 is an enlarged transverse sectional view on line 6—6 of Fig. 5.

Fig. 7 is an enlarged, detail sectional view on line 7—7 of Fig. 5.

Designated at 10 is an elongated handle, which can be formed of a single length of solid or tubular bar stock. The handle, at one end, is welded or otherwise rigidly fastened to a fork or tool head generally designated 12. The fork 12 is of a U-shape, having a bight 14 to the midlength portion of which the handle 10 is secured. Bight 14 is integral at its ends with elongated fork legs 16, and said legs, as shown to particular advantage in Fig. 2, are curved longitudinally over their full lengths, to facilitate extension thereof under a tie T that is to be forced upwardly into engagement with the underside of a rail R.

At their free ends, the legs 16 taper to provide thereon sharply pointed tips 18 that facilitate use of the tool for digging into tamping material, not shown.

The blocks constituting the present invention have been generally designated at 20, and since both are identical, the description of one will suffice for both of them.

Block 20, when seen in side elevation, is of approximately triangular shape, having a tie-engaging inner surface 22 which is substantially flat, and is disposed at an angle of approximately 45° to the length of the associated, free end portion of the fork leg 16. At its upper end, the inner surface 22 of the block merges into a rounded top surface 24, which in turn merges into an elongated, gently sloping, inwardly curved outer face 26 of the block. Face 26, at its lower end, merges smoothly into the top surface of the pointed tip 18 as shown in Fig. 4.

The block is welded in position, on the top surface of the fork leg 16, as at 28, over the full periphery of the block, inwardly a short distance from the pointed tip 18. The side surfaces of the block, as shown in Fig. 3, taper in the direction of the tip 18, so as to be flush with the corresponding tapering side surfaces of the fork leg. In some instances, the fork leg may not be tapered at the location at which the block is to be secured, and in this event, of course, the block would not be tapered.

In use, the tool, held in the dotted line position shown

in Fig. 2, is positioned in straddling relation to the rail R, with the free end portion of the tool being extended under the tie T. Then, the tool is rocked in the direction of the arrow shown in Fig. 2, to the full line position thereof, engaging the bight **14** against the ball of the rail to provide a fulcrum about which the tool may be rocked, to engage under the tie and force the same upwardly against the rail during the spiking or tamping operation.

When the tool is rocked to its full line position in Fig. 2, the surface **22** will now be disposed in a vertical plane, substantially common to that of the associated side surface of the tie. It will thus stand as an abutment in the path of the tie, should the tie tend to slip longitudinally of the fork legs or tines **16**, that is, to the left in Figs. 1 and 2.

The tie is engaged along its lower longitudinal edges by the tines, as shown in Fig. 2, with the abutment engaging against one side surface of the tie, the other side surface being prevented from movement to the right in Fig. 2 by the pronounced curvature of the tines. The tie will be held stationary, without possibility of slippage thereof relative either to the tool or to the rail. The spiking and tamping operation may thus be carried out with maximum ease and facility, with complete safety so far as the workers are concerned and without possibility of loss of time due to inability to hold the tie stationary.

In some instances, the tool may, as shown in Figs. 1–4, have tines of substantially rectangular cross section. In other instances, said tines as shown in Figs. 5 and 6, may be of circular cross section. In this event, the tines **16ª** are provided with blocks **20ª** having transversely concave undersides **30** mating with the upper surfaces of the tines, so as to seat firmly thereagainst. The blocks are welded at **28ª** in the manner previously described, and so far as the exposed surfaces **22ª**, **24ª** and **26ª** of the blocks are concerned, these are similar to the first form.

In the form shown in Figs. 5–7, the tool has a fork or head **12ª** integral at the location of its bight portion **14ª** with an elongated, cylindrical socket **32** formed with internal threads **34** engaging matching threads **36** provided upon the inner end of a removable handle **10ª** formed from solid bar stock of circular cross section.

In both forms of the invention, the operation characteristics are the same, and in use of the tool, considerable time is saved in readjusting the tie and tie holder, such as is necessary when the tie slips out of engagement with the holder.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

A railroad tie holder comprising a handle, a fork thereon having a bight connected to the handle and a pair of longitudinally curved tines extending from the bight, and blocks welded to the inner surfaces of the respective tines and constituting abutments engaging against an adjacent side surface of a tie when the same is engaged along its lower longitudinal edges with the curved tines, to hold the tie from slippage in one direction longitudinally of the tines, said tines at the ends thereof remote from the bight terminating in pointed tips, the blocks being welded to the tines inwardly from the tips, said blocks having inner surfaces lying substantially in planes at 45° to the length of the associated portions of the tines, said latter inner surfaces constituting the tie-engaging surfaces of the blocks, the blocks having outer surfaces gradually sloping toward the pointed tips, to merge smoothly into the tine surfaces a short distance inwardly of said tips, said blocks having side surfaces flush with the opposite sides of the tine legs, and having rounded top surfaces merging into the inner and outer surfaces of the blocks, said tines being approximately triangular in cross section, said blocks being also approximately rectangular in cross section at any point between the opposite ends thereof.

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