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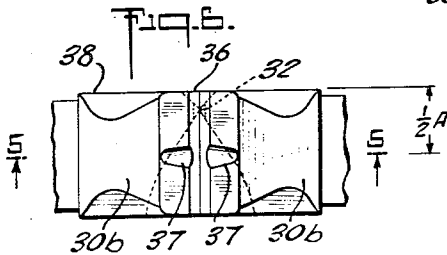
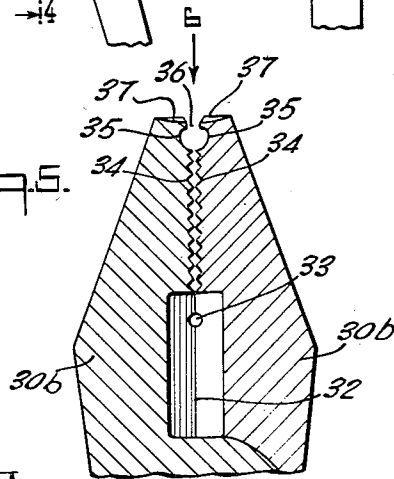
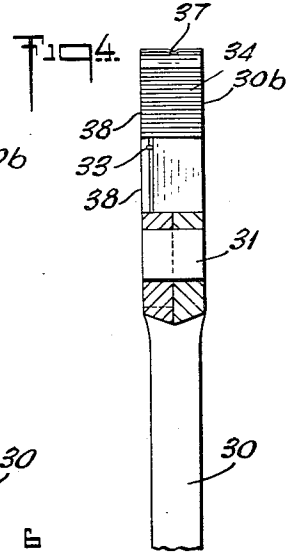
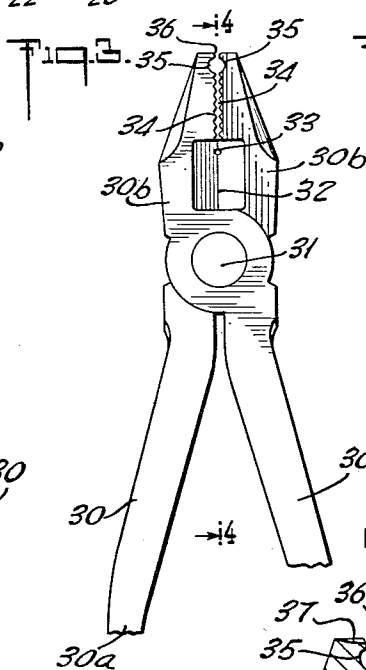
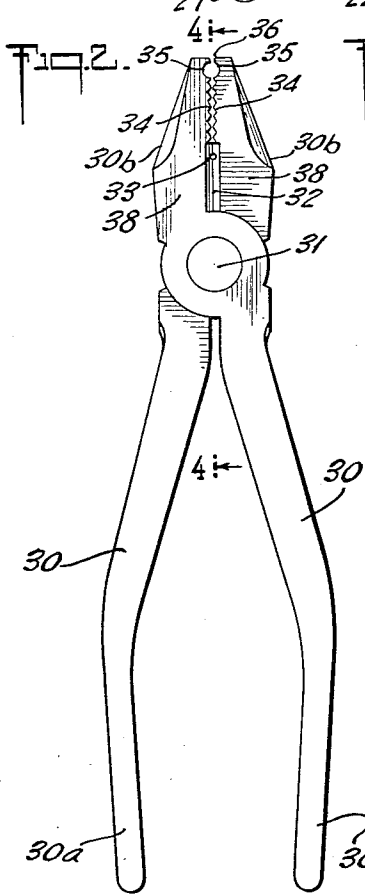
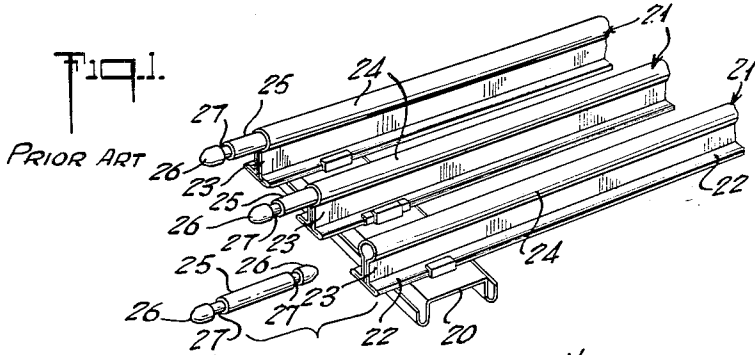
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PLIER-LIKE TOOLS FOR USE WITH TOY RAILROAD TRACK

Filed April 29, 1954

2 Sheets-Sheet 1



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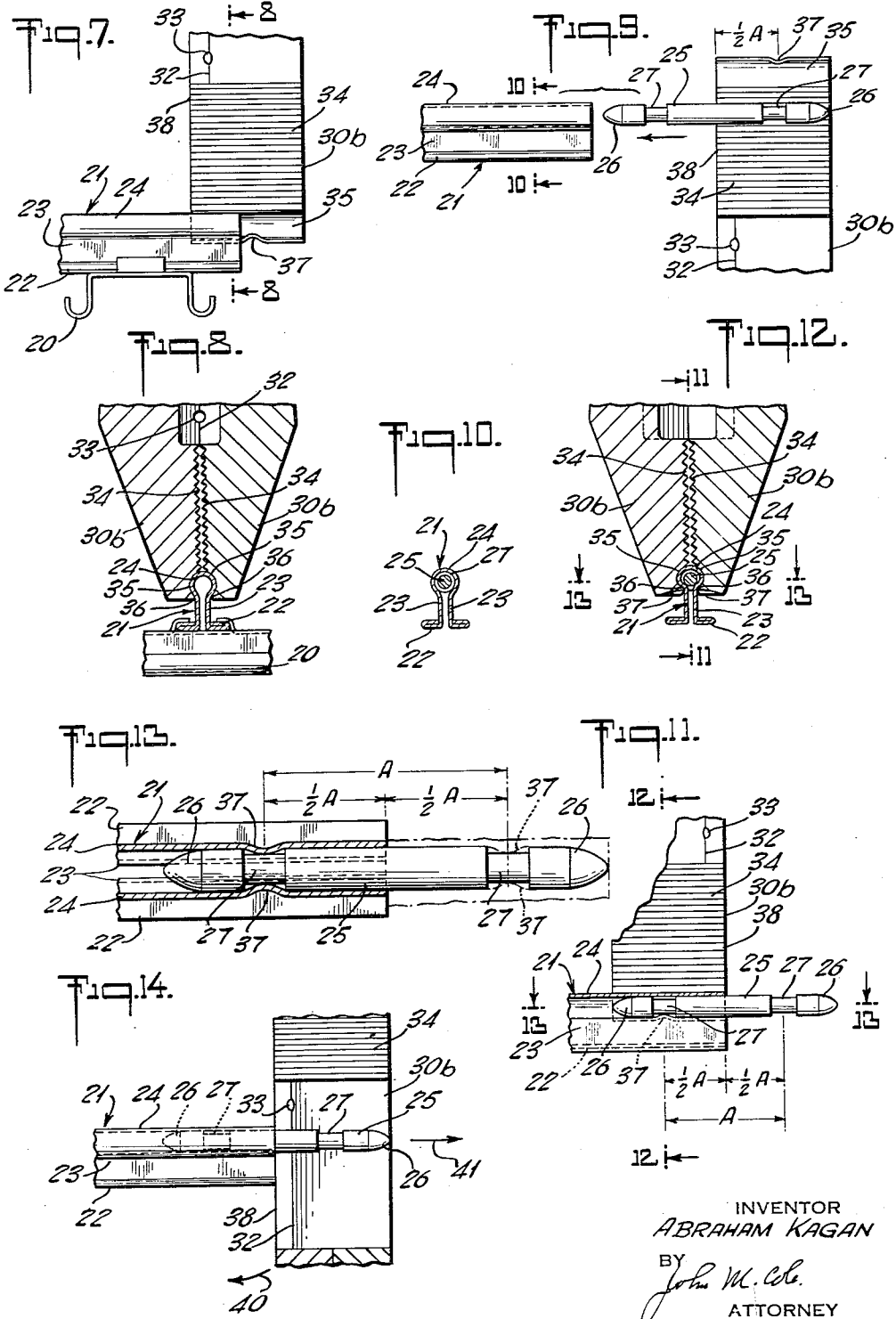
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**PLIER-LIKE TOOLS FOR USE WITH
TOY RAILROAD TRACK**

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2 Claims. (Cl. 81—15)

The present invention relates to plier-like tools for use with toy railroad tracks.

Toy railroad trackage employs sheet metal rails each of which is formed to have base flanges for securement to cross-ties, a cylindrical head portion and web or riser interconnecting the head portion and flanges. These track rails are usually open at one end and carry at the other end a connecting pin of conducting or of insulating material, as the case may be, for insertion into the open end of another rail. The pins sometimes become loose in the track rail and it is necessary to tighten them in place, and at other times it is desirable to replace a pin or to remove a pin or insert a different pin.

The present invention relates to pliers suitable for use with such toy railroad track for the purpose of removal or insertion of pins, securement of pins in place, and reforming or reshaping track rail heads which have become distorted.

The accompanying drawings show, for purposes of illustrating the present invention, one embodiment in which the invention may take form, it being understood that the drawings are illustrative of the invention rather than limiting the same.

In the accompanying drawings:

Figure 1 is a perspective view illustrating a typical piece of prior art toy railroad track with one pin removed;

Figures 2 and 3 are opposite side elevational views of the pliers, closed;

Figure 4 is a section on line 4—4 of Figures 2 and 3 to show the inner face of a jaw;

Figure 5 is an enlarged view showing the plier jaws closed and taken on the line 5—5 of Figure 6;

Figure 6 is a view taken in the direction of the arrow 6 of Figure 5;

Figures 7 and 8 illustrate the use of the tool in reforming the head at the open end of a track rail, Figure 8 being taken on the line 8—8 of Figure 7;

Figure 9 is a view illustrating the use of a tool in inserting a pin into the end of track rail;

Figure 10 is a sectional view taken on the line 10—10 of Figure 9 after the connecting pin has been properly inserted;

Figures 11, 12 and 13 are views illustrating the use of the tool in crimping the rail head against the inserted connecting pin, Fig. 11 being taken on the plane 11—11 of Fig. 12. Figure 12 being taken on the plane 12—12 of Figure 11, and Figure 13 being taken on the line 13—13 of Figure 12; and

Figure 14 is a view illustrating the use of the tool in removing a connecting pin from the track.

A common form of prior art toy railroad track is shown in Figure 1. It employs a cross-tie indicated at 20 and three rails 21. These rails are formed from sheet metal strip by folding it to shape. They have base flanges 22, web portions 23 and heads 24. When formed, the heads of the rails are open at the ends. For use in connecting the rails of one track section to those of another track section, the ends of the rails carry connecting pins

2

indicated at 25. These connecting pins may be metal or insulation. The pins have rounded ends 26, 26 to facilitate entry into the open ends of the track rails. They have reduced portions 27, 27 which make them symmetrical, end for end. One of these is provided for crimping in of the rail head to secure the pin against removal.

As above indicated, it is sometimes necessary to remove a pin or insert a new pin, to tighten the pin when in place, or to reform the open end of a track rail which has become distorted. The tool to be described is one for use with track rails such as above discussed.

As shown in the drawings, the tool has two crossed levers 30, 30 pivoted about a pin 31. Each lever has a handle end 30a and a jaw end 30b. The jaw ends are provided at one side with a wire cutter 32 which limits the extent to which the jaws may be closed by applying pressure to the handles, and with a wire stripper opening indicated at 33. The cutter side of the tool provides a reference surface to tell which way the tool should be held when used with the track. Beyond the wire cutter, each jaw is provided with a roughened gripping area indicated at 34.

Spaced a short distance from the extreme ends of the jaws, each jaw is provided with a semicylindrical cut-out indicated at 35 of a size to fit about, but not crush the rail head, as shown in Figures 7 and 8. Beyond these cut-outs, the jaws are formed so as to provide a narrow opening 36, so that when the jaws are completely closed space is provided to accommodate the web of the rail (see Figure 8).

These cylindrical cut-outs are not continuous from one side face of the jaw to the other side face. The material of the jaw is deformed, as by forging it in, as indicated more clearly in Figures 5 and 6, so that teeth 37 are provided at a predetermined distance from the reference face 38 of the tool. This distance is preferably one-half the center-to-center spacing of the undercuts in the pins, as indicated by the dimension lines A and 1/2 A.

When one wishes to insert a pin, it is grasped in the jaws as indicated in Figure 9 and pushed into the rail head. The proper depth of insertion is ascertained by closing the jaws about the pin so that it is in the cut-out and the teeth enter the undercut of the pin (see dotted line showing of Figure 13).

After one has inserted the pin, the pliers are reversed with the reference face 38 now even with the end of the track rail as indicated in Figures 11 and 12. When thus located, the pliers are closed to bring the teeth 37 against the rail head and press the metal into the undercut of the pin as indicated in Figures 12 and 13.

When it is desirable to remove a pin from the rail, the pliers may be closed about the pin so as to bring the wire cutter 32 against the pin and the pliers are rotated, as indicated by the arrow 40 in Figure 14. This will withdraw the pin as indicated by the arrow 41.

As there are various forms of track in use, the tool will be made of the proper dimensions to fit. Either face may be selected as the reference face.

Since it is obvious that the invention may be embodied in other forms and constructions within the scope of the claims, I wish it to be understood that the particular form shown is but one of these forms, and various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. A plier-like tool for use with a toy railroad track connecting pin having reduced diameter portions spaced from the ends thereof, and adapted to be inserted into the head of a sheet metal toy railroad track rail, said tool comprising crossed levers forming handles at one end and jaws at the other end, and wherein the jaws have clamping surfaces to hold the pin while it is being forced

3

into the rail head, wherein the extreme outer end of the jaws have semicylindrical cut-outs parallel with the hinge axis for embracing the rail head, the jaws having opposite teeth projecting into the cut-outs and spaced from a side edge of the jaws an amount to enter one reduced diameter portion of a pin and gauge its insertion into the head; the opposed teeth also being positioned to crimp the rail head into the other reduced diameter portion to secure the pin in place.

2. Toy railroad track repairing pliers for use with the usual sheet metal rails and rail connecting pins having spaced undercuts, comprising two crossed levers with handle portions and jaw portions adapted to be brought against one another when the handle portions are moved toward one another, the extreme ends of the jaw portions when closed being spaced to accommodate the web of

4

a sheet metal toy track rail, the adjacent portion of the jaw having semi-cylindrical cut-outs parallel with the lever axis, adapted to grip the track rail head, and having opposite teeth extending into the cut-outs and spaced from the side edge of the plier jaws a distance equal to one-half of the spacing of the undercuts on said track-connecting pins.

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