

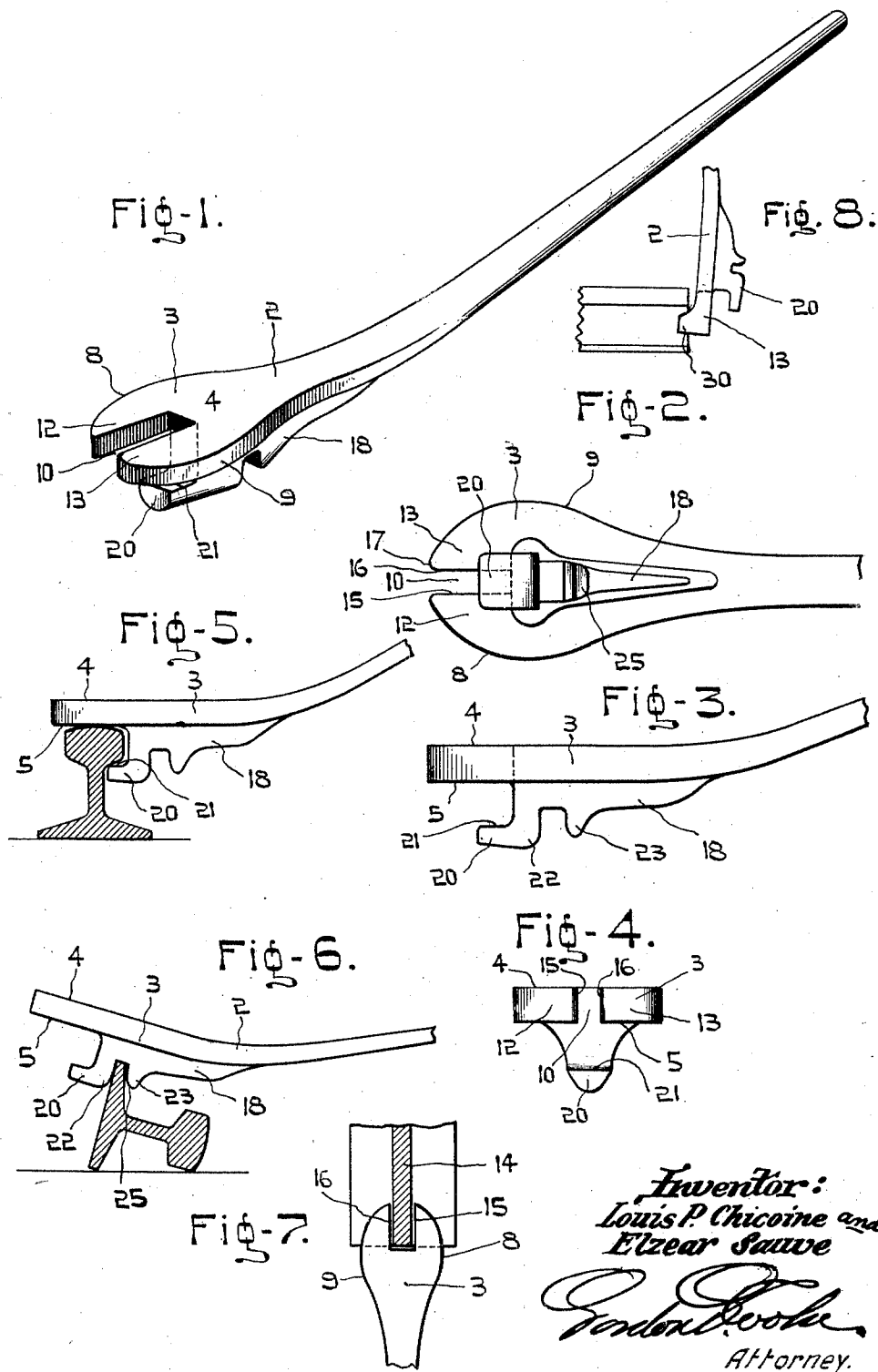
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RAIL HANDLING TOOL

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RAIL-HANDLING TOOL

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This invention relates to tools for manipulating railway rails, and particularly to tools of the type commonly known in railway parlance as rail unloading forks.

These rail unloading forks are used in the loading and unloading of rails onto or from railway flat cars and it has been the customary practice in the past to work from the ends of the rail pile in these operations. Increases in the length of the rails, however, have made the handling of the rails from these points extremely hazardous, there being insufficient room for the operators to stand, and the object of the present invention is to provide a new and improved tool or fork which is so constructed and arranged that its use will greatly reduce the hazard attached to this class of work and will facilitate the manipulation of the rails irrespective of the various positions in which they are located.

To this end we have designed a tool, the rail engaging end of which has a plurality of pairs of jaws which are so relatively arranged and of such dimensions that the rails can be easily and conveniently handled with it no matter what position the rails may be in. For this reason the tool is particularly useful in the handling of rails that have been thrown in a heap and are not uniformly positioned.

Referring to the accompanying drawings in which similar reference characters indicate the same parts:—

Figure 1 is a perspective view of the rail unloading fork which constitutes the preferred embodiment of our invention;

Figure 2 is a plan view of the underside of the rail engaging end of the fork;

Figure 3 is a side elevation thereof;

Figure 4 is an end view thereof;

Figure 5 is a side view of the fork illustrating the manner in which it is used upon a rail in upright position;

Figure 6 is a similar view showing the manner of handling a rail with the fork when the former is lying on its side;

Figure 7 is a plan view illustrating the method of engaging a rail at its extreme end, and

Figure 8 is a fragmentary side elevation of

a modification, the web gripping jaws being extended upwardly to facilitate the handling of a rail with the tool in a substantially vertical position.

The preferred embodiment of our invention consists of a unitary bar the lower end 2 of which is disposed at an angle to its main length in side elevation and terminates in a comparatively wide multiple forked head 3 of substantially elliptical form in plan view having flat top and bottom surfaces 4 and 5 respectively and curved external sides 8 and 9, the extreme end of the head being notched longitudinally as at 10 to constitute a fork or gripping the web of a rail. The jaws 12 and 13 of this fork are spaced uniformly apart a distance slightly greater than the thickness of the web so that the tool may be applied thereto in the manner illustrated in Figure 7, in which the web is indicated at 14. The internal opposed rail engaging faces 15 and 16 of these jaws extend parallel to one another and at their outermost points they are rounded off as at 17 to provide a flared mouth which facilitates the positioning of the tool on the rail.

The underside of the head has integrally formed therewith as a component part thereof a longitudinal rib or boss 18 which serves the dual purpose of reinforcing the head and providing in combination with the latter two additional forks or pairs of jaws, namely, rail head engaging jaws and base flange engaging jaws.

The former are respectively constituted by the flat underside 5 of the head and a hook-like extension 20 on the rib, which is constructed and arranged to hook under the rail head as indicated in Figure 5, with the top jaw 5 bearing upon the top of the same. It will be noted that the last-mentioned jaw is considerably longer than its companion jaw. This arrangement provides a wide bearing area for the fork on the rail head when in this position, facilitates its application to the railhead and permits the rail to become disengaged from the fork automatically at the moment its centre of gravity moves past the vertical plane of its point of fulcrum. This last advantage is of vital importance because

it substantially eliminates the danger of the operator being pulled over the side of a car during unloading operations. The relative dimensions of the rail head jaws may of course be varied without departing from the spirit of the invention but very satisfactory results have been obtained by making the bottom jaw 20 approximately half the length of the top jaw and of slightly greater width than the width of the space between the web engaging jaws. If desired the rail engaging face 21 of the bottom jaw may be upwardly and outwardly inclined towards its free end to cause it to bite into the rail when leverage is exerted thereon to assist in preventing accidental displacement of the fork relatively thereto.

The base flange jaws indicated at 22 and 23 respectively are located immediately in rear of the rail head jaws and are disposed at right angles thereto. Like the rail head jaws, the jaw 23 nearest the operator is shorter than its companion jaw to cause the fork to become disengaged from the rail at the desired moment, and the rail engaging face 25 of this shorter jaw is rounded off to cause it to roll on the base flange as the rail turns relatively to the fork when turning the rail over as indicated in Figure 6.

From the foregoing description it will be noted that the three pairs of jaws are all disposed at right angles to one another and that they are so conveniently arranged and the angular relationship of the head portion to the handle is such that the user of the fork can manipulate a rail with comparative ease and safety.

In Figure 8 it will be noted that the jaws 12 and 13 are extended upwardly as at 30. The purpose of these extensions is to facilitate the gripping of the web of the rail with the fork in substantially vertical position as indicated in this figure.

What we claim is as follows:

1. A rail unloading fork of the type described having a pair of vertically spaced rail head engaging jaws, such jaws having substantially horizontal gripping faces adapted to respectively engage the top and underside surfaces of a rail head when in gripping position thereon, the lower jaw being shorter than the upper jaw and extending to the web of the rail and the upper jaw being straight and extending across the top of the rail to a point beyond the middle vertical plane of the rail, said upper jaw being forked to constitute a second pair of web gripping jaws, the web engaging faces of which are disposed vertically to permit engagement of the vertical faces of the rail web without turning the fork on its longitudinal axis from the rail head gripping position.

2. A rail unloading tool, comprising a handle, a widened head notched longitudinally in front to form web engaging jaws, and a

rib on the underside of said head, cut away in its front end to form, with the underside of the head, rail head engaging jaws, said rib being notched transversely to form rail base engaging jaws.

3. A rail handling tool, comprising a handle widened at one end to form a head and having a rib on its underside, the front end of said rib being cut away to form rail head engaging jaws with the underside of the head, the front end of the latter being notched to form rail web engaging jaws, and said rib being transversely notched in the rear of said cut away portion to form rail base engaging jaws.

Signed at the city of Montreal, Province of Quebec, this 17th day of March, 1927.

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