Nov. 11, 1947. S. W. HAYES 2,430,567

DERAIL GUIDE BOX

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Fig. 1.

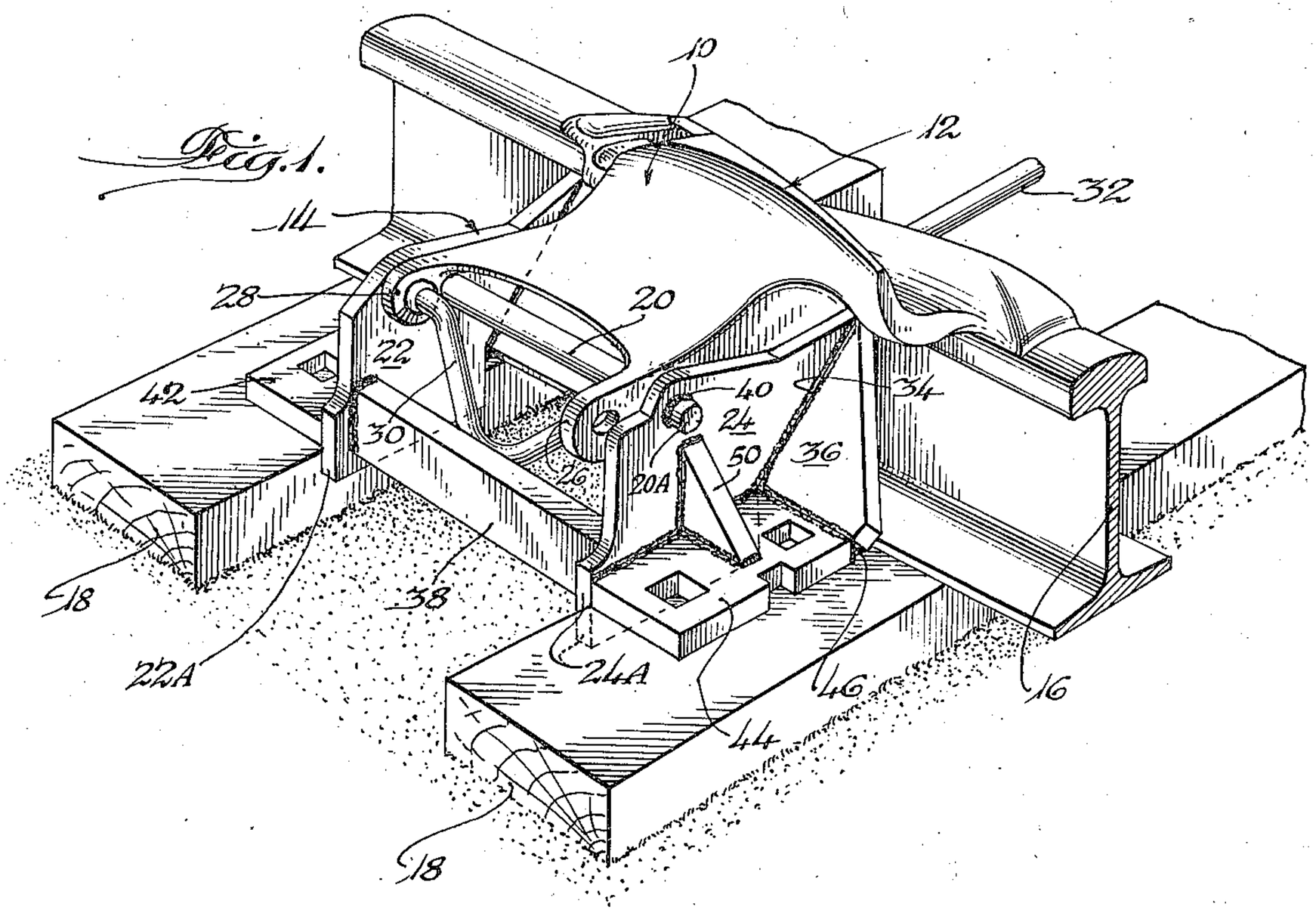

Fig. 2.

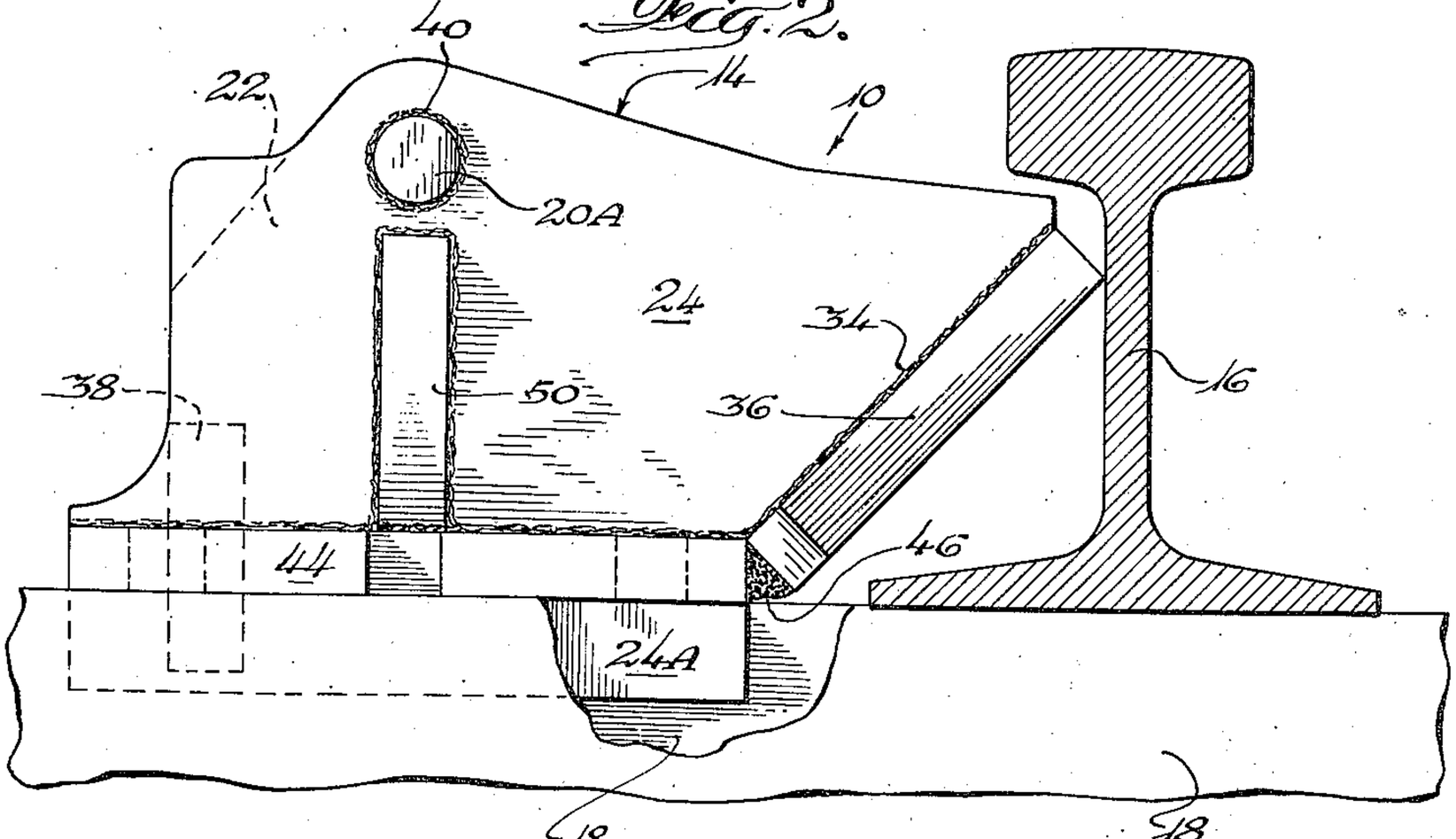

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Fig. 3.

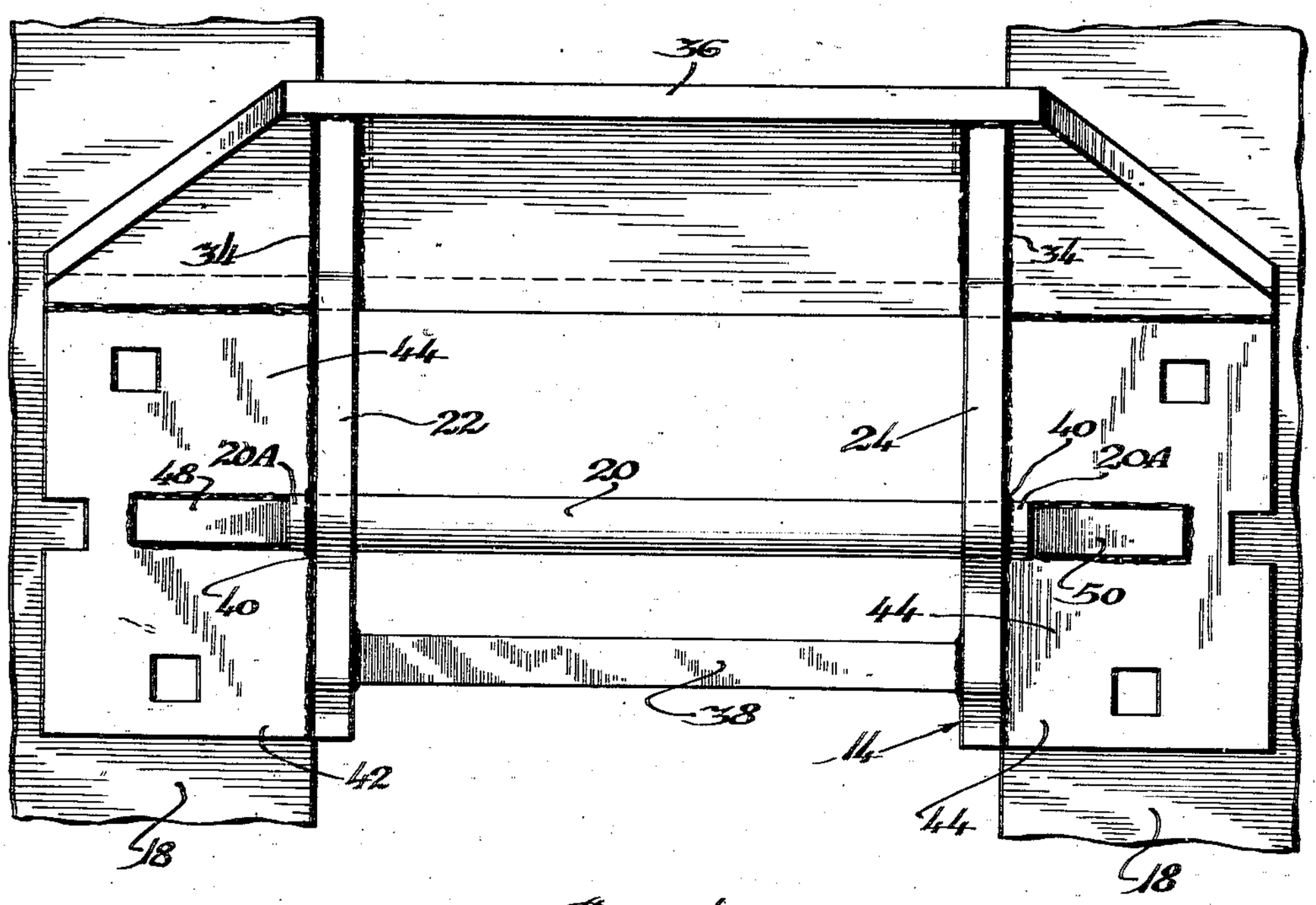
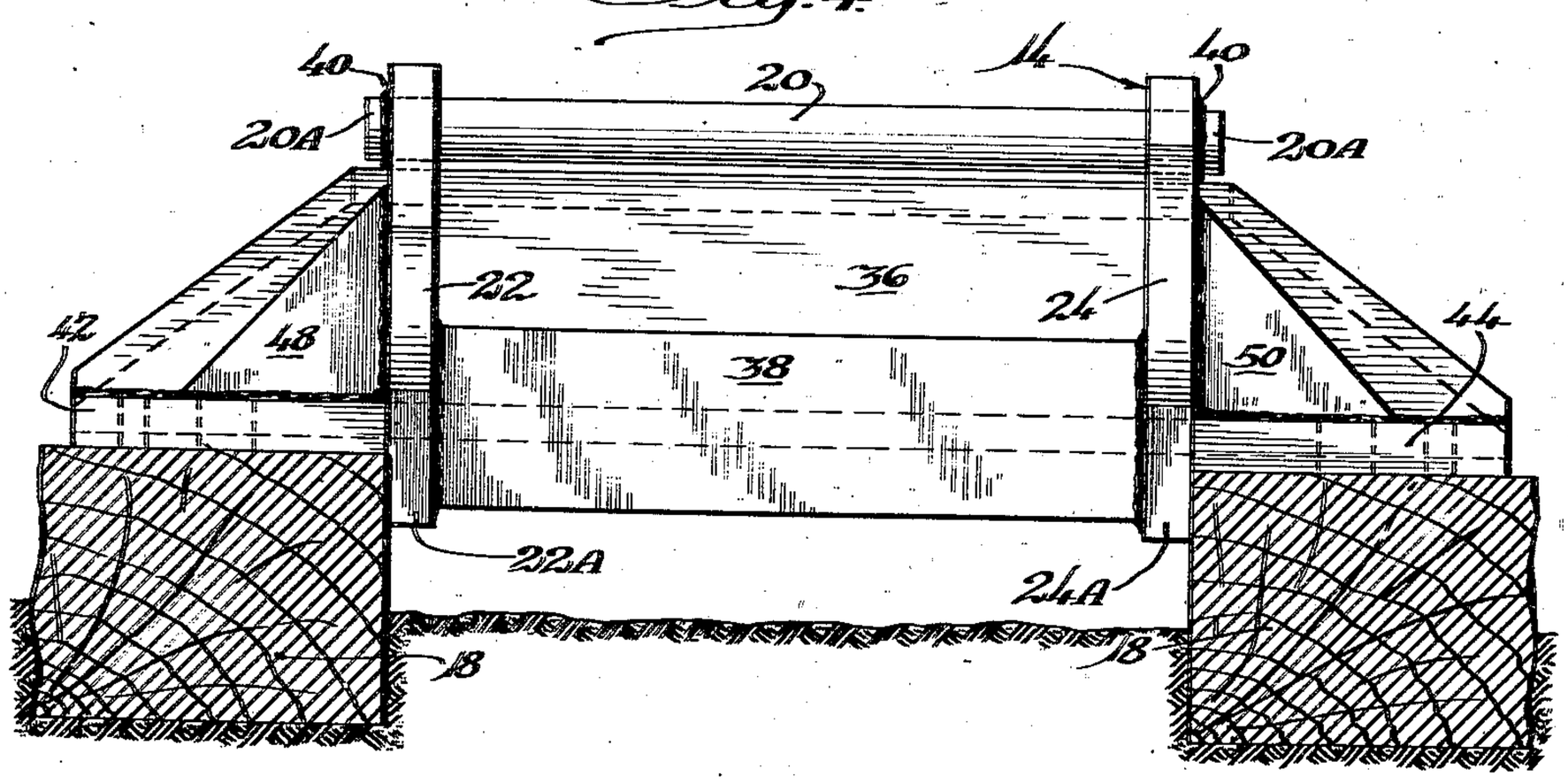


Fig. 4.



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Patented Nov. 11, 1947

2,430,567

UNITED STATES PATENT OFFICE

2,430,567

DERAIL GUIDE BOX

Stanley W. Hayes, Richmond, Ind., assignor to Hayes Track Appliance Company, Richmond, Ind., a corporation of Indiana

Application June 14, 1944, Serial No. 540,243

5 Claims. (Cl. 246—163)

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The present invention pertains to derails and particularly to hinge derail guide boxes.

The primary object of the present invention is the provision of a new and improved hinge derail guide box of light weight but substantial construction.

Another object of the present invention is to provide a new and improved hinge derail guide box of light weight but substantial construction in which the hinge pin is secured to the sides of the box to form an integral part of the box.

More specifically, it is an object of this invention to provide a new and improved hinge derail guide box characterized by the construction of the guide box from steel plates of light section welded together and more particularly, the direct interconnection of the side plates with a steel hinge pin forming, in effect, an integral part of the guide box, thereby to prevent movement of the side plates either away from or toward each other.

Other objects and advantages of the present invention will become apparent from the ensuing description, in the course of which reference is had to the accompanying drawings, in which:

Fig. 1 is a perspective view of a hinge derail including a guide box constructed in accordance with the present invention;

Fig. 2 is a side elevational view of the guide box alone;

Fig. 3 is a top plan view of the guide box shown in Fig. 2; and

Fig. 4 is a rear elevational view of the guide box.

Referring first to Fig. 1, it may be noted that the derail, indicated as a whole by reference character 10, includes a derail block 12 and the guide box 14 upon which the block is hingedly or swingably mounted. The derail block may be of conventional construction and of the hand operated type, i. e., it may be thrown on and off the rail by hand. In its indicated position the derail block is shown on the top of a rail 16 supported by a pair of ties 18, to which the derail is also secured.

The derail block 12 is mounted upon a steel hinge pin 20 directly secured, in a manner to be described in greater detail hereinafter, to the side walls 22 and 24 of the guide box. The derail is provided with an apertured lug 26 so that the block may be locked on the rail. When the derail is properly installed, a padlock (not shown) in this lug locks the derail block down close to the rail head so that the block cannot be lifted above the rail. The block also includes another apertured lug 28 (at the opposite side) adapted to re-

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ceive the upturned end 30 of a connection rod 32 leading to a target stand (not shown), whereby the target is moved to different positions dependent upon the position of the derail block.

The guide box is preferably constructed from a number of steel plates of light section cut into the indicated shapes and secured together as by welding. The two previously mentioned side plates 22 and 24 are interconnected by a number of cross braces secured to the plates as by welding. The side plates have front ends, the lower sides of which extend downwardly and outwardly away from the web of rail 16 as indicated by the reference character 34. These inclined edges are interconnected by a front brace 36 which is of a generally trapezoidal shape as may be best noted in Fig. 3. This brace is secured to the side plates as by welding so as to form an integral part of the guide box.

The rear ends of the side plates are interconnected by a generally rectangular rear cross brace 38 secured to the opposite inner faces of the side plates, as by welding. Certain features of the guide box are disclosed and claimed in my contemporaneously filed application, Serial No. 540,244.

In accordance with the primary feature of this invention and a feature which enables lighter material to be used in the construction of a substantial and desirable hinge derail, the hinge pin 20 is utilized as a third cross brace. It extends through suitable apertures in the side plates and its projecting ends 20A are secured directly, as by welding, to the outer sides of the side plates indicated by the reference character 40. The pin and plates may be readily welded together as they are both made of steel.

The guide box is supported on the ties 18 by a pair of tie flanges 42 and 44. The flanges are secured to the outer sides of the side plates 22 and 24, respectively, as by welding and are secured thereto some distance above the lower ends of the plates so that the lower ends 22A and 24A project below the tops of the ties and are adapted to abut against the ties as illustrated. The tie flanges are apertured in order to receive conventional spikes (not shown) driven therethrough into the ties.

In order to add to the rigidity of the construction, the flanges are secured also to the triangular ends of the front braces as by the welding 46 (see Figs. 1 and 2). Additional rigidity is provided by the triangular braces 48 and 50 secured to the upper and outer sides of the flanges and side plates, respectively.

From the foregoing description of a hinge derail guide box constructed in accordance with the present invention, it may be noted that the hinge pin is used as a cross brace and that it is secured directly to the side plates of the derail guide box. As a result, the side plates may be made of lighter section than would be necessary if the pin were simply riveted in place. The hinge pin holds both sides from spreading and it also prevents them from coming closer together. It forms a continuous connection around and through the upper portion of the derail box thereby making the whole construction more substantial.

The derail may be used with rails of different sizes as the front end of the guide box may be brought into contact with webs of different sized rails, as illustrated in connection with a rail of one size in Fig. 2.

While but a single embodiment of the invention has been described in detail, it should be understood that the principles thereof may be embodied in other constructions. For instance, the direct securing of the hinge pin to the side walls, as by welding, may be utilized in constructions wherein the side plates may constitute separate steel castings or wherein the major portion of the guide box is made as steel casting.

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

1. A derail guide box, including in combination, a pair of spaced apart side wall plates having rail web facing ends adjacent the rail, tie flanges secured to the outer sides of said plates so that the lower ends of the plates extend below the flanges, front and rear cross braces secured to and interconnecting the front and rear regions of said wall plates, the front cross brace being secured to the rail facing ends of said plates, and a derail block hinge pin extending between said plates adjacent the upper ends thereof and substantially spaced outwardly from said rail web facing ends, said pin being welded to said plates and constituting an integral part of said guide box.

2. A derail guide box, including in combination, a pair of spaced apart side wall plates, tie flanges secured to the outer sides of said plates so that the lower ends of the plates extend below the flanges, front and rear cross braces secured to and interconnecting the front and rear regions of said wall plates, and a derail block hinge pin extending between and welded to said plates above said rear cross braces and constituting an integral part of said guide box.

3. A derail guide box, including in combination, a pair of spaced apart side wall plates, means including tie flanges secured to the outer sides of said plates for supporting the guide box on spaced apart ties, and means including a derail block hinge pin extending between said plates near the upper edges and rear ends thereof and secured directly to said plates and thus constituting an integral part of said guide box for interconnecting said side plates.

4. A derail guide box, including in combination, structure having a pair of spaced apart vertically extending walls, front and rear cross brace structure interconnecting said side walls and horizontally extending tie flanges for supporting the structure on a pair of spaced apart ties, and a derail block hinge pin interconnecting said side walls and secured directly to said walls and thus constituting an integral part of the guide box structure for interconnecting the side walls.

5. A derail guide box, including in combination, structure having a pair of spaced apart vertically extending steel walls, front and rear cross brace structure interconnecting said side walls and horizontally extending tie flanges for supporting the structure on a pair of spaced apart ties, and a derail block hinge pin of steel interconnecting said side walls and welded to said walls and thus constituting an integral part of the guide box structure for interconnecting the side walls.

STANLEY W. HAYES.

REFERENCES CITED

The following references are of record in the file of this patent:

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