W. F. PRICE.

STEEL TIE AND RAIL FASTENER THEREFOR.

APPLICATION FILED OCT. 8, 1920.

1,383,423.

Patented July 5, 1921.

3 SHEETS—SHEET 1.

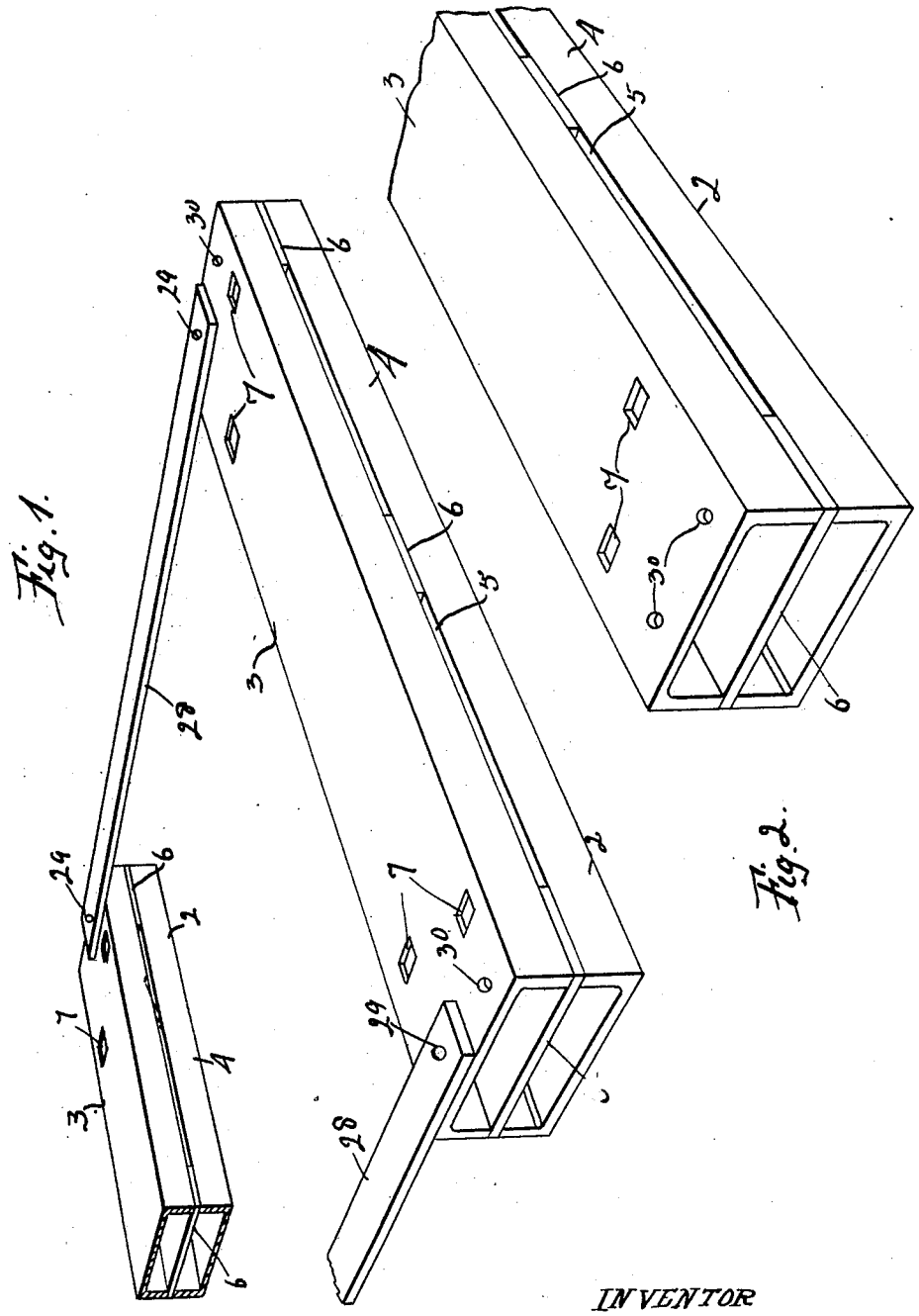


Fig. 1.

Fig. 2.

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3 SHEETS—SHEET 2.

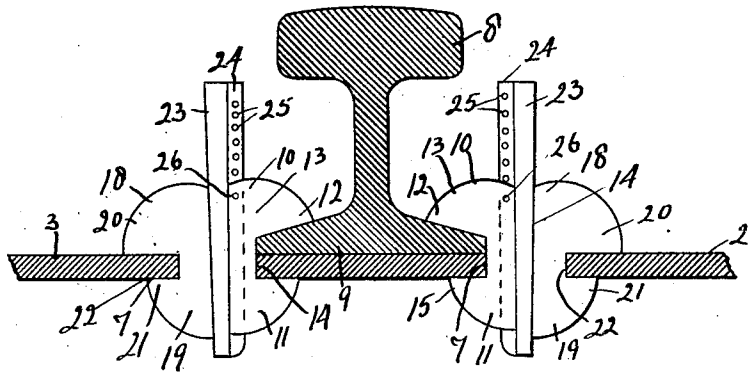


Fig. 3.

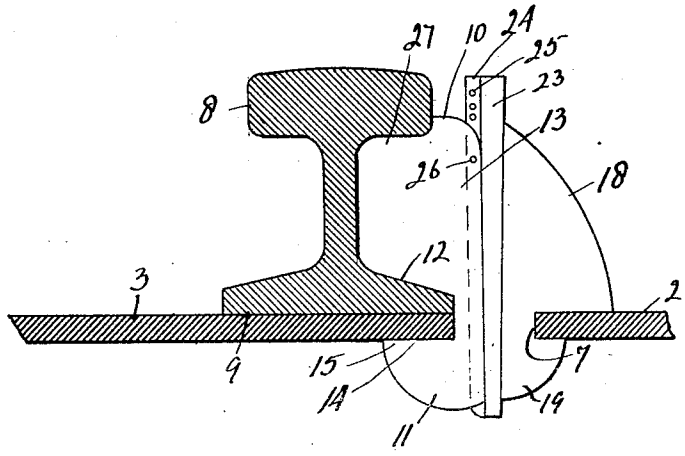


Fig. 4.

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3 SHEETS—SHEET 3.

Fig. 5.

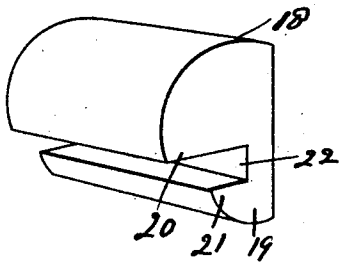


Fig. 6.

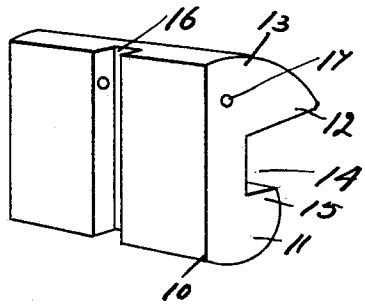
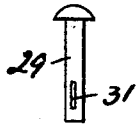


Fig. 7.



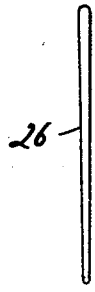


Fig. 11.

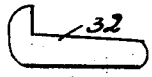


Fig 8

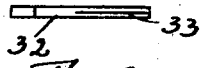


Fig. 9.

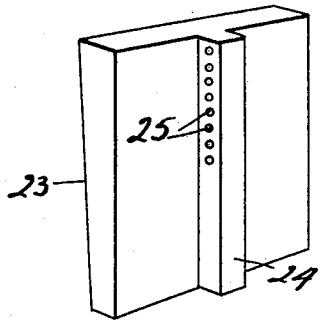


Fig 10

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UNITED STATES PATENT OFFICE.

WILLIAM F. PRICE, OF BROAD MOUNTAIN, PENNSYLVANIA.

STEEL TIE AND RAIL-FASTENER THEREFOR.

1,383,423. Specification of Letters Patent. Patented July 5, 1921.

Application filed October 8, 1920. Serial No. 415,473.

To all whom it may concern:

Be it known that I, WILLIAM F. PRICE, a citizen of the United States, residing at Broad Mountain, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Steel Ties and Rail-Fasteners Therefor, of which the following is a specification.

My invention relates to new and useful improvements in steel ties and rail fasteners therefor, and has for its object to provide a tie in the form of a rectangular column composed of two opposed channels welded together along their adjacent edges.

Another object of the invention is to provide in combination with a tie of the character above described, spacing bars attached to the end of the ties for maintaining them in their proper position relative to each other, said spacing bars being particularly useful in bridge or other overhead work.

A further object of the invention is to provide a steel tie with openings in the region of the rails with which register fastening blocks arranged in pairs the coacting blocks of each pair being forced apart so as to engage the rails and portions of the tie by means of a wedge plate having a tenon which registers with a mortise in one of the fastening blocks.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains, may understand how to make and use the same, I will describe its construction in detail, referring by numerals to the accompanying drawings forming a part of this application, in which:—

Figure 1, is a perspective view of two adjacent ties showing the spacing bars connected therewith a portion of one of the ties and one of the spacing bars being broken away.

Fig. 2, is an enlarged fragmentary perspective view of one of the ties.

Fig. 3, is an enlarged longitudinal sectional view of a portion of the upper wall of the tie showing a section of rail held thereon by fastening blocks.

Fig. 4, is a similar view showing a slightly different form of the holding blocks.

Fig. 5, is a perspective view of one of the fastening blocks engaging only the walls of the tie.

Fig. 6, is a similar view of the coacting or inner fastening block which engages the rail flange in addition to the walls of the tie.

Fig. 7, is a side elevation of a pin used for fastening the spacing bars to the tie.

Fig. 8, is a side elevation or face view of the locking wedge adapted to pass through a hole in the pin.

Fig. 9, is an edge view thereof showing the split end which may be spread apart to prevent accidental withdrawal.

Fig. 10, is a perspective view of the wedge plate with its tenon for coöperation with the fastening blocks.

Fig. 11, is a side elevation of a tapered pin for fastening the wedge plate to one of the fastening blocks.

In carrying out my invention as here embodied, 2 represents a metallic tie formed of steel, iron or other suitable material which is in the form of a rectangular body consisting of two opposed channels 3 and 4 the meeting edges of which are welded together as at 5 and during the process of welding the two channels are slightly spaced apart by the separators 6 one of which is placed at each end and one midway between said ends and if found desirable these separators may be left between the channels and welded therein so as to form a part of the completed tie and act as stiffeners or they may be forced therefrom after the spaces between them have been welded and then the spaces which they occupy welded so as to complete the tie without stiffeners.

In the upper face of the tie adjacent each end are formed a number of openings 7 in the regions of the localities to be occupied by the rails and these openings may be engaged in pairs directly opposite each other, diagonally opposite each other or in any other suitable way so that at least one opening on each side of the rail when the latter is in place.

As shown in Fig. 3 when a rail 8 is in place upon a tie the edges of the base or flange 9 aline with the inner edges of the openings 7. An inner block 10 having a heel 11 small enough to pass through the opening 7 is then inserted in said opening until the nose 12 of the head 13 engages the rail flange after which said fastening block is moved

over until the slot 14 formed between the nose 12 and toe 15 registers with the rail flange and the upper wall of the tie and lying directly beneath the rail with the toe 15 underlying the upper wall of the tie it being understood that the slot 14 is of a shape to correspond with the rail flange and the tie wall underlying it. This fastening block has a mortise 16 in its back which acts as a guide for the tenon of the wedge block to be hereinafter described, while longitudinally through said fastening block is formed a hole 17 which communicates with the mortise 16.

After this inner fastening block is in place the outer fastening block 18 is positioned by passing the heel 19 thereof through the opening 7, said heel being small enough to pass through that portion of the hole which is unoccupied by the inner fastening block. When the heel 19 is projected through the opening the nose 20 will engage the upper wall of the tie and by sliding the outer fastening member over the toe 21 will engage and underlie the inner surface of the wall of the tie so that said wall of the tie registers with the groove 22 formed between the nose and toe.

When both the inner and outer fastening blocks are in place as before described a space is left therebetween into which is driven the wedge plate 23 carrying the tenon 24 for registration with the mortise 16 in the inner fastening block, said tenon guiding the wedge plate in a straight line and preventing any sidewise movement thereof relative to the inner fastening block, and this tenon is provided with a series of holes 25 one of which, according to the position of the wedge plate relative to the inner fastening block, registers with the opening 17 through said inner fastening block and when in registration a tapered pin 26 is driven into the hole 17 and the registering hole of the series 25 and the smaller end of said pin bent over so as to lock and hold all of the parts in their positions thereby preventing the accidental displacement of any of the parts and preventing any shifting of the rail relative to the tie.

On curves it is desirable to support the web and head of the rail and this I accomplish by making the head of the inner block of sufficient thickness and height to form a chair 27, Fig. 4, which contacts with the web and the under face and a portion of the edge of the head of the rail, but otherwise the construction and operation are identical with that form shown in Fig. 3.

It is to be understood that the shape and size of the slot 14 may be varied to meet the requirements of different shaped rails and the use of fish plates or other rail joints.

Where ties of this character are used in bridge or other overhead work it is difficult to prevent them from shifting because of the lack of road bed. I desire to hold them in their spaced relation relative to one another and to do this I provide spacing bars 28 which extend from one tie to the next adjacent but succeeding one as plainly shown in Fig. 1, and these spacing bars are of such length that they reach from the longitudinal center of one tie to the longitudinal center of another tie and when in position headed pins 29 are passed through holes in the ends of said bars and through holes 30 in the upper wall of the ties so that the inner ends of said pins 29 project below the walls of the tie and said inner ends of the pins have holes 31 therethrough for the reception of the heeled wedges 32 the ends of which are slit as at 33 so that when in place the parts thereof may be spread apart after the manner of a cotter pin to prevent the accidental withdrawal of said wedges, thus preventing the accidental displacement of the spacing bars.

In practice if found desirable the ties may be laid and the rails mounted thereon and the different sections of rail fastened together, after which the openings 7 may be laid out and burned and the fastening blocks placed in position as above described and likewise the spacing bars may be laid in place and the holes in said bars and the ties blown therein by an acetylene burner and the pins 29 dropped in place and then fastened by the heel wedges 32.

Of course I do not wish to be limited to the exact details of construction as herein shown as these may be varied within the limits of the appended claim without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is:—

A tie comprising two opposed channels and separators positioned between the adjacent edges of said channels, said edges and separators being welded together.

In testimony whereof I have hereunto affixed my signature.

WILLIAM F. PRICE.