May 13, 1924. 1,493,792

W. F. PRICE

RAIL JOINT EXPANDER

Filed Aug. 5, 1922 2 Sheets-Sheet 1

Fig. 1.

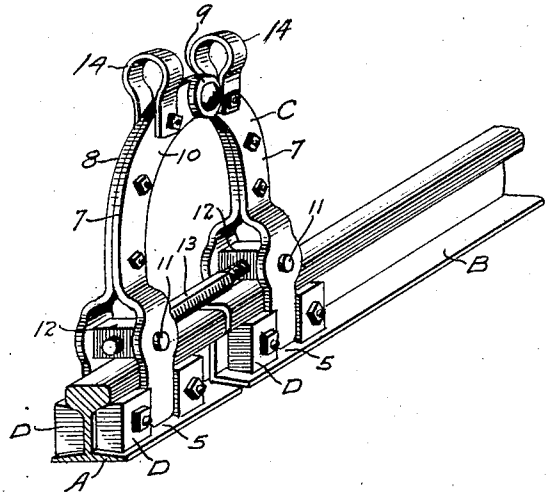


Fig. 2.

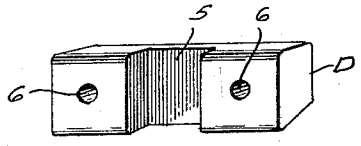


Fig. 3.

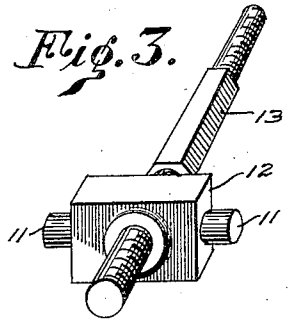
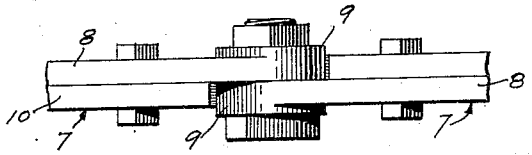


Fig. 4.



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Filed Aug. 5, 1922 2 Sheets-Sheet 2

Fig. 5.

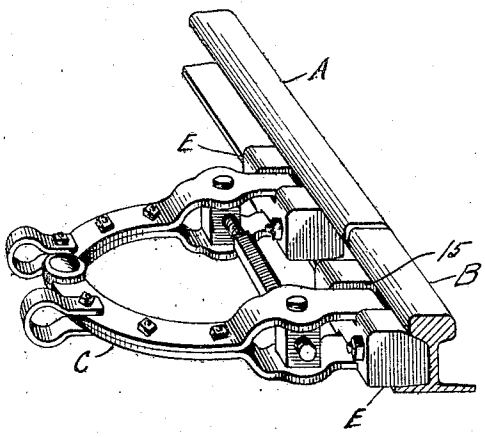
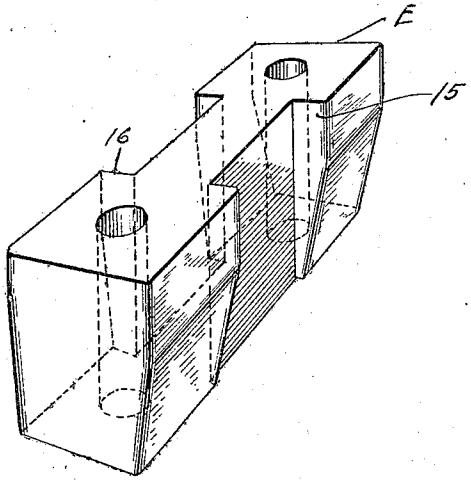


Fig. 6.



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Patented May 13, 1924. 1,493,792

UNITED STATES PATENT OFFICE.

WILLIAM F. PRICE, OF TOPEKA, KANSAS.

RAIL-JOINT EXPANDER.

Application filed August 5, 1922. Serial No. 579,936.

To all whom it may concern:

Be it known that I, WILLIAM F. PRICE, a subject of the King of Great Britain, and resident of Topeka, in the county of Shawnee, State of Kansas, have invented new and useful Improvements in a Rail-Joint Expander, of which the following is a specification.

This invention relates to a device for spacing the confronting ends of adjacent rails.

It is the primary object of this invention to provide a rail joint expander which may be quickly applied to adjacent rails and quickly removed therefrom. Another object of this invention is to provide an expander which may be disposed in a position such that it will not interfere with traffic. A further object of this invention is to provide an expander in which the force is applied directly in the line of expansion or contraction, thereby avoiding any tendency to buckle the rails. A still further object of this invention is to provide an expander which is simple in structure, durable, strong, and easily manipulated.

These objects together with other objects and corresponding accomplishments are obtained by means of the embodiment of my invention illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of the expander in a vertical position applied to adjacent ends of two rails: Fig. 2 is a perspective view of a lug used in connection with the expander for vertical position: Fig. 3 is a perspective view of a screw block and the expander screw; Fig. 4 is a plan view of a fragment of the expander jaws; Fig. 5 is a perspective view of the expander in horizontal position; and Fig. 6 is a perspective view of a lug used in connection with the expander for horizontal position.

Referring more particularly to Fig. 1, adjacent rails are indicated by A and B. The expander is indicated generally by C. The rails are punched in the usual manner at the ends for the application of fish plates or angle plates. At the end of the rails are lugs D.

The lugs D comprise blocks of greater thickness than the distance from the web of the rail to the edge of the head. The difference in thickness is such that a recess 5 may be formed therein to receive the end of the jaw as the latter is flush with the side of the head of the rails. The lugs have apertures 6 spaced at the same distance as the holes punched in the rail. In using the expander the plates are unbolted and removed. A pair of lugs, one pair on the inside of the rail, and the other on the outside of the rail are bolted thereto as indicated in Fig. 1. There are thus four lugs serving as holds for the rail expander.

The rail expander comprises a pair of pivoted jaws 7. The jaws are of corresponding structure. Each jaw is preferably made of two elements and comprises an element 8 having an eye 9 at the end thereof. Bolted or otherwise secured to the face of member 8, is member 10, ending short of the eye 9. The ends of members 8 and 10 are offset to form a fork for straddling a rail. The tines of the fork are adapted to seat in the recesses 5 of plugs D. They also serve as bearing brackets for receiving trunnions 11 of screw block 12. The screw blocks are thus pivoted in the jaws. Each block has a threaded aperture extending therethrough, one block having a right thread and the other a left thread. A screw 13 has right and left threads at opposite ends thereof and is mounted in the screw blocks. At the center the screw has a wrench hold, preferably in the form of a hexagon. For convenience in handling the expander, handles 14 are provided.

In applying the device to the rails, the rail plates are unbolted and the lugs D substituted therefor. These lugs are below the head of the rail so that they will not interfere with the passage of wheels thereover. The expander C is then dropped into position with the tines of the forks seated in the recesses of the lugs. The expander is easily placed in position by grasping the handles 14. After the expander is in position, as shown in Fig. 1, a wrench is applied to the screw 13 and the latter is turned to expand the jaws. Expansion of the jaws forces open the rail joint, permitting the insertion of end posts or any other work to be done requiring expansion of the joints. After the work has been completed the screw 13 may be manipulated to close and contract the joint. At any time the expander may be lifted from its position and removed from the top of the rail and then replaced as desired. It is evident that by reason of the jaw construction and the pivoted screw blocks, the force of expansion is applied in the correct direction to the rails. Through-

out the claims the word expansion has been used in its broad significance to include contraction.

In Fig. 5, the expander is shown in horizontal position. In this position lugs E must be used instead of D. A lug of this type is shown in Fig. 6. The lug comprises a block which, when applied to the rail, will project further laterally than lugs D. Recesses 15 and 16 are formed upon the upper and lower faces of each lug to receive the lines of the expander. Only two lugs are necessary, as shown in Fig. 5. The application of the expander is obvious.

What I claim is:

1. In a device of the class described, the combination with a pair of expander jaws pivotally secured to each other and having ends for connection with rails, of expansible means secured between said jaws to expand the latter.

2. In a device of the class described, the combination with a pair of pivoted expander jaws having forked ends, of lugs for attachment to rails having seats for said forked ends, and expansible means secured between said jaws to expand the latter.

3. In a device of the character described, the combination with a pair of pivoted expander jaws having ends for connection with rails, of pivoted blocks secured to the ends of said jaws, and expansible means disposed between said jaws and secured to said blocks for expanding said jaws.

4. In a device of the class described, the combination with a pair of pivoted expander jaws having forked ends, of lugs for attachment to rails, said lugs being provided with seats for said forked ends, pivoted blocks secured to the ends of said jaws, and expansible means disposed between said jaws and secured to said blocks for expanding said jaws.

5. In a device of the class described, the combination with a pair of pivoted expander jaws having ends for connection with rails, of expansible means secured between said jaws to expand the latter, said expansible means comprising a screw having right and left threads and screw blocks secured to said jaws.

In witness that I claim the foregoing I have hereunto subscribed my name this day of July, 1922.

WILLIAM F. PRICE.