

May 6, 1924.

1,492,634

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RAILROAD TIE SPACING JACK

Filed Aug. 5, 1922

2 Sheets-Sheet 1

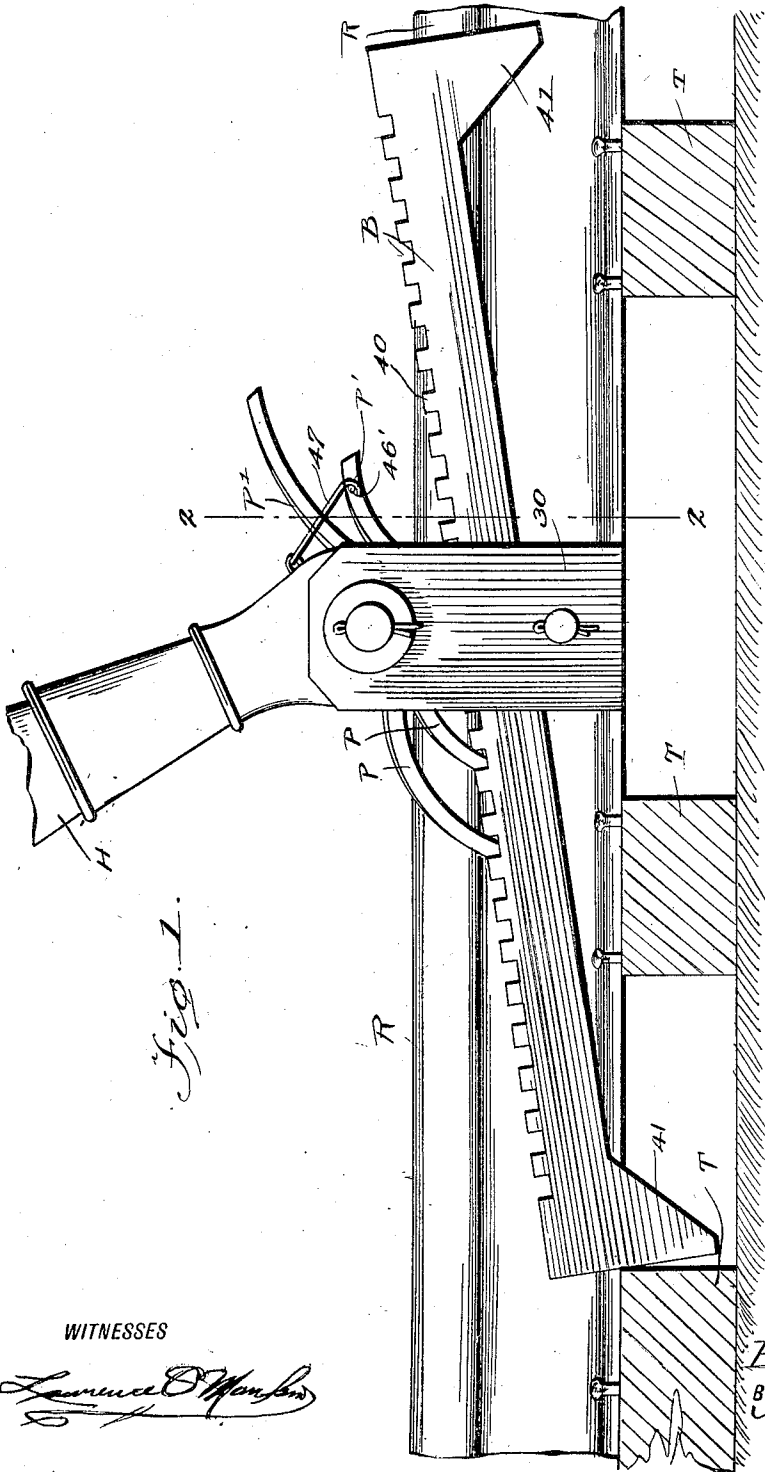


Fig. 1.

WITNESSES

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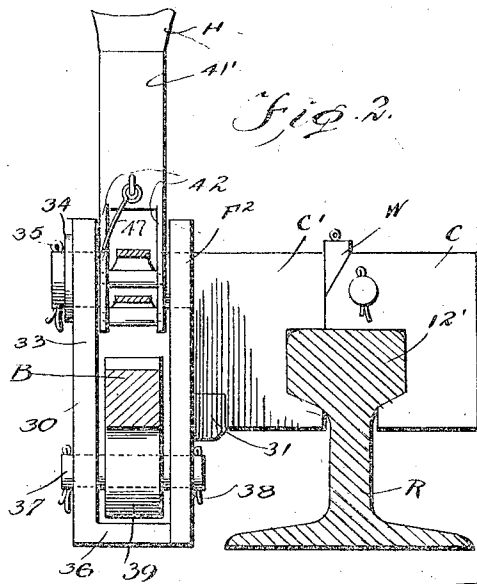
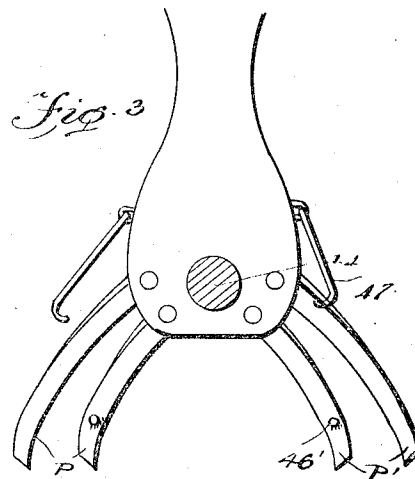
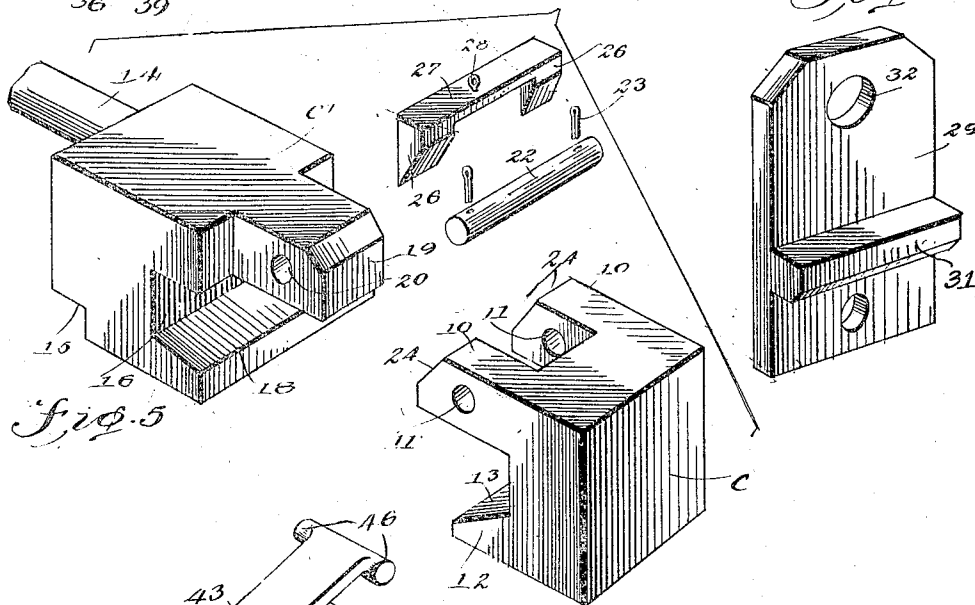


Fig. 5

Fig. 6

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UNITED STATES PATENT OFFICE.

HENRY L. HILLIARD, OF NEWBERRY, FLORIDA.

RAILROAD-TIE-SPACING JACK.

Application filed August 5, 1922. Serial No. 579,846.

To all whom it may concern:

Be it known that I, HENRY L. HILLIARD, a citizen of the United States, and a resident of Newberry, in the county of Alachua and State of Florida, have invented certain new and useful Improvement in Railroad-Tie-Spacing Jacks, of which the following is a specification.

This invention relates to improvements in railroad tie spacing jacks.

Among the objects of the invention is to provide a jack which may be easily and expeditiously clamped or secured upon a rail; which will serve in a highly efficient manner to operate upon two ties with the one setting thereof, and which is simple in construction and easy to manipulate.

Other objects and objects relating to details of construction, combination and arrangement of parts will hereinafter appear.

The invention is illustrated by way of example in the accompanying drawings, in which:—

Figure 1 is a view in side elevation of the device with the lower portion of the hand lever thereof broken away and showing the invention applied.

Figure 2 is a vertical sectional view taken substantially on the line 2—2 of Figure 1.

Figure 3 is a view in side elevation of the supporting handle and the pawls associated therewith.

Figure 4 is a detailed perspective view of one of the frame plates of the device.

Figure 5 is a group view showing in perspective the different elements which provide the clamping means for securing the jack to a rail.

Figure 6 is a detailed perspective view of one of the pawls on the hand lever.

Referring to the drawings more particularly in Figure 1, T indicates generally a plurality of railroad ties and R a rail carried thereby.

In carrying out the present invention, there is provided a pair of clamp members C and C', each of which consists in a block preferably of metal. The block C is formed upon its inner side with the two extensions 10, each of which are provided with registering openings 11. The projections 10 occur adjacent the upper edge of the block, and at the lower edge of said block there is formed an extension 12 which extends the entire width of the block and has an upper inclined edge 13. The extension 12 and

projections 10 are adapted to receive therebetween the head flange 12' of a rail R, as shown in Figure 2. The block of metal forming the clamp C' has its inner end formed with a stub shaft 14, said shaft occurring adjacent the upper end of the block; and upon the same face there is formed an offset 15. The outer end of the box is formed with a recess 16 which is also adapted to receive the head flange 12' of the rail R. The lower face of the recess 16 is inclined as at 18 similarly to the inclined face 13 of the lug or extension 12 of the block forming the clamp C. The block forming the clamp member C' has its last named end formed with an extension 19 occurring adjacent its upper edge and upon the inner or outer end thereof, and said extension being adapted to extend between the projections 10 of the block forming the clamp C. The extension 19 is also formed with an opening 20 which is adapted to be brought into register with the openings 11 of the extensions 10. A pin 22 is provided for connecting the clamp members C and C' and a cotter pin 23 is provided for each end of the pin 22 to hold the same against displacement.

It will be observed that the outer end of the projections 10 on the clamp members C are inclined as at 24 whereby to provide a recess between each projection and the opposing end of the block forming the clamp C'. These recesses are adapted for receiving the wedge portions 26 of the wedge member generally indicated by the reference character W. The wedge member W is substantially U-shaped, the portions 26 representing the legs thereof and the portion 27 the bridge. The bridge portion 27 is provided with an eye-screw 28 whereby the wedge may be easily removed or positioned with relation to the clamp members C and C'. The clamp members C supports a frame generally indicated by the reference character F, said frame consisting in the two members 29 and 30. The member 29 consists in a plate, as shown in Figure 4, having its outer face formed with a lug or rib 31 which extends transversely thereof and is adapted to seat in the offset 15 in the associated end of the block forming the clamp member C'. Adjacent the upper end of the plate 29 there is provided an opening 32 through which the stub shaft 14 of the clamp member C may extend.

The member 30 of the frame F is L-shaped and having its vertical portion 33 formed with an opening adapted to accommodate the stub shaft 14 of the clamp member C'. A washer 34 and cotter pin 35 are employed for holding the member 30 against displacement from the stub shaft 14. The horizontal portion 36 of the member 30 serves to space the lower end of this member from the frame member 29. Adjacent the lower end of each member 29 and 30 there is provided an opening, said openings registering with each other and adapted to accommodate a stub shaft or pin 37 which is held against displacement by the cotter pins 38 and which rotatably supports a roller 39. Passing between the frame members 29 and 30 and resting upon the roller 39 is a rack bar B, said rack bar having its teeth 40 of the shape shown and disposed along the upper edge thereof and having formed at each end a downwardly extending projection or tooth 41.

A lever bar H is provided which carries a sleeve 41' at its lower end, said sleeve having extending therefrom two prongs or plates 42 which are disposed between the frame members 29 and 30 and which are provided with suitable openings to receive the stub shaft 14 carried by the clamp members C'. Between the lower ends of the extensions 42 there is supported the two sets of pawls P and P', the pawls P being disposed to operate upon the rack bar B when the lever bar H is swung in one direction, while the pawls P' are adapted to operate upon the rack bar when the lever is swung in the opposite direction. Each of the pawls P and P' consists in a plate-like member 43 which has its lower end slightly curved as at 44 and its free end beveled as at 45. The other end of each pawl is formed with a pair of bosses 46 which are adapted to extend into suitable openings formed in the plate extensions 42 of the handle H and thereby to pivotally support the pawl. The lowermost pawl of each set is slightly less in length than the uppermost pawl, as shown to advantage in Figure 3. The lever bar H may be of any length desired. The lowermost pawl of each set should also be provided with a laterally projecting pin 46' adapted to be engaged by a hook 47 whereby to raise the set of pawls not being used during the operation of the jack and thus to obviate any interference of these pawls.

In the use of the present device, the clamp members C and C' are positioned upon the head flange 12' of the rail R in the manner illustrated in Figure 2, and as illustrated in Figure 1, the rack bar B may be brought so that the projection 41 at its one end may engage a tie T upon the side of the tie adjacent to the jack. By manipulating the lever bar H in an obvious manner, the

tie may be moved forwardly with relation to the jack the desired distance. During this operation the pawls P' would be raised and supported by the hooks 47. If it is desired to operate upon the tie T associated with the other end of the rack bar, then the pawls P should be raised and secured and the pawls P' lowered. The rack bar B may now be lowered so that its projection 41 at one end will engage the railroad tie intended and the lever bar H manipulated for moving this tie in an obvious manner.

While I have shown and described the preferred form of my invention, I wish it to be understood that I am aware of the fact that the construction, combination and arrangement of parts may be changed by those skilled in the art without departing from the spirit of the invention, as indicated by the appended claims.

I claim:—

1. In combination, a railroad rail, a pair of blocks hinged to each other and each having its opposing face formed with a recess adapted to fit upon the head flange of the rail, means for forcing the two hinged members toward each other, a stub shaft extending from the innermost block, a lever bar pivoted by said stub shaft, means for slidably supporting a rack bar beneath said lever bar, and pawls carried by said lever bar adapted to engage the rack bar for shifting said rack bar longitudinally.

2. In combination, a railroad rail, a pair of blocks hinged to each other and each having its opposing face formed with a recess adapted to fit upon the head flange of the rail, means for forcing the two hinged members toward each other, a stub shaft extending from the innermost block, a lever bar pivoted by said stub shaft, means for slidably supporting a rack bar beneath said lever bar, and pawls carried by said lever bar adapted to engage the rack bar for shifting said rack bar longitudinally in either direction.

3. In combination, a railroad rail, a pair of blocks hinged to each other and each having its opposing face formed with a recess adapted to fit upon the head flange of the rail, means for forcing the two hinged members toward each other, a stub shaft extending from the innermost block, a lever bar pivoted by said stub shaft, means for slidably supporting a rack bar beneath said lever bar, pawls carried by said lever bar adapted to engage the rack bar for shifting said rack bar longitudinally in either direction, and roller means for supporting said rack bar.

4. In a device of the character described, a frame, a roller journaled in the frame, a rack bar resting upon the roller, said bar being rockably supported by said roller and also supported for longitudinal movement

in either direction, and co-operative lever and pawl means whereby said rack bar may be forcibly shifted in either direction, for the purpose described. 10

5 5. In a device of the character described, a pair of hinged members adapted to grasp a stationary member therebetween, a wedge adapted to be driven between the abutting portions of said hinged members whereby to clamp the same upon the stationary member, a stub shaft extending laterally from one of said members, and a lever pivotally supported by said stub shaft, for the purpose described.

HENRY L. HILLIARD.