

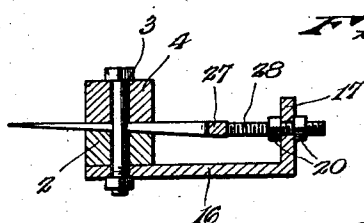
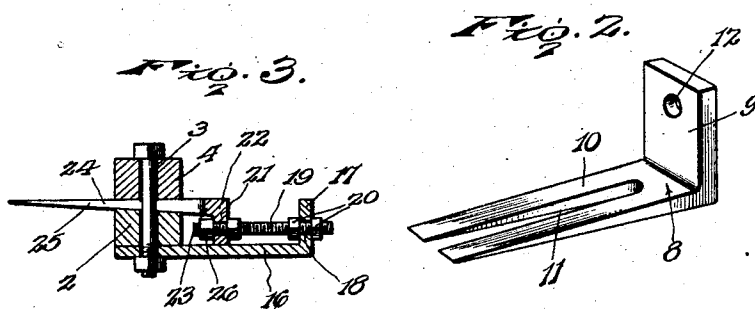
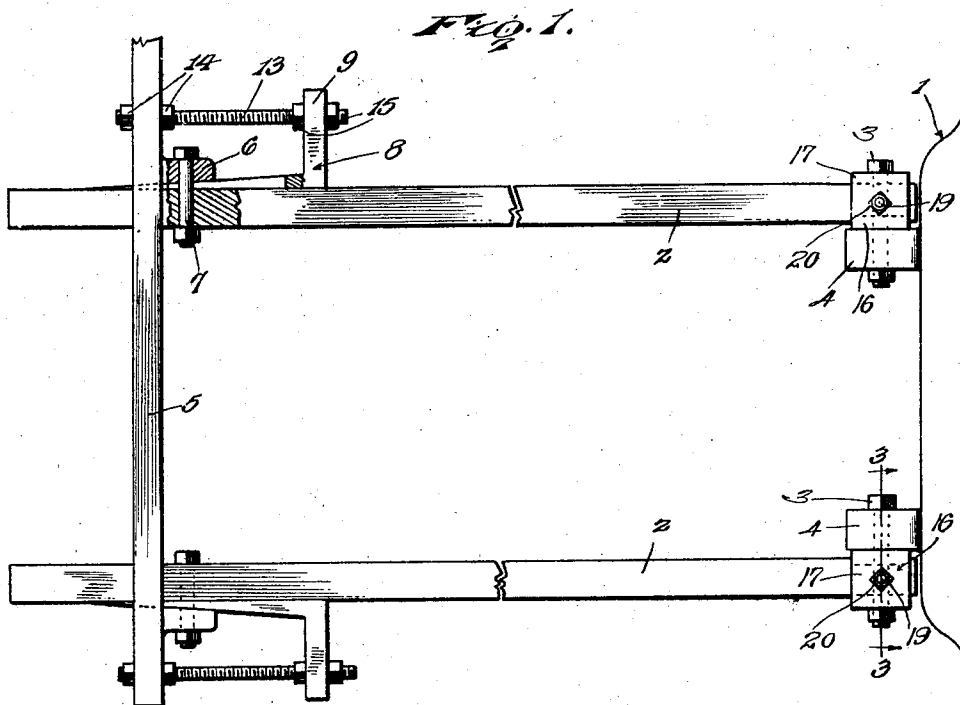
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F. L. WESTBROOK

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TAKE-UP

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Inventor

F. L. Westbrook.

By

Lacy Thayer, Attorneys.

UNITED STATES PATENT OFFICE.

FRANK L. WESTBROOK, OF SPRINGFIELD, MISSOURI.

TAKE-UP.

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This invention relates to improvements in take-up devices for the guides of locomotive cross heads and has as its object to provide means whereby the said guides may be adjusted with relation to each other so as to compensate for wear of the guides and cross head and thus prevent pounding.

Another object of the invention is to provide a take-up which may be readily and quickly adjusted without the necessity for disassembling any of the parts and by adjusting which the precise degree of adjustment of the guides to take up the play of the cross head may be effected.

In the accompanying drawings:

Figure 1 is a side elevation, parts being shown in section, illustrating the device embodying the present invention installed,

Figure 2 is a perspective view of one of the wedge shims constituting a part of the device,

Figure 3 is a vertical transverse sectional view taken substantially on the line 3—3 of Figure 1, looking in the direction indicated by the arrows,

Figure 4 is a view similar to Figure 3, illustrating a modified form of the invention.

In the drawings, the numeral 1 indicates the cylinder head of the locomotive and 2 the usual guides which are ordinarily anchored by bolts 3 to the usual lugs 4 upon the cylinder head and extend from the cylinder head to the usual yoke 5 by which their ends remote from the cylinder head are supported. Ordinarily, the yoke 5 is provided with outstanding bosses or lugs 6 to which the guides 2 are secured by bolts 7. This manner of mounting the guides 2, however, does not provide for any compensation for wear of the guides and cross head working therebetween and, therefore, the present invention contemplates the provision of a simple and efficient means whereby the guides may be adjusted toward each other, while maintaining parallelism, so as to take up the wear between the parts and eliminate pounding.

Substantially the same mechanisms are provided at the front and rear ends of the guides 2 for adjusting said guides except such slight modifications as are necessary to conform to the positions and arrangement

of the guides and their original supporting means.

The means provided for effecting adjustment of the rear ends of the guides 2 is identical in the instance of each of the guides except that the means for adjusting the upper guide is arranged above the said guide and between the upper side of the said guide and the lugs 6 of the yoke 5, whereas the means for adjusting the lower guides is mounted beneath the said guide and between the under side thereof and the corresponding lugs 6 of the yoke 5. The adjusting means comprises a shim member 8 having a head 9 and a tongue 10 which extends substantially at right angles from the lower side of the said head 9. The tongue 10 is of wedge-shape and is decreased in thickness gradually from its juncture with the head 9 to its free end and said tongue is formed with a longitudinally extending slot 11 which opens through the said head thereof. An opening 12 is formed in the head 9 and accommodates one end of a threaded rod 13 which is secured at its other end by means of nuts 14, in an opening in the yoke 5. The tongue 10 of the shim is fitted at its free end portion between the respective guide 2 and the respective lug 6, and the slot 11 receives the bolt 7 so that there is no interference offered to the longitudinal adjustment of the shim member and likewise, lateral displacement of the said member is prevented. Nuts 15 are threaded onto the end of the rod 13 which extends through the opening 12 and may be adjusted so as to effect longitudinal adjustment of the said shim member. As before stated, the shim members 8 are arranged respectively above and below the upper and lower guides 2 and between said guides and the respective lugs 6, and it will be evident, therefore, that by adjusting the members in the direction of the yoke, to a greater or less distance, the tongues 10 of the shims will, due to their tapered or wedge-shaped formation, cause lowering of the rear end of the upper guide 2 and elevation of the rear end of the lower guide 2.

The means provided for effecting a similar adjustment of the forward ends of the guides 2 is clearly shown in Figure 3 of the draw-

ings, in which figure, the numeral 16 indicates a bracket plate which is secured at one end to the under side of the lower guide 2 and upper side of the upper guide 2. Except for this relative reversal of the parts, the two adjusting devices for the said forward ends of the guides 2 are identical. The bracket plate 16 is provided with a right angularly turned end 17 having an opening formed therein, and a bolt rod 19 is slidably fitted through this opening and nuts 20 are threaded onto the said rod and may be adjusted to adjust the rod and are located at opposite sides of the upturned end 17 of the bracket plate so that after the adjustment is effected, both nuts may be tightened to prevent any displacement of the said bolt rod 19. The other end of the bolt rod fits through an opening 21 formed in the head 22 of a shim member 23 which corresponds substantially to the shim member 8 previously described and which member further includes a tongue 24 extending at right angles from the head 22 and provided with a slot 25 to accommodate the bolt 3 of the respective guides 2. The shim tongue 24 extends between the respective guide 2 and the respective lug 4, and the end of the head 22 rests slidably against the face of the bracket plate 16, nuts 26 being threaded onto the bolt rod 19 and bearing at opposite sides of said head 22 of the shim member. By reference to Figure 1 of the drawings, it will be seen that whereas the tongues of the shim members 8 extend longitudinally of the guides 2, the tongues 24 of the shim members 23 extend transversely of said guides. Likewise, it will be observed that in the instance of the members 8, the bolts 7 are to be loosened and the members 8 then adjusted in the direction of the yoke 5, to properly lower or elevate the rear ends of the upper and lower guides respectively, after which the bolts are to be tightened to maintain the adjustment, whereas in the case of the shim members 23, the members are to be adjusted in a direction away from the forward ends of the guides 2 or, in other words, are to be partly withdrawn from between the said ends of the said guides and the lugs 4, in order to permit of a suitable lowering of the forward end of the upper guide and an elevation of the forward end of the lower guide.

In that form of the invention shown in Figure 4 of the drawings, the structure is substantially the same as that shown in Figure 3, except that in this instance, the head of the shim member, which member is indicated by the numeral 27, is omitted, and a threaded stem 28 extends directly from the major or thicker end of the shim member and is adjustably secured to the opening in the upturned end of the bracket plate.

Under some conditions it may be found

necessary to provide, in the shim members 8 and 16, more than one of the slots 11 and 25, respectively, and therefore the invention is not limited to the illustrated number of such slots nor to any particular proportioning of the shim members or other parts of the take up.

Having thus described the invention what I claim is:

1. A structure of the character described comprising guide bars spaced transversely from each other, a support extending in crossed relation to said guide bars adjacent one end thereof, rigid lugs extending from said support adjacent the outer faces of said guide bars, stationary supporting lugs extending between the opposite ends of said guides from said support and adjacent their inner faces, securing bolts passed through aligned openings in said lugs and guide bars, tapered wedges fitted between said guide bars and the first-mentioned lugs and extending longitudinally of said guide bars, tapered wedges fitted between said guide bars and the second-mentioned wedges and extending transversely of the guide bars, and means to adjust said wedges and releasably secure the same in set positions to retain the guide bars parallel and in predetermined spaced relation to each other.

2. A structure of the character described comprising guide bars spaced transversely from each other, a supporting bar extending in crossed relation to said guide bars, rigid lugs extending from said supporting bar longitudinally of the outer faces of said guide bars, securing bolts passed through said lugs and guide bars, tapered wedges extending longitudinally between said lugs and guide bars and provided with arms extending transversely from the guide bars in spaced relation to the ends of said lugs, threaded rods passed through aligned openings in the supporting bar and arm, securing nuts screwed upon said rods and adapted to firmly grip opposed faces of the supporting bar and arm and securely hold the rods in place and releasably secure the wedges in set positions, supporting lugs extending longitudinally of the inner faces of said guide bars at the opposite ends thereof from said supporting bar, bolts extending through said guide bars and last-mentioned lugs, wedges extending transversely of said guide bars and fitted between the guide bars and last-mentioned lugs, and means to adjust the last-mentioned wedges and retain the same in set positions.

3. A structure of the character described comprising a guide bar, a stationary supporting lug extending above and longitudinally of said guide bar at one end thereof, a securing bolt passed vertically through said lug and bar, a bracket carried by said bolt and extending across the under face of

said guide bar and projecting from one side thereof and provided with a side arm extending upwardly in spaced relation to the side of the guide bar, a wedge passed transversely between the lug and guide bar and provided with a depending side arm extending towards said bracket between the guide bar and arm of the bracket, a threaded rod extending through alined openings in the arms of said wedge and bracket, and securing nuts screwed upon said rod and adapted to grip opposed faces of the arms and releasably secure the wedge in set positions.

In testimony whereof I affix my signature.

FRANK L. WESTBROOK. [L. S.]