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DRAFT RIGGING KEY RETAINER

Filed Sept. 19, 1925

Fig. 1

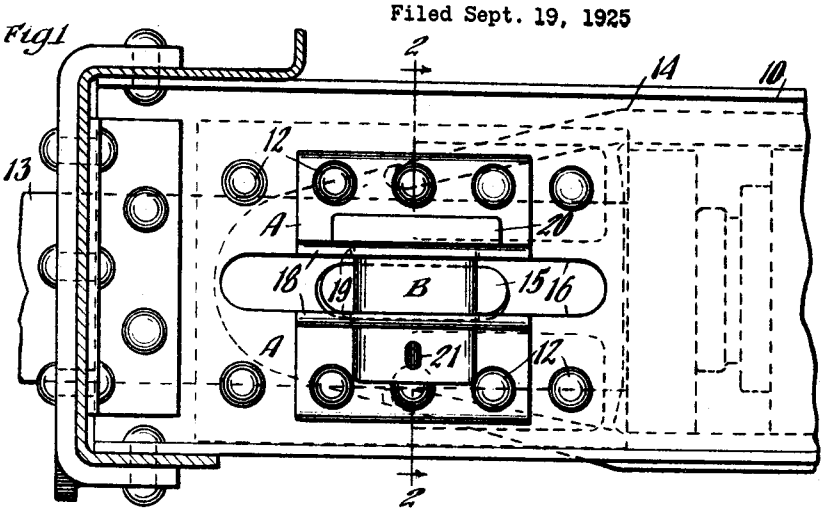


Fig. 2

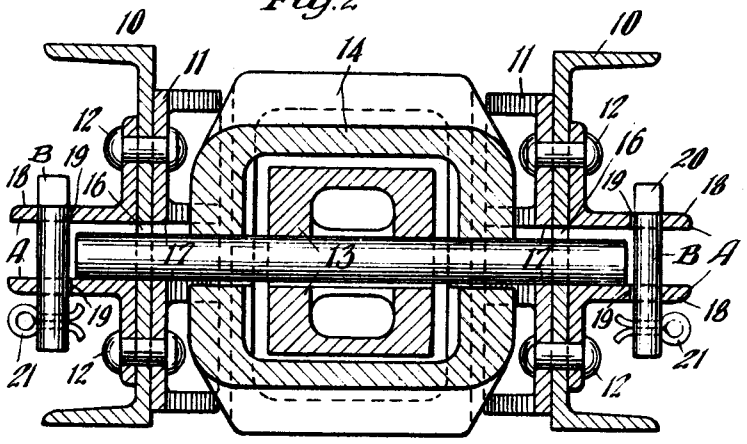
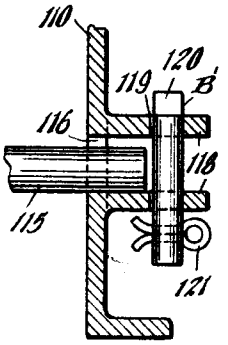


Fig. 3



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UNITED STATES PATENT OFFICE.

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DRAFT-RIGGING-KEY RETAINER.

Application filed September 19, 1925. Serial No. 57,267.

This invention relates to improvements in draft rigging key retainers.

One object of the invention is to provide a simple, efficient and reliable retaining means for draft rigging keys.

Another object of the invention is to provide means of the character indicated, adapted to engage the opposite ends of a key, to prevent endwise displacement of the same, whereby a headless key, of simple and economical design, may be employed in connection with the draft rigging.

A still further object of the invention is to provide means for retaining a draft gear key, whether of the headed type or type without a head, including a readily detachable holding element permitting removal and replacement of the key.

A further object of the invention is to provide retaining means for a railway draft rigging key having the parts thereof which are subject to direct shear, of rugged design to prevent accidental disengagement of the key.

Other and further objects of the invention will more clearly appear from the description and claim hereinafter following.

In the drawing forming a part of this specification, Figure 1 is a side elevational view, partly broken away and partly in section of a portion of a railway draft rigging, showing my improvements in connection therewith. Figure 2 is a vertical, transverse sectional view, corresponding substantially to the line 2—2 of Figure 1. And Figure 3 is a vertical, sectional view through one of the draft sills of a draft rigging corresponding substantially to Figure 2 and illustrating a different embodiment of the invention.

In said drawings, 10—10 denote the usual channel-shaped center or draft sills of a railway car underframe, and 11—11, the usual front stop lugs which are secured to the draft sills by rivets 12, as shown in Figures 1 and 2. The inner end portion of the draw-bar is designated by 13, to which the usual yoke 14 is attached by means of a key 15.

The key 15 is in the form of a plain flat bar and is adapted to work in alined slots or openings 16 in the draft sills. The stop lugs 11 are also suitably slotted as indicated at 17 to provide openings alined with the openings 16. The key 15 is of such a length as to project an appreciable distance beyond the corresponding draft sills.

Referring first to the embodiment of the invention illustrated in Figures 1 and 2, my improved draft key-retaining means comprises two pairs of angle members A—A, associated with each key 15 of the draft rigging; and a pair of retaining keys B—B.

Each angle member A has one of the flanges thereof disposed vertically and secured to the draft sill by any suitable means such as the rivets 12, which may also preferably form part of the securing means for the front stop lugs. The other flange 18 of each angle member A is disposed horizontally as shown. As most clearly illustrated in Figures 1 and 2, a pair of angle members A is associated with each slot 16 of the draft sills, one of the angle members being disposed at the top and the other at the bottom of the slot, the flanges 18 of these two angle members being in alinement with the corresponding top and bottom edges of the slot. Each of the angle members A has the flange 18 provided with an opening 19, the openings 19 of each pair of angle members being alined and adapted to receive the corresponding retaining key B. The retaining key B associated with each pair of angle members is preferably headed at the upper end as indicated at 20 and is retained by a cotter pin 21 extending through the lower end thereof. As clearly shown in Figure 1, each key B is of such a width as to overlap the end of the draft rigging key 15 in any position thereof. Inasmuch as the retaining keys B are disposed at opposite ends of the key 15, they serve to retain the latter in operative position and prevent accidental displacement thereof. A certain amount of clearance is left between the opposite ends of the key 15 and the retaining keys B, as most clearly illustrated in Figure 2, thereby minimizing wear between these parts.

It will be evident that inasmuch as the retaining keys B are relatively heavy, there is no danger of the same being sheared off due to endwise thrust of the key 15 during operation of the gear.

To remove or replace the key 15, it is merely necessary to detach either one or both of the retaining keys B.

Referring to the embodiment of the inven-

tion illustrated in Figure 3, 110 indicates one of the channel-shaped draft or center sills of a railway car underframe and 115 indicates a draft rigging key. In this instance, the center sills are of cast form and have the flanges 118—118 formed integral therewith. A pair of flanges 118 are associated with each slot 116 of the draft sills and each flange 118 is provided with an opening 119 adapted to accommodate the removable key B′. The key B′ is of the same design as the key B hereinbefore described, having a head 120 at the upper end and being retained by a cotter pin 121 extending through the lower end thereof.

In the drawings I have chosen to illustrate my invention as employed in connection with a coupler or other draft rigging connecting key that does not have the usual head at one end, which has heretofore been substantially the universal practice. My improvements are such that they readily lend themselves to use in connection with a plain or unheaded key, in which case my improvements are duplicated at opposite ends of the key. This is an important consideration, in that it eliminates the necessity for headed keys which are relatively expensive to manufacture on account of the necessity of up-setting the ends. However, as will be understood by those skilled in the art, my improvements may be employed with a headed key of the usual type, in which event the use of only one set of my retaining means will be necessary, the same obviously being located adjacent the headed end of the key to prevent accidental withdrawal of the key in that direction. Obviously the key could not be withdrawn in the other direction on account of the head.

Heretofore, it has been the general practice to employ the headed key and retain it in position by means of a cotter inserted through the opposite end of the key which is projected through the center sills. Such cotters are subject to constant attrition and wear out comparatively rapidly, thus leaving the keys free to work out and endanger the operation of the trains. With my construction, the retaining means are of such heavy construction that any danger of the coupler key or other draft rigging key working out, is eliminated, and the simple cotter 21 employed for holding the retaining keys B in position, is not subject to any wear or stress. Furthermore, a plain piece of steel plate provided with a bent over end may be substituted for the retaining key B in an emergency.

Another advantage of my improvements resides in the fact that the flanges of the angle members where those are attached to the center sills or the flanges formed integral with the cast type of draft sill, provide much larger bearing surfaces for the ends of the keys to work upon, which minimize the wear on the coupler keys themselves as compared with former practice.

I have herein shown and described what I now consider the preferred manner of carrying out the invention, but the same is merely illustrative, and I contemplate all changes and modifications which come within the scope of the claim appended hereto.

I claim:

In a railway draft rigging, the combination with center sills having key-receiving openings and a key working in said openings, said key having an end thereof extending through the slot of and projecting beyond the corresponding sill; of angle members secured to the last named sill, said angle members having horizontal flanges disposed respectively at the top and bottom of the opening of said sill; and a detachable key extending through said flanges, said key co-operating with the corresponding end of said first named key to retain the latter in operative position.

In witness that I claim the foregoing I have hereunto subscribed my name this 16th day of September, 1925.

GEORGE A. JOHNSON.