J. F. O'CONNOR.

RAILWAY DRAFT RIGGING.

APPLICATION FILED MAR. 25, 1920.

1,391,069. Patented Sept. 20, 1921.

Fig. 1

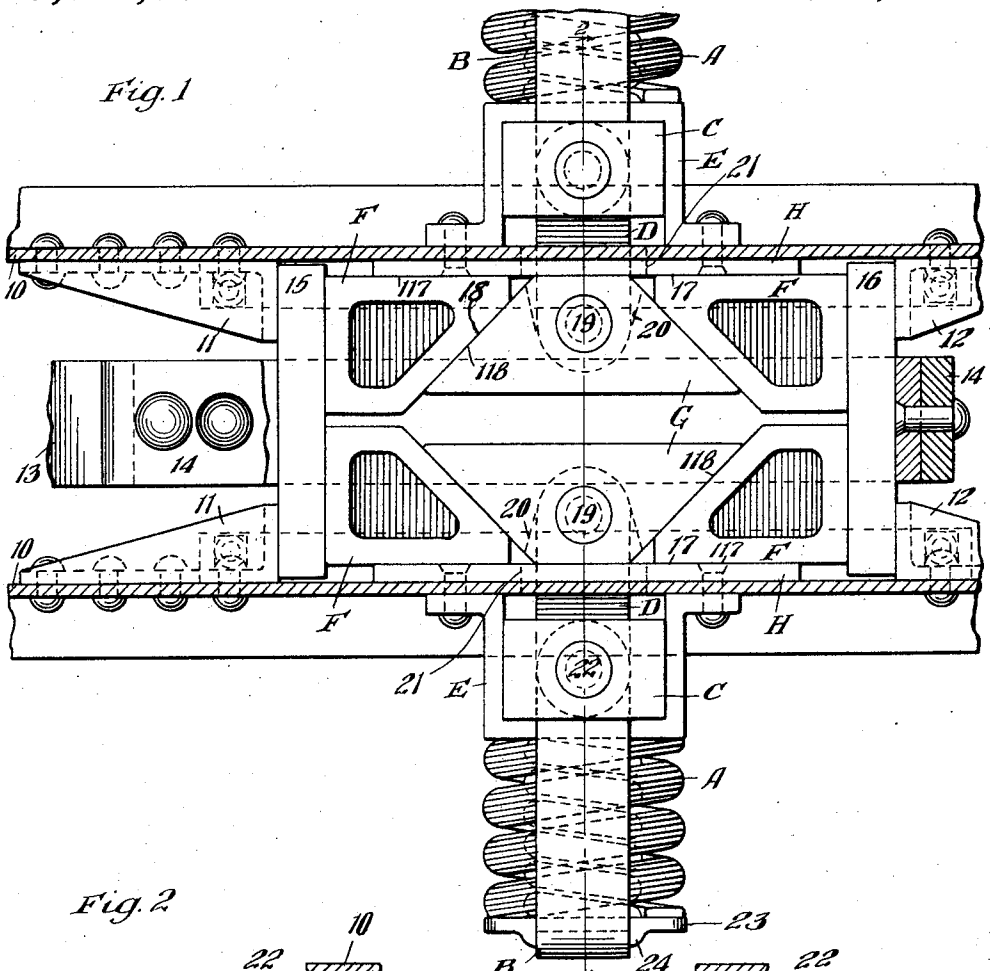
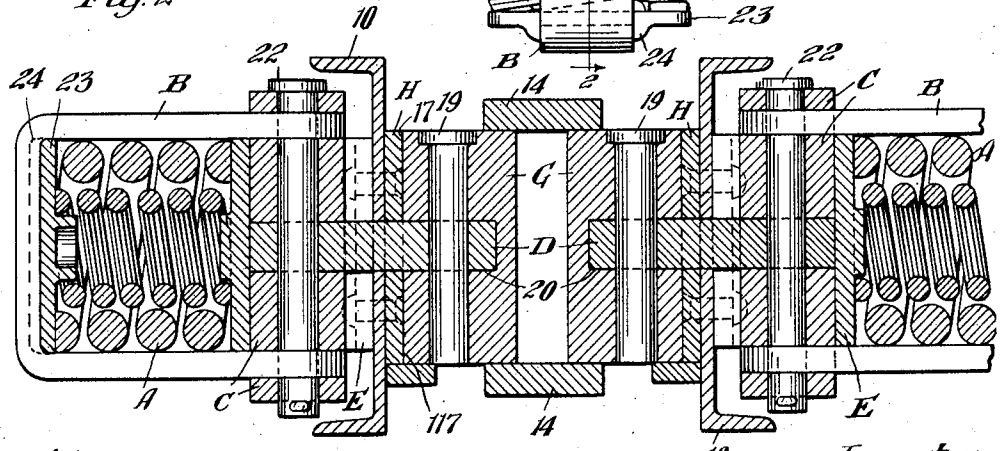


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

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RAILWAY DRAFT-RIGGING.

1,391,069. Specification of Letters Patent. Patented Sept. 20, 1921.

Application filed March 25, 1920. Serial No. 368,667.

To all whom it may concern:

Be it known that I, JOHN F. O'CONNOR, a citizen of Germany, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Railway Draft-Riggings, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in railway draft riggings.

The object of the invention is to provide an economical and efficient friction draft rigging for railway cars comprised of few parts, the friction elements proper being disposed within the usual spacing allowed between the draft sills and the spring elements being disposed outside of the sills.

In the drawing forming a part of this specification, Figure 1 is a longitudinal, horizontal, sectional view of a portion of a railway draft rigging showing my improvements in connection therewith, parts being broken away in order to better accommodate the view on the sheet. And Fig. 2 is a vertical transverse sectional view taken substantially on the line 2—2 of Fig. 1.

In said drawing, 10—10 denote channel shaped center or draft sills of a railway car to the inner faces of which are secured front lugs 11 and rear lugs 12. A portion of a drawbar shank is indicated at 13 and to the latter is secured a yoke 14 of usual form. Front and rear followers 15 and 16 are employed with my construction, the same being of ordinary form.

In carrying out my invention, I utilize two laterally extending springs A—A, loops B—B; blocks C—C; links D—D; stirrup plates E—E; front and rear sets of wedges F—F; laterally movable friction shoes G—G; and reinforcing friction plates H—H secured to the inner sides of the draft sills.

The plates H—H are riveted or otherwise rigidly secured to the draft sills 10 on the inner faces of the latter, midway between the stops 11 and 12. Each of the plates H is provided on its inner side with a flat friction surface 17 extending parallel to the center line of the mechanism.

The end wedges F—F, of which there are four in all, are each provided with an outer flat friction face 117 and an inclined or wedge shaped friction face 18. The friction shoes G are provided with coöperating beveled friction faces 118, the arrangement being such that, as either set of end wedges F is moved toward the other set, the shoes G—G will be forced laterally inwardly toward each other and of course will have some longitudinal movement also. During this operation, it is evident that friction will be generated between the contacting faces on the shoes G and wedges F and also between the wedges F and the plates H, thus obtaining a high frictional capacity.

The links D are attached to the shoes G by means of suitable pivot pins 19 which have enlarged upper ends preferably counter-sunk flush with the upper surfaces of the shoes so as to avoid interference with the arms of the yoke when the shoes are moved laterally inwardly toward each other. The shoes G are suitably recessed as indicated at 20 to accommodate the slight pivotal movements of the links D and the sills and plates H are correspondingly slotted as indicated at 21 to accommodate the links D which extend therethrough. At their outer ends, the links D are pivotally connected to the blocks C by heavy pivot pins 22, the latter also pivotally securing the loops B with the blocks C as clearly indicated in Fig. 2. The loops B straddle the stirrup plates E and the latter not only form fixed bearings for the inner ends of the springs A but also act as guides for the lateral movements of the blocks C. Suitable followers 23 may be disposed within the loops B at the outer ends of the springs A, as shown in the drawing, the followers 23 having outwardly extending fingers 24 to straddle the loops and prevent shifting of the followers 23 relatively to the loops.

The operation of the friction elements has heretofore been described and it is evident that, as the shoes G move laterally toward each other, that is, toward the center line of the gear, the links D will be pulled inwardly and their movements communicated to the blocks C which in turn pull the loops B. The springs A are thereby compressed laterally by forces applied at their outer ends and directed toward the sills.

All the friction elements are of simple form and readily adapted to be manufactured as ordinary castings. It is evident

also that the links D, blocks C, stirrup plates E and loops B may be readily fabricated at comparatively small expense. I obtain unusually large frictional wearing areas for the number of friction elements employed, particularly the wearing areas between the wedges F and the plates H.

I claim:

1. In a railway draft rigging, the combination with the draft sills; of laterally compressible spring resistances on the outer sides of the sills; fixed abutments secured to the sills against which the inner ends of the spring resistances bear; friction shoes laterally inwardly movable relatively toward each other during the compressive action of the draft rigging and having wedge shaped ends, said shoes being disposed between the sills; connecting means interposed between each shoe and the spring resistance outside of the adjacent sill adapted to compress the spring resistances upon relative lateral inward movements of said shoes; and end sets of wedges longitudinally movable and cooperable with said shoes to actuate the latter.

2. In a railway draft rigging, the combination with draft sills having friction surfaces on their inner faces extending parallel to the center line of the draft rigging; of front and rear sets of wedges each having an outer friction face coöperable with the adjacent friction face on the sill; laterally movable friction shoes interposed between said sets of wedges and adapted to be actuated by the latter; spring means disposed on the outer sides of the sills; and means extending between said shoes and said spring means adapted to compress the latter by forces applied inwardly toward the sills, as the shoes are actuated by said end wedges.

3. In a railway draft rigging, the combination with draft sills having front and rear stops on their inner faces; of laterally extending springs on the outer sides of said sills; stirrup plates on the outer sides of said sills and against which the inner ends of said springs bear; blocks slidably mounted within said stirrup plates; means connected with each of said blocks extended around the adjacent spring; links pivotally attached to said blocks and extending through the sills; laterally and inwardly movable friction shoes to which the inner ends of said links are pivotally connected; front and rear followers coöperable with said stops; and wedges interposed between said followers and said shoes for actuating the latter upon relative approach of the followers.

4. In a railway draft rigging, the combination with draft sills having front and rear stops on their inner faces; of laterally extending springs on the outer sides of said sills; stirrup plates on the outer sides of said sills and against which the inner ends of said springs bear; blocks slidably mounted within said stirrup plates; means connected with each of said blocks extended around the adjacent spring; links pivotally attached to said blocks and extending through the sills; laterally and inwardly movable friction shoes to which the inner ends of said links are pivotally connected; front and rear followers coöperable with said stops; wedges interposed between said followers and said shoes for actuating the latter upon relative approach of the followers; and friction plates secured to the inner faces of the draft sills, said plates having friction surfaces extending parallel to the center line of draft, each of said wedges having an outer friction face coöperable with the corresponding adjacent friction plate.

In witness that I claim the foregoing I have hereunto subscribed my name.

JOHN F. O'CONNOR.

Witness:

CARRIE GAILING.