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Patented Jan. 29, 1901.

T. L. McKEEN.

DRAW BAR OR DRAFT RIGGING ATTACHMENT FOR RAILROAD CARS.

(Application filed Dec. 6, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3.

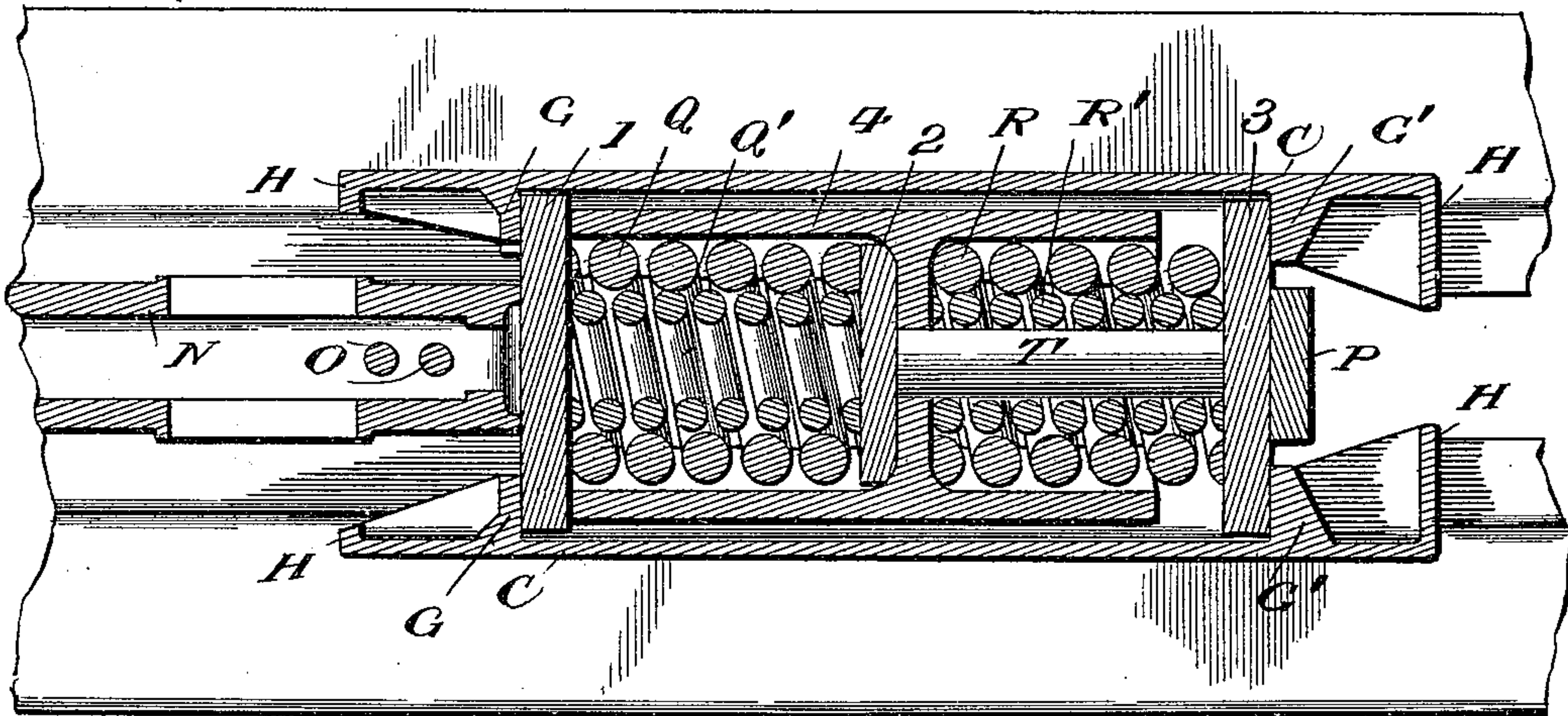


Fig. 4.

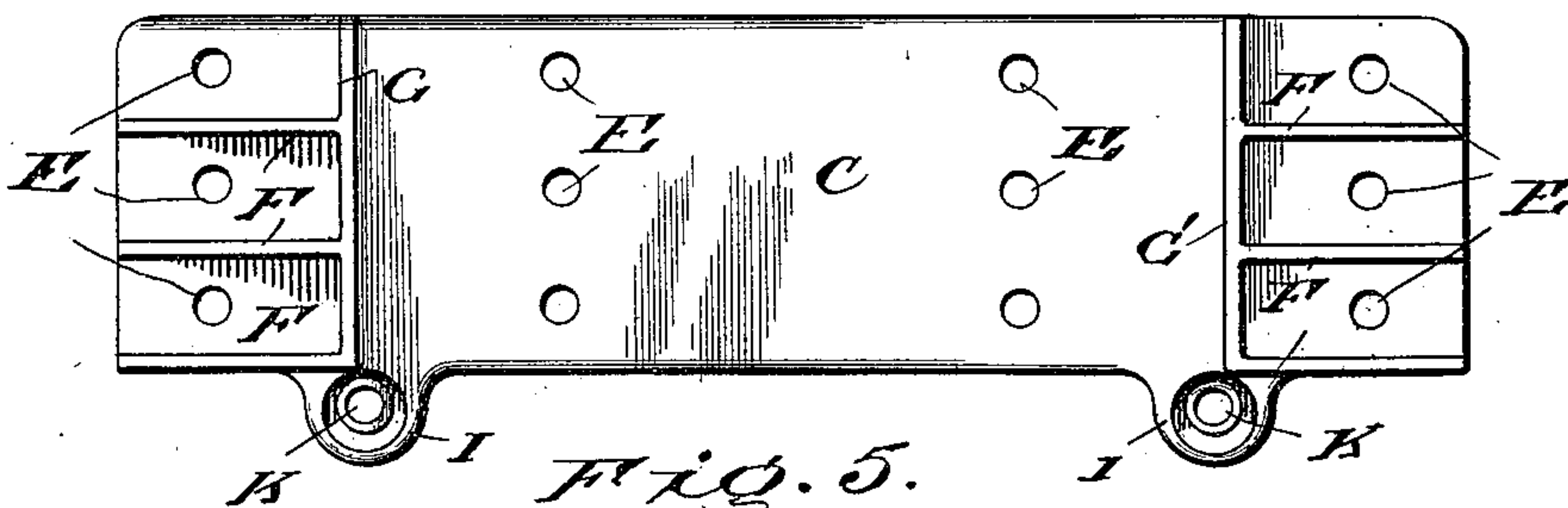
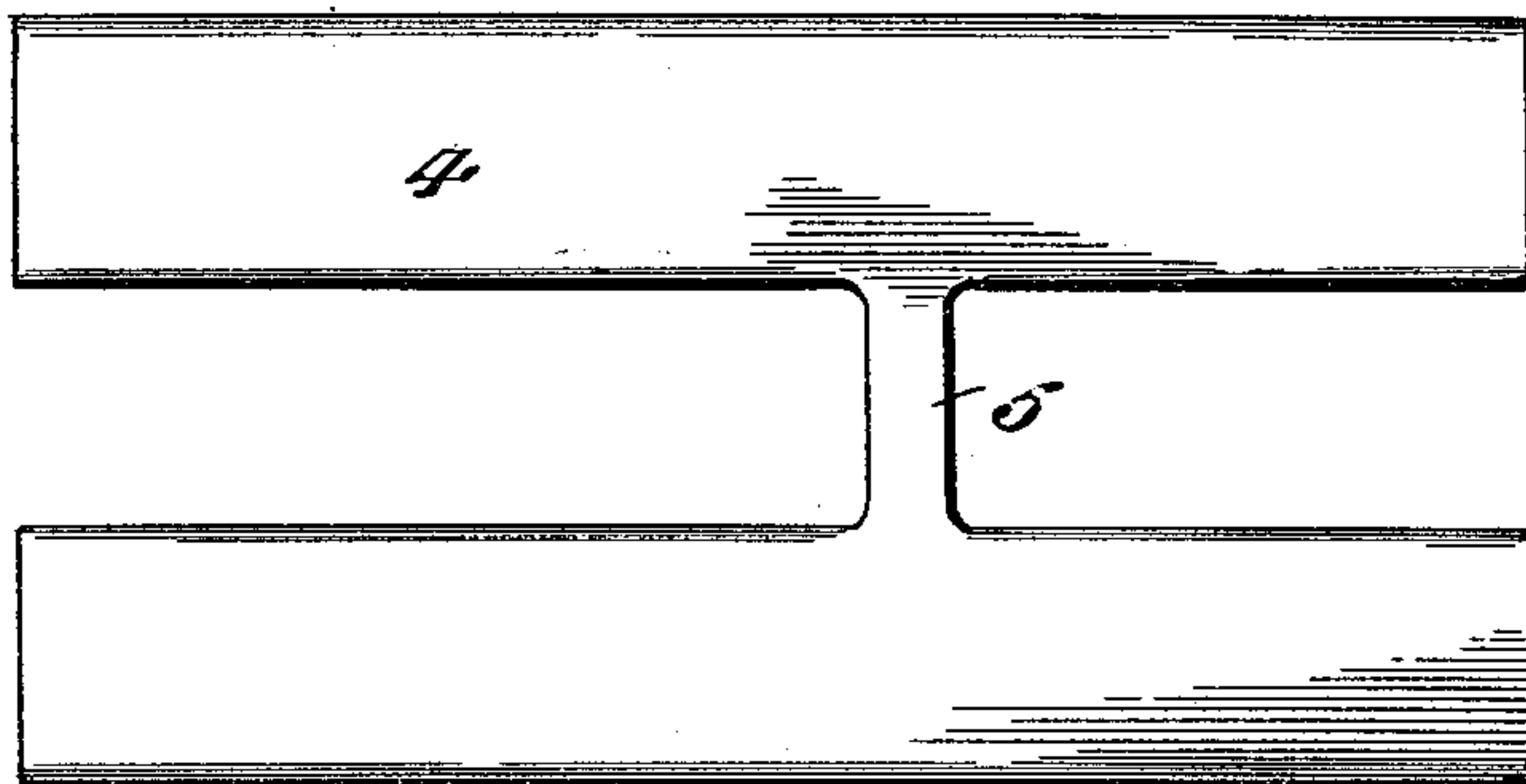


Fig. 5.



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DRAW-BAR OR DRAFT-RIGGING ATTACHMENT FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 666,970, dated January 29, 1901.

Application filed December 6, 1900. Serial No. 38,918. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. McKEEN, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Draw-Bar or Draft-Rigging Attachments for Railroad-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in draw-bar or draft-rigging attachments for railroad-cars, and has for its object to provide a double or tandem construction which shall be simple and economic of construction, durable and efficient in operation, and which shall dispense with all stops on the cheek-plates at localities intermediate of the spring-followers.

With these ends in view my invention consists in the novel construction and arrangement of parts hereinafter and in detail described.

In order that those skilled in the art to which my invention appertains may know how to construct my improved devices and fully understand the operation and advantages of the same, I will proceed to describe the construction and the manner in which the several parts operate, referring by letters and figures to the accompanying drawings, in which—

Figure 1 is a central longitudinal section taken on the line *xx* of Fig. 2. Fig. 2 is a transverse section on the line *yy* of Fig. 1. Fig. 3 is a horizontal section on the line *zz* of Fig. 1. Fig. 4 is a side elevation of one of the cheek-plates. Fig. 5 is a side view of the case or box which contains the tandem springs. Fig. 6 is a front view of said case or box and looking toward the rear; and Fig. 7 is a front face view of the intermediate spring-follower, which is located within the spring case or box.

Similar letters and figures of reference denote like parts in the several figures of the drawings.

A represents the side sills, and B the sub-sills, of car.

C represents the cheek-plates, secured to the side sills by suitable bolts or rivets D, which

pass through holes E. These plates are formed with strengthening-ribs F between the vertical stops or shoulders G G' and the flanged extremities H, as most clearly shown at Figs. 3 and 4, and they are formed also with vertical ears I on the lower edge near each end, provided with holes K to receive bolts K', through the medium of which and tubular washers L carry-plates M, which support the spring-followers, are secured in position.

N is the draw-head, to which is secured by bolts or rivets O a yoke P, within which are arranged tandem springs Q Q' and R R', flat followers 1 2 3, and the spring case or box 4. The end followers are simple rectangular metal plates adapted to fit movably within or between the cheek-plates C, and the central or intermediate follower 2 is also rectangular and adapted to fit movably within the spring case or box 4, as clearly shown, and if additional strength be desired in this plate it may be formed with strengthening-ribs *b*, as shown at Fig. 7. The case or box 4 is formed with a partition 5 intermediate of its ends, and this partition has a central opening or passage-way, as clearly seen at Fig. 3, for the passage of a push-bar T, which is located centrally within the coil-springs R R'. The case or box 4 is preferably formed with longitudinal ribs *a*, and they may extend inwardly to such extent as to constitute radial guides or supports for the springs. One end of the push-bar abuts against the face of the rear follower 3 and the opposite end against the intermediate follower 2, and when the parts are all in normal position the coil-springs Q Q' hold the follower 2 against the front face of the partition 5 of the spring case or box 4, and the coil-springs R R', between the rear follower 3 and the rear face of the partition 5 of the box 4, hold the front end of the latter against the forward follower 1 (which is in contact with the forward ribs or stops G) and hold the rear follower 3 against the rear ribs or stops G'.

From the construction and arrangement described it will be obvious that the several parts are easy of construction and that they may be made very strong without being cumbersome and that said parts are readily interchangeable.

The absence of the customary stops or vertical ribs on the cheek-plates intermediate of their ends or near the center thereof enables me to make the spring-containing case or box larger, and consequently stronger, than could be the case if the intermediate ribs were present on the cheek-plates, and at the same time the cheek-plates themselves are rendered easier of construction.

By reference to Figs. 2 and 3 it will readily be seen that the tandem springs are all very readily inserted within the case or box 4 and that the latter holds them all in proper axial relation to secure the best results.

The followers, springs, and spring case or box are all held or supported vertically by the carry-plates M, which are held in place by the bolts K' and tubular washers L, as previously explained, and it will be seen that when desired the carry-plates may be swung downwardly at one end by simply removing the bolt K' and its washer L, as fully described in a pending application filed by me in the United States Patent Office September 22, 1900, Serial No. 30,800.

Having described the construction and arrangement of the several parts, I will now describe the action thereof.

In coupling or buffing the rear end of the draw-head contacts with the forward follower 1 and forcing it against the springs Q Q' compresses said springs against the intermediate follower 2, which is held against movement by the push-bar T, which latter is braced at its rear end against the rear follower 3, which is in turn held rigidly by the ribs or stops G'. As the forward follower 1 travels rearwardly, as just described, it carries with it the spring case or box 4, which, moving longitudinally upon the push-bar T, compresses the springs R R' between the rear face of the intermediate partition 5 and the front face of the rear follower 3, and the buffing movement is limited by the contact of the rear end of the spring case or box 4 with the rear follower 3. In the reverse movement or pulling strain the rear end of the yoke P forces the rear follower 3 and the push-bar T forward, and the push-bar in turn forces the intermediate follower 2 forwardly, and consequently the coil-springs R R' are compressed between the rear follower 3 and the partition 5 of the spring case or box 4, and the coil-springs Q Q' are compressed between the intermediate follower 2 and the forward follower 1, and this action continues until the rear follower 3 contacts with the rear end of the spring case or box 4, and the movements described are limited by

the contact of the rear follower 3 with the rear end of the spring case or box 4.

From the foregoing description it will be seen that the pulling and buffing strains are exerted directly against the ribs or stops G and G' at each end of the cheek-plates and at localities where the greatest resistance can be offered. It will also be seen that by reason of the form and action of the case or box 4 I may make the same of cast-steel or malleable iron, and thus secure the greatest degree of strength with a minimum degree of weight.

The several followers 1 2 3 and the push-bar T may be readily and economically produced, and all of the parts are expeditiously assembled, and they may be quickly removed whenever it becomes necessary for repairs or substitution of parts.

Having described the construction and operation of my improved attachment, what I claim as new, and desire to secure by Letters Patent, is—

1. In a draw-bar or draft-rigging attachment, the combination of the draw-bar having a rearwardly-extended yoke of uniform width, the cheek-plates with vertical ribs or stops near each end, two followers adapted to contact with the ribs or stops on the cheek-plates, the hollow spring case or box located within the yoke and between the end followers, and formed with a partition intermediate of its ends, and with a central opening or passage-way, coil-springs within the spring case or box and on each side of its partition, a push-bar located within the rear coil-springs, an intermediate follower within the spring case or box and in front of its partition, and suitable carry-plates or follower-supports, substantially as and for the purposes hereinbefore set forth.

2. In a draw-bar or draft-rigging attachment, in combination with a draw-bar having a rearwardly-extended yoke, cheek-plates provided with stops near each end, an intermediate and two end spring-followers and coil-springs between the end and intermediate followers, a spring case or box outside of the coil-springs and formed with a partition intermediate of its ends, and a push-bar located between the rear end and the intermediate followers, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS L. MCKEEN.

Witnesses:

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C. W. FERNER.