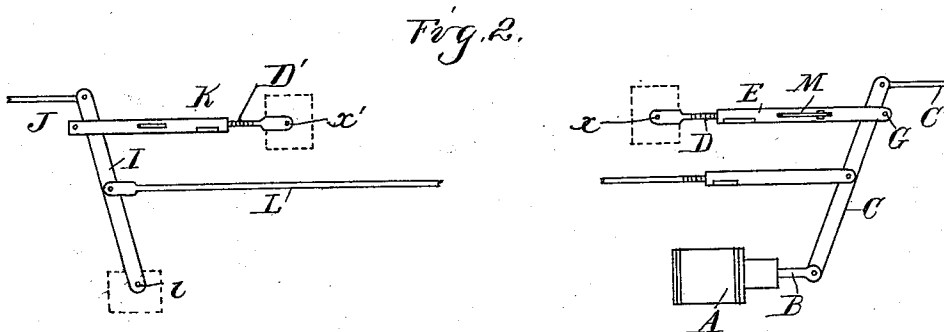
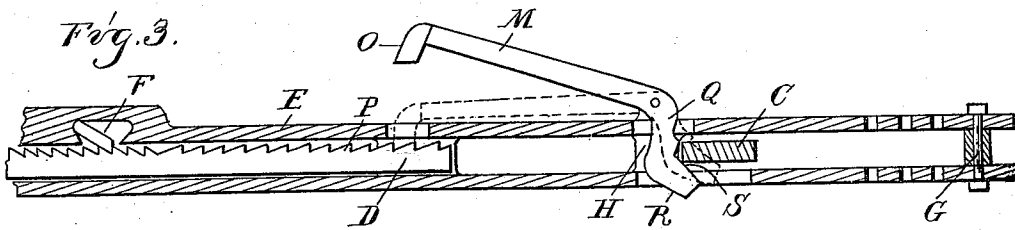
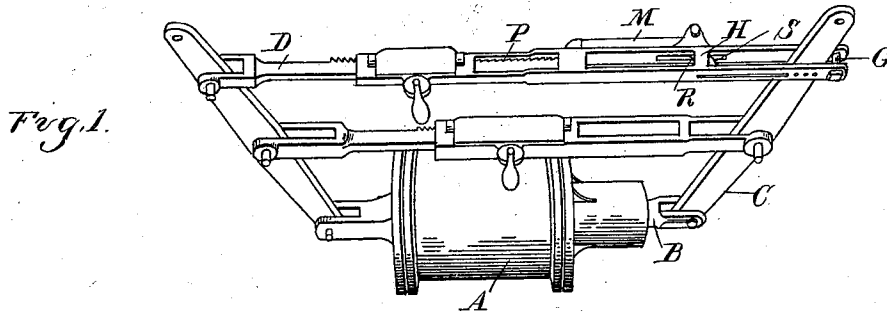


(No Model.)

F. ROBINSON.
BRAKE SLACK ADJUSTER.

No. 547,649.

Patented Oct. 8, 1895.



Witnesses
A. L. Hobby
C. F. Barthol

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UNITED STATES PATENT OFFICE.

FRANK ROBINSON, OF BANGOR, ASSIGNOR OF ONE-HALF TO JAMES H. SEWALL, OF PORTLAND, MAINE.

BRAKE-SLACK ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 547,649, dated October 8, 1895.

Application filed May 6, 1895. Serial No. 548,231. (No model.)

To all whom it may concern:

Be it known that I, FRANK ROBINSON, a citizen of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Brake-Slack Adjusters, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to the construction of a brake-slack adjuster of the type shown in my previous patent, No. 535,772, dated March 12, 1895; and it consists, particularly, in the construction of a lock for the take-up joint, whereby it can only be operated by releasing the lock and thus prevent the accidental operation of such take-up.

The invention further consists in the peculiar construction and arrangement of the parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a perspective view of my improved construction, showing the take-up connection applied between the two cylinder-levers. Fig. 2 is a plan view showing the take-up connection between one cylinder-lever and a lever attached to the car at or near the opposite end thereof; and Fig. 3 is a vertical enlarged section through the take-up connection, showing in full and dotted lines the different positions of the lock.

A is the air-brake cylinder. B is the piston-rod therein. C is the cylinder-lever actuated thereby, which lever is connected at its end to the brake mechanism by the connecting-rod C'. This lever is provided with a take-up mechanism for the slack, comprising the bar D, having a ratchet on its upper face and sliding within the sleeve-shaped rod E, carrying the dogs or pawls F. This section E at its end is bifurcated to permit the engagement between of the end of the cylinder-lever, which has a limited movement between the bolt G and the stop or web H.

Referring especially to Fig. 2, I is a lever similar to the lever C, pivotally supported at i near the opposite end of the car and connected by the connecting-rod J with the brake mechanism on the truck at that end of the car. Each of the levers is provided with the take-

up device just above described, that for the lever I being indicated at K and that for the lever C being represented by the letter E.

D' and D indicate, respectively, the ratchet-bars for the take-ups K and E, which bars are attached at x' and x to the bottom of the car. The operation of the take-ups, when applied to the different ends of the car, as above, is similar to that of the take-up shown in Fig. 1, the parts D and D', however, being attached to the car instead of to the lever fulcrum on the brake-cylinder, as in that figure.

C' is the rod connecting the lever C with the brake mechanism at that end of the car adjacent to the lever C and serves to transmit motion from the lever to the brake.

L is a tie-rod acting as a fulcrum-rod for the two levers, formed of two parts, the meeting ends being provided with a take-up joint of the kind as described on the levers C and I. In the operation of such a device when the shoes wear the abnormal movement of the levers C, striking the stop or web H, will shorten up the take-up device, so that when the piston returns to its initial position it will actuate the take-up joint in the tie-rod, so that in the next operation of the brake the levers C and I will fulcrum upon the shortened tie or fulcrum rod and thus take up the slack with substantially a uniform pressure to the piston, all as clearly stated in my before-mentioned patent. In the use of such take-up devices it has been found that stones or pieces of iron lying on the track will sometimes be picked up and thrown by being struck by hanging portions of the gear, for instance, and such flying missiles have been known to strike the take-up device and actuate it, taking up slack when the brakes were not being set by the air. This is undesirable, as it may cause the brakes to remain set slightly all the time and thus rapidly wear off the shoes, as well as impede the motion of the train. To prevent this and to prevent tampering with the take-up device or its accidental displacement by workmen working under the cars I have provided a lock for the take-up device, which is operated by the actuating device of the

take-up, which in this case is the levers C and I. This lock I have shown as consisting of the lever M, pivoted on top of the sleeve-section of the take-up, having the tooth O at one end adapted to pass through an aperture in the top of the sleeve and engage with the ratchet P, having its teeth reversely arranged to those with which the pawls engage, thus acting to prevent the telescoping of the two parts of the take-up device until the locking tooth had been disengaged from its ratchet. The lever M at the opposite end has the arm Q, extending down through an aperture in the sleeve-section, this arm having the foot R, the upper face of which has the inclined bearing S, adapted to be struck by the inner edge of the lever C to rock the lever upon its pivot into the position shown in full lines in Fig. 3. Thus it will be seen that at all times, except when the lever C would act to shorten the take-up device, the parts thereof are locked. When the lever reaches the point where it would shorten the take-up device, it trips the lock and permits the parts to telescope, and the lock is applied just as soon as the lever withdraws.

While I have shown a specific form of lock and a specific way of actuating it, I do not desire to be limited thereto, as I believe I am the first to apply such a lock to a take-up device with means for unlocking it by the actuating devices for the take-up or upon the actuating of such take-up. The construction of the parts where the levers C and I are at op-

posite ends I also consider especially advantageous.

What I claim as my invention is—

1. In a brake slack adjuster, the combination of a "take up" joint, actuating means for the joint, and a lock for the joint adapted to be released upon the actuation of the joint.

2. In a brake slack adjuster, the combination of a take up joint, actuating means for the joint, and a lock for the joint released by the said actuating means.

3. In a brake slack adjuster, the combination of a take-up joint in the brake actuating mechanism, a lock therefor, and a lever of the brake actuating mechanism adapted to release the lock and to actuate the take-up.

4. In a brake slack adjuster, the combination of the lever C actuated from the brake cylinder, the take up device as described pivoted to the car at one end and having a loose connection with said lever at the opposite end, the lever I, the take up device as described pivoted to the car at one end and having a loose connection with said lever at the opposite end, a fulcrum or tie rod, connecting said levers, and a take-up joint in said tie rod, as and for the purpose described.

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

FRANK ROBINSON.

Witnesses:

JOHN MCCARTY,
JOHN F. ROBINSON.