April 12, 1932. G. G. GILPIN 1,853,347

OPERATING DEVICE FOR RAILWAY CAR COUPLERS

Filed March 5, 1931 2 Sheets-Sheet 1

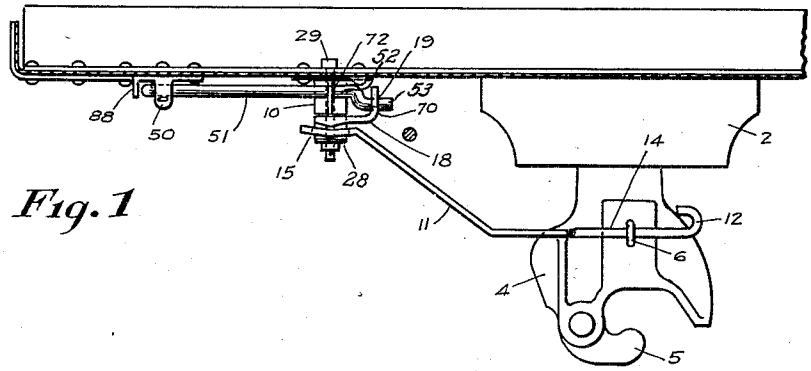

Fig. 1

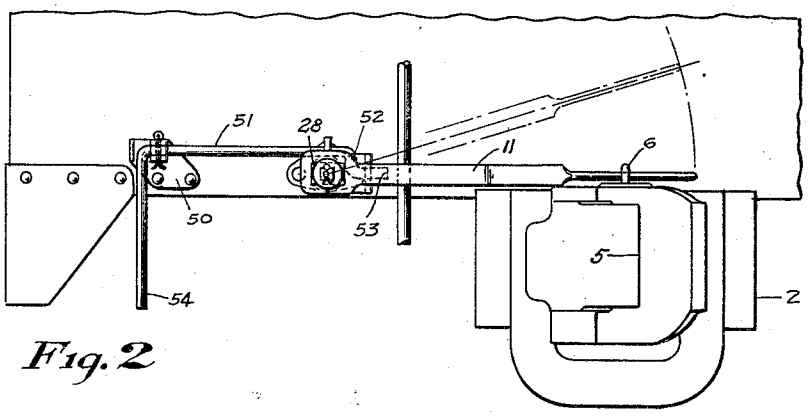

Fig. 2

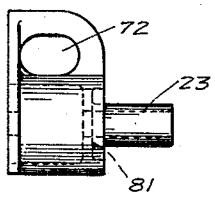

Fig. 3

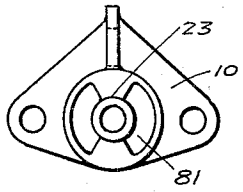

Fig. 4

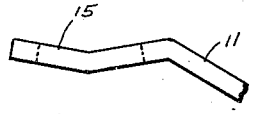

Fig. 8

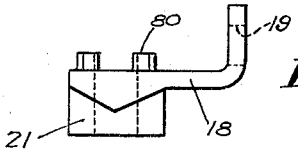

Fig. 5

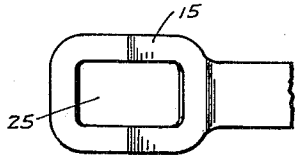

Fig. 9

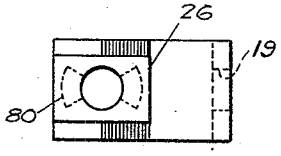

Fig. 6

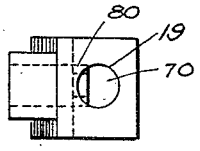

Fig. 7

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April 12, 1932. G. G. GILPIN 1,853,347

OPERATING DEVICE FOR RAILWAY CAR COUPLERS

Filed March 5, 1931 2 Sheets-Sheet 2

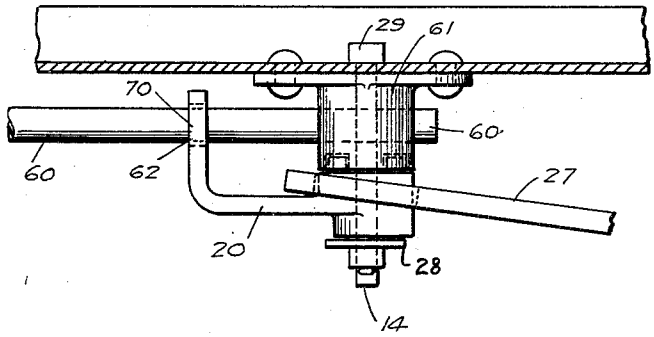

Fig. 10

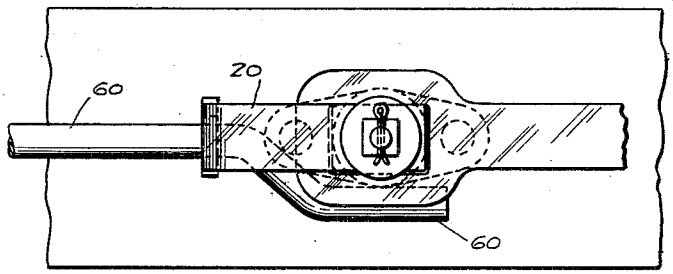

Fig. 11

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UNITED STATES PATENT OFFICE

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OPERATING DEVICE FOR RAILWAY CAR COUPLERS

Application filed March 5, 1931. Serial No. 520,199.

The invention relates to devices for manually operating an automatic coupler of a railway car from adjacent the side wall of the car so as to eliminate the necessity of the trainmen from going between the cars to operate the coupler. Operating a coupler consists of unlocking it, throwing the knuckle to open position, or putting the coupler in what is called "lock-set position" wherein the knuckle remains unlocked even though the knuckle is in closed position. The operating device must allow the coupler to move laterally and longitudinally of the car in service without effecting the relation of its component parts.

An object of the invention is to provide such an operating device for a car coupler comprising an outer rod mounted upon the car to revolve around its own axis and a lever mounted upon the car to move in only a substantially vertical plane and to associate such rod and lever so that a swinging movement of a handle adjacent the outer end of the rod causes the inner end of the rod to bear upon the fulcrum of the lever and by means of eccentric parts of the rod to move the inner end of the lever upwardly and thereby operate the car coupler to which it is connected.

Another object is to provide a simple means of transforming an operating lever for a car coupler which moves only in a substantially vertical plane to one which includes a revoluble operating rod operable by a depending handle adjacent the side of the car which in my construction is accomplished by retaining the inner part of the operating lever and reforming the outer part thereof and providing an operating rod revolubly mounted upon the car having its inner end engageable with the fulcrum of the operating lever and a part of the old lever whereby a partial revolution of the operating rod raises the inner end of the old lever, which inner end is operably connected to the car coupler.

In the drawings:

Fig. 1 shows a partial plan view of a railway car equipped with a standard automatic coupler and a form of my invention.

Fig. 2 is an elevation of Fig. 1.

Figs. 3 and 4 show the fulcrum which is mounted upon the car for the operating lever.

Figs. 5, 6 and 7 show a connecting means between the primary and secondary levers.

Figs. 8 and 9 show the outer end of the primary operating lever.

Figs. 10 and 11 show a modified construction of the operating device.

Figs. 1 and 2 show a typical application of my invention to a railway car wherein the coupler is supported by the striking casting 2 and protrudes from under the end wall of the car. The coupler comprises a head 4, knuckle 5 and lock lifter 6, as well as other parts.

The operating device, as shown in Figs. 1–9 inclusive, comprises a fulcrum 10 mounted upon the car and a primary lever 11 having its outer end pivoted to the fulcrum 10 so as to move in substantially a vertical plane and with its inner end 12 adapted for attachment to the car coupler lock lifter 6, which attachment, in the form illustrated, comprises a substantially horizontal shank 14 slidably extending through an aperture in the lock lifter 6 of the coupler so as to permit lateral movement of the coupler in service. When the coupler moves longitudinally of the car, the lever swings around the fulcrum 10 in a horizontal plane owing to the particular configuration of the outer end 15 of the operating lever, as shown in Figs. 1, 8 and 9. A secondary lever 18 is pivoted at one end to the fulcrum 10 to move only in a substantially vertical plane with its outer end provided with a bearing element 19. In Figs. 1 and 2 this secondary lever 18 projects toward the center of the car. Some means is provided to connect the primary and secondary levers to cause them to move in unison in a vertical plane in one direction, which arrangement, in the form illustrated, comprises a block 21 formed integral with the secondary lever (see Figs. 5, 6 and 7) rotatably mounted upon the journal 23 of the fulcrum 10, but non-rotatably connected to the primary 11 and secondary 18 levers respectively. This non-rotative engagement is provided by the rectangular apertures 25 in the primary lever engaging a substantially rectangular portion 26 of the block 21. The

block 21 is held upon the journal of the fulcrum by the bolt 29 and washer 28, which bolt 29 and washer 28 also retains the levers 11 and 18 upon the block.

A bracket 50 is mounted upon the car and an operating rod 51 is revolubly supported therein at its outer end adjacent the depending handle 54. The inner end of this operating rod 51 is provided with portions 52—53 offset relative to each other, one of said portions being positioned adjacent to the fulcrum 10 and the other of said portions positioned adjacent the bearing 19 of the secondary lever. By this arrangement the lever is permitted to move with the horizontal movements of the coupler in service without disturbing the operating rod or altering the relation of the handle 54 to the side of the car. The relation of this handle 54 to the side of the car is specified by the safety appliance act of the Interstate Commerce Commission.

When the device is operated a swinging movement of the handle 54 of the operating rod 51 causes the portions 52—53 on its inner end to engage the fulcrum 10 and bearing 19 respectively which moves the inner end of the primary lever 11 in a vertical plane and also moves the primary lever 11 through a vertical plane and operates the coupler.

In order to retain the component parts of the device in operative relation during the several and various movements of the coupler in service I preferably provide an aperture 70 in the end of the secondary lever 18 or 20, as shown in Figs. 1 and 10, through which the operating rod projects while this same object may be accomplished by providing an aperture 72 in the fulcrum 10, as shown in Figs. 2 and 3, through which the operating rod projects or it may be desirable to provide apertures in both of said elements, in which case one of them should be elongated (as shown in Fig. 3) to accommodate the movements of the operating rod in motion.

The lugs 80 shown in Figs. 5, 6 and 7 engage the pockets 81, shown in Figs. 3 and 4, for restricting the vertical movement of the operating lever, but these parts are not associated with this invention.

Figs. 10 and 11 show a modified construction wherein the secondary lever 20 projects towards the side of the car and the end of the operating rod 60 extends from the fulcrum 61 and an intermediate portion of the operating rod 60 engages the outer end 62 of the secondary lever 20.

The accompanying drawings illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof, within the scope of the claim, will occur to persons skilled in the art.

I claim:

An operating device for a railway car coupler comprising a fulcrum mounted upon a car, a primary lever having its outer end pivoted to said fulcrum to move in a substantially vertical plane and also in a substantially horizontal plane with its inner end adapted for attachment to a car coupler, a secondary lever having one end pivoted to said fulcrum to move only in a substantially vertical plane and having its other end provided with a bearing, means connecting the primary and secondary levers to cause them to move in unison in a vertical plane but permit independent movement thereof in a horizontal plane, a bracket mounted upon the car, and an operating rod revolubly supported by said bracket having its outer end provided with a handle and having its inner end provided with portions offset relative to each other, one of said portions engaging said fulcrum and the other of said portions engaging said bearing on the secondary lever whereby a rotary movement of the operating rod causes said portions to engage said fulcrum and said bearing respectively and move the inner end of the primary lever upwardly.

GARTH G. GILPIN.